Turgut Durduran, Ph.D.

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CURRICULUM VITAE

Education

09/97 – 04/04	Ph.D. in Physics: "*Non-Invasive Measurements of Tissue Hemodynamics with Hybrid Diffuse Optical Methods*", Advisor: Arjun G. Yodh, Department of Physics and Astronomy, University of Pennsylvania, PA, USA
09/93 – 05/97	Bachelor of Arts in Physics and Minor in Mathematics (GPA: 3.43/4.00) Department of Physics and Astronomy, University of Pennsylvania, PA, USA

Relevant Work Experience

11/15-	Institució Catalana de Recerca i Estudis Avançats (ICREA) Professor at ICFO Castelldefels, Barcelona, Spain
03/14-	Group Leader (US equivalent: Professor) ICFO-The Institute of Photonic Sciences Castelldefels (Barcelona), Spain
02/09-03/14	Junior group Leader (US equivalent: Assistant Professor) ICFO-The Institute of Photonic Sciences Castelldefels (Barcelona), Spain
04/09-	Adjunct Assistant Professor Dept. of Radiology, U. of Pennsylvania
05/06-04/09	Research Associate Dept. of Radiology, U. of Pennsylvania Joint Appt. with Dept. of Physics and Astronomy, U. of Pennsylvania
09/03–05/06	Postdoctoral Fellow with Dr. A. G. Yodh, Dept. of Physics and Astronomy, U. of Pennsylvania
11/05–12/05	Guest Scientist with Dr H Wabnitz and Dr R Mcdonald Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany
8/97–9/03	Research Assistant to Dr. A. G. Yodh, Dept. of Physics and Astronomy, U. of Pennsylvania
9/97–5/98	Teaching Assistant to Dr. F. A. Selove,

	Dept. of Physics and Astronomy, U. of Pennsylvania
10/95–5/97	Research Assistant to Dr. A. G. Yodh, Dept. of Physics and Astronomy, U. of Pennsylvania
1/95–1/96	Research Assistant to Dr. Holleebeek, Dept. of Physics and Astronomy, U. of Pennsylvania
1/95–5/95	Member of NASA Balloon Project Team, Dr. L. Gladney, Dept. of Physics and Astronomy, U. of Pennsylvania
10/94–01/95	Research Assistant to Dr. L. Gladney, Dept. of Physics and Astronomy, U. of Pennsylvania

Selected grants, patents, awards

2023	Grant (PI), Ministerio de cultura y deporte: "A hybrid near-infrared spectroscopy platform to personalize the treatment for musculoskeletal injury recovery using blood flow restriction training"
2023-2024	Grant (PI), FCRI-Fundació Catalana per a la Recerca: "CONVOCATÒRIA JOAN ORÓ 2023: Outreach in diffuse optics"
2021-2023	Grant (PI,coordinator), La Marato TV3: "Skeletal muscle endothelial dysfunction and intensive care unit (ICU)-acquired weakness in COVID-19 patients; understanding the pathway to personalized ICU management and rehabilitation"
2023-2027	Grant (CO-I, project partner), European Commission (HEurope): "Fast gated superconducting nanowire camera for multi-functional optical tomograph" (10063660) (PI: SingleQuantum)
2022-2025	Grant (Coordinator, PI), AEI-Agencia Estatal de Investigación: "Non-invasive photonics platform for bedside detection of intracranial hypertension and other abnormalities of the cerebrospinal fluid dynamics (SafeICP)"
2023-2025	Grant (PI), ISCIII (Spain): " Una plataforma para el tratamiento personalizado de lesiones músculo-esqueléticos con restricción guiada del flujo sanguíneo habilitada por la fotónica (LiteMuscle)",
2023-2027	Grant (CO-I, project partner), European Commission (HEurope): " Preterm Brain-Oxygenation and Metabolic EU-Sensing: Feed the Brain (Prometeus)" (PI: S. Brigadoi)
2021-2025	Grant (Coordinator, PI), European Commission (H2020): " An optical neuroimaging device to understand the mechanisms of brain damage in infants born with severe congenital heart defects. (TinyBrains)" (101017113)
2020-2022	Grant (Coordinator, PI), European Commission (H2020): "Portable platform for the assessment of microvascular health in COVID-19 patients at the intensive care (VASCOVID)" (101016087)
2020-2025	Grant (CO-PI), National Institutes of Health (NIH) R01: "High Sensitivity Diffuse Optical Tomography of Human Brain Function" (PI: Joseph P. Culver)
2020-2024	Grant (CO-I, project partner), European Commission Marie Curie International Training Network: "Photonics for Healthcare: multiscAle cancer diagnosiS and Therapy (PHAST)" (PI: Daniel Milanese)
2019-2024	Grant (PI), Barcelona Institute of Science and Technology (BIST): "A fast monolithic multi-channel ASIC for diffuse optical, non-invasive blood flow measurement (BIOSPAD I & BIOSPAD II)"

2020-2024	Grant (PI, co-ordinator) Agencia Estatal de Investigación ("Plan Nacional"): "Novel optical technologies for imaging the cerebral oxygen metabolism (PHOTOMETABO)"
2019-2021	Grant (sub-project PI) Generalitat de Catalunya (RIS3CAT): "Cluster Emergent del Cervell Humà (CECH)" (PI, coordinator Gustavo Deco
2018-2021	Grant (CO-I, project partner), Medical Research Council UK (MRC): "Development of a cot-side optical biomarker of brain tissue health following neonatal hypoxic-ischaemic brain injury." (PI: Ilias Tachtsidis)
2018	"System and computer-implemented method for detecting and categorizing pathologies through an analysis of pulsatile blood flow"; European Patent EP18382664.3A (under examination); T. Durduran, Jonas B. Fischer, A. Ghouse and U. M. Weigel; Priority date: 2018-09-14
2018	"Speckle contrast system and method that discriminates photon path lengths"; European Patent EP18382782.3A (under examination); US Patent (granted); Priority date: 2018-11-02
2017-2018	Grant (PI), Llavor, AGAUR: "Portable device for non-invasively measuring blood flow"
2018-2020	Grant (CO-PI), La Marato TV3: "Accident cerebrovascular, unitat d'ictus, rehabilitació, òptica, espectroscòpia de correlació difusa, flux sanguini cerebral, autoregulació cerebral" (PI: R. Delgado Mederos)
2018-2020	Grant (CO-PI), La Marato TV3: "Anèmia o transfusió: un dilema clínic en el pacient amb un traumatisme cranioencefàlic" (PI: M. A. Poca)
2017-2018	Grant (PI), Instituto de Salud Carlos III: "Medical Photonics platform for ageing (MEDPHOTAGE): Plataforma fotonica, no invasiva, tipo "point-of-care", para la evaluacion del riesgo cerebrovascular asociado con el envejecimiento", MEDPHOTAGE (DTS16/00087)
2016-2019	Grant (PI), MINECO/FEDER: "Red Multidisciplinar De Tecnologias Opticas Novedosas Para La Tomografia No Invasiva Dela Perfusion Cerebral Como Biomarcador En Patologias Cerebrales" (PHOTODEMENTIA), DPI2015-64358-C2-1-R , Ministerio de Economía y Competitividad
2016-2019	Grant (project partner) Marie Curie International Training Network "Brain injury and trauma monitoring using advanced photonics" (BitMap), PI: Dehghani.
2016-2018	Grant (project partner), Fundació Cellex Barcelona "Desarrollar nuevos métodos ópticos basados en tecnologías fotónicas para obtener una mejor comprensión del desarrollo de enfermedades que afectan al feto, un diagnóstico más rápido y menos invasivo de las mismas, y una mejor monitorización de su tratamiento", PI: Eduard Gratacos
2016-2021	Grant (PI/Coordinator): European Commission (H2020), "Laser and Ultrasound Co-Analyzer for thyroid nodules" (LUCA)
2016-2017	Grant (CO-PI): ERC Proof of Concept (PoC) "GRAPHEALTH: graphene wearable technology", PI: Frank Koppens
2015-	Grant (PI): "Aplicación de tecnologies fotoniques d'avantguarda per a una millor comprensió del desenvolupament de malalties i una millor monitorització del seu tractament", l'Obra Social "la Caixa" (co-financed by: Fundació Cellex Barcelona)
2014-2017	Grant (project partner, work-package leader) European Commission, "An optical neuro-monitor of cerebral oxygen metabolism and blood flow for neonatology"

	(BABYLUX), PI: Torriceli.
2013	"Speckle contrast optical tomography", United states patent US2015/0182136 (granted); European patent EP2888994 (granted); T. Durduran; C. Valdes; A. Kristoffersen; H. Varma; J. Culver , Priority Date: December 26, 2013
2013-2017	Grant (project partner) Marie Curie International training network, "Optical Imaging and Laser Techniques for Biomedical Applications" (OILTEBIA), PI: Lamela.
2013-2016	Grant (PI): "Plataformas Opticas No-Invasivas Para Tomografia En 3D Y Para Monitorizar Enfermedades Cerebrovasculares" (PHOTOSTROKE), TEC2012-39318-C02-01 (MINECO), Ministerio de Economía y Competitividad
2012-2014	Grant (PI): "Portable Diffuse Optical Neuro-Monitor" (DocNeuro), PROVA'T-2011-002, Institució CERCA.
2011-2012	Grant (PI): Industrial project (confidential), BBRAUN Spain.
2012	Optical Measurement of Tissue Blood Flow, Hemodynamics and Oxygenation, United States Patent 20060063995
2010-2012	Grant (CO-PI): Desarrollo de un nuevo sistema de monotorizacion de produccion y calidad de leche junto con un sistema de determinacion de la condicion corporal y modelizacion de necesidades para el vacuno lechero, INNPACTO, Ministerio de Ciencia a Innovacion.
2011-2013	Grant (PI): " Participación española en el Consorcio Mundial Biophotonics4Life", ACI2010-1135, ACI-PROMOCIONA, Ministerio de Ciencia a Innovacion, Spain.
2010-2014	Ramon y Cajal award: "Novel Diffuse Optical Technologies for clinical Diagnosis and therapy Monitoring", RYC-2010-07036.
2009-2011	Fundació Cellex Barcelona Grant (PI): Multiple grants on neurology, trans-Atlantic research, oncology and nano-particle tracking.
2010-2013	Grant (PI): "Development of Multi-Scale, Multi-Parameter Optical Monitors to Study Acute and Chronic Hypoxic- Ischemia: from rats to adults", Instituto de Salud Carlos III.
2010-2013	Grant (PI): "Diffuse-Optical Monitor of Cerebral Hemodynamics after rtPA Administration in Acute Ischemic Stroke",Marie Curie FP7-PEOPLE-2009-RG: 249223 RTPAMON.
2008-2014	Grant: Optics Core, "Neuroscience Neuroimaging Center" (PI:Detre), NIH- P30 NS045839
2005-2010	Grant: CO-Investigator (Optics Core), "A Resource for Magnetic Resonance and Optical Research" (PI: Reddy), NIH-5-P41RR002305
2008-013	Grant: Co-Investigator, "Diffuse Optics for Acute Stroke Management" (PI: Yodh), NIH-R01NS060653
2007-09	Grant (PI), "Absolute Measurement of Cerebral Blood Flow Using Diffuse Optics", NIH-R21 EB007610.
2007-09	Grant (PI), "Diffuse optical measurement of absolute cerebral blood flow in neonates", Thrasher Research Fund New Researcher Award Program.
2006,2007	Paper: "Bulk optical properties of healthy female breast tissue" was short listed for the Physics in Medicine and Biology Highest Citations Prize 2006, Third Place in 2007.

2006-9	Grant: Co-Investigator, "Assessment of Muscle Vascular Disease with Diffuse Light", NIH-R21HL0830225 (PI: Yu)
2004-8	Grant: Co-Investigator, "Diffuse Light Imaging of Flow, Oxygen and Brain Metabolism", NIH-R01HL077699 (PI: Yodh)
2004-7	Grant: Co-Investigator, "Real-Time Diffuse Optical Measurements for *In Vivo* PDT Dosimetry of Human Prostate", DAMD17-PC030037-NIA, Department of Defense, Prostate Cancer Research Program (PI: Yu)
2002,2000,1998	Merit based Student Travel grant for Optical Society of America topicals meeting
2001,1999	Whittaker Foundation travel grant for United Engineering Foundation Conferences
1993-97	Cyprus American Scholarship Program Scholar; full tuition and fees for undergraduate studies.
May 1997	Bachelor of Arts; *Cum Laude* With Distinction in Physics
1996-97,1993-94	Dean's List, University of Pennsylvania

Peer-reviewed journal articles

[1] Frisk L K, Verma M, Bešlija F, Lin C H P, Patil N, Chetia S, Trobaugh J W, Culver J P, and Turgut Durduran. *Comprehensive workflow and its validation for simulating diffuse speckle statistics for optical blood flow measurements.* Biomed Opt Express, **15**(2):875–899, 2024.

[2] Amendola C, Buttafava M, Carteano T, Contini L, Cortese L, Turgut Durduran, Frabasile L, Guadagno C N, Karadeinz U, Lacerenza M, Mesquida J, Parsa S, Re R, Garcia D S, Sekar S K V, Spinelli L, Torricelli A, Tosi A, Weigel U M, Yaqub M A, Zanoletti M, and Contini D. *Assessment of power spectral density of microvascular hemodynamics in skeletal muscles at very low and low-frequency via near-infrared diffuse optical spectroscopies.* Biomed Opt Express, **14**(11):5994–6015, 2023.

[3] Gregori-Pla C, Zirak P, Cotta G, Bramon P, Blanco I, Serra I, Mola A, Fortuna A, Solà-Soler J, Giraldo Giraldo B F, Durduran Turgut, and Mayos M. *How does obstructive sleep apnea alter cerebral hemodynamics?* Sleep, 2023.

[4] Harvey-Jones F Kelly Lange, Verma V, Bale G, Meehan C, Avdic-Belltheus A, Hristova M, Sokolska M, Torrealdea F, Golay X, Parfentyeva V, Durduran Turgut, Bainbridge A, Tachtsidis I, Robertson N J, and Mitra S. *Early assessment of injury with optical markers in a piglet model of neonatal encephalopathy.* Pediatric Research, 2023. ISSN 1530-0447.

[5] Lin C H P, Orukari I, Tracy C, Frisk L K, Verma M, Chetia S, Turgut Durduran, Trobaugh J W, and Culver J P. *Multi-mode fiber-based speckle contrast optical spectroscopy: analysis of speckle statistics.* Opt Lett, **48**(6):1427–1430, 2023.

[6] Parfentyeva V, Colombo L, Lanka P, Pagliazzi M, Brodu A, Noordzij N, Kolarczik M, Dalla Mora A, Re R, Contini D, Torricelli A, Turgut Durduran, and Pifferi A. *Fast time-domain diffuse correlation spectroscopy with superconducting nanowire single-photon detector: system validation and in vivo results.* Sci Reps, **13**:–, 2023.

[7] Passera S, Carli A D, Fumagalli M, Contini D, Pesenti N, Amendola C, Giovannella M, Turgut Durduran, Weigel U M, Spinelli L, Torricelli A, and Greisen G. *Cerebrovascular reactivity to carbon dioxide tension in newborns: data from combined time-resolved near-infrared spectroscopy and diffuse correlation spectroscopy.* Neurophotonics, **10**(4):045003, 2023.

[8] Tagliabue S, Kacprzak M, Serra I, Maruccia F, Fischer J B, Riveiro M, Rey-Perez A, Exposito L, Lindner C, Báguena M, Durduran Turgut, and Poca M A. *Transcranial, noninvasive evaluation of the potential misery perfusion during hyperventilation therapy of traumatic brain injury patients.* Journal of Neurotrauma, **ahead of print**(ja):null, 2023.

[9] Tagliabue S, Kacprzak M, Serra I, Maruccia F, Fischer J B, Riveiro-Vilaboa M, Rey-Perez A, Expósito L, Lindner C, Báguena M, Poca M A, Durduran T, and Sahuquillo J. *Transcranial, non-invasive evaluation of the potential misery perfusion during hyperventilation therapy of traumatic brain injury patients.* J Neurotrauma, **40**:2073–2086, 2023.

[10] Tagliabue S, Lindner C, da Prat I C, Sanchez-Guerrero A, Serra I, Kacprzak M, Maruccia F, Silva O M, Weigel U M, de Nadal M, Poca M A, and Turgut Durduran. *Comparison of cerebral metabolic rate of oxygen, blood flow, and bispectral index under general anesthesia.* Neurophotonics, **10**(1):015006, 2023.

[11] Ayaz H, Baker W B, Blaney G, Boas D A, Bortfeld H, Brady K, Brake J, Brigadoi S, Buckley E M, Carp S A, Cooper R J, Cowdrick K R, Culver J P, Dan I, Dehghani H, Devor A, Turgut Durduran, Eggebrecht A T, Emberson L L, Fang Q, Fantini S, Franceschini M A, Fischer J B, Gervain J, Hirsch J, Hong K S, Horstmeyer R, Kainerstorfer J M, Ko T S, Licht D J, Liebert A, Luke R, Lynch J M, Mesquida J, Mesquita R C, Naseer N, Novi S L, Orihuela-Espina F, O'Sullivan T D, Peterka D S, Pifferi A, Pollonini L, Sassaroli A, Sato J R, Scholkmann F, Spinelli L, Srinivasan V J, Lawrence K S, Tachtsidis I, Tong Y, Torricelli A, Urner T, Wabnitz H, Wolf M, Wolf U, Xu S, Yang C, Yodh A G, Yücel M A, and Zhou W. *Optical imaging and spectroscopy for the study of the human brain: status report.* Neurophotonics, **9**(S2):S24001, 2022.

[12] Dumont V, Giovannella M, Zuba D, Clouard R, Turgut Durduran, Guillois B, and Roche-Labarbe N. *Somatosensory prediction in the premature neonate brain.* Developmental Cognitive Neuroscience, **57**:101148, 2022. ISSN 1878-9293.

[13] Lanka P, Yang L, Orive-Miguel D, Veesa J D, Tagliabue S, Sudakou A, Samaei S, Forcione M, Kovacsova Z, Behera A, Gladytz T, Grosenick D, Hervé L, Turgut Durduran, Bejm K, Morawiec M, Kacprzak M, Sawosz P, Gerega A, Liebert A, Belli A, Tachtsidis I, Lange F, Bale G, Baratelli L, Gioux S, Alexander K, Wolf M, Sekar S K V, Zanoletti M, Pirovano I, Lacerenza M, Qiu L, Ferocino E, Maffeis G, Amendola C, Colombo L, Frabasile L, Levoni P, Buttafava M, Renna M, Sieno L D, Re R, Farina A, Spinelli L, Mora A D, Contini D, Taroni P, Tosi A, Torricelli A, Dehghani H, Wabnitz H, and Pifferi A. *Multi-laboratory performance assessment of diffuse optics instruments: the bitmap exercise.* Journal of Biomedical Optics, **27**(7):1 – 27, 2022.

[14] Maruccia F, Tagliabue S, Fischer J B, Kacprzak M, Pérez-Hoyos S, Rosas K, Álvarez I D, Sahuquillo J, Turgut Durduran, and Poca M A. *Transcranial optical monitoring for detecting intracranial pressure*

alterations in children with benign external hydrocephalus: a proof-of-concept study. Neurophotonics, **9**(4):045005, 2022.

[15] Udina C, Avtzi S, Mota-Foix M, Rosso A L, Ars J, Kobayashi Frisk L, Gregori-Pla C, Durduran Turgut, and Inzitari M. *Dual-task related frontal cerebral blood flow changes in older adults with mild cognitive impairment: A functional diffuse correlation spectroscopy study.* Frontiers in Aging Neuroscience, **14**, 2022.

[16] Cortese L, Lo Presti G, Pagliazzi M, Contini D, Dalla Mora A, Dehghani H, Ferri F, Fischer J B, Giovannella M, Martelli F, Weigel U M, Wojtkiewicz S, Zanoletti M, and Turgut Durduran. *Recipes for diffuse correlation spectroscopy instrument design using commonly utilized hardware based on targets for signal-to-noise ratio and precision.* Biomed Opt Expr, **12**(6):3265–3281, 2021.

[17] Cortese L, Lo Presti G, Zanoletti M, Aranda G, Buttafava M, Contini D, Dalla Mora A, Dehghani H, Sieno L D, de Fraguier S, Hanzu F A, Porta M M, Nguyen-Dinh A, Renna M, Rosinski B, Squarcia M, Tosi A, Weigel U M, Wojtkiewicz S, and Turgut Durduran. *The LUCA device: a multi-modal platform combining diffuse optics and ultrasound imaging for thyroid cancer screening.* Biomed Opt Express, **12**(6):3392–3409, 2021.

[18] Cortese L, Zanoletti M, Karadeniz U, Pagliazzi M, Yaqub M A, Busch D R, Mesquida J, and Durduran Turgut. *Performance assessment of a commercial continuous-wave near-infrared spectroscopy tissue oximeter for suitability for use in an international, multi-center clinical trial.* Sensors, **21**(21), 2021.

[19] Fischer J B, Kobayashi Frisk L, Scholkmann F, Delgado-Mederos R, Mayos M, and Durduran Turgut. *Cerebral and systemic physiological effects of wearing face masks in young adults.* Proceedings of the National Academy of Sciences, **118**(41):e2109111118, 2021.

[20] Gregori-Pla C, Mesquita R C, Favilla C G, Busch D R, Blanco I, Zirak P, Frisk L K, Avtzi S, Maruccia F, Giacalone G, Cotta G, Camps-Renom P, Mullen M T, Martí-Fàbregas J, Prats-Sánchez L, Martínez-Domeño A, Kasner S E, Greenberg J H, Zhou C, Edlow B L, Putt M E, Detre J A, Yodh A G, Durduran Turgut, and Delgado-Mederos R. *Blood flow response to orthostatic challenge identifies signatures of the failure of static cerebral autoregulation in patients with cerebrovascular disease.* BMC Neurology, **21**(1):154, 2021.

[21] Maruccia F, Gomariz L, Rosas K, Turgut Durduran, Paredes-Carmona F, Sahuquillo J, and Poca M A. *Neurodevelopmental profile in children with benign external hydrocephalus syndrome. a pilot cohort study.* Child's Nervous System, **early online**(TBD), 2021.

[22] Mesquida J, Caballer A, Cortese L, Vila C, Karadeniz U, Pagliazzi M, Zanoletti M, Pacheco A P, Castro P, de Acilu M G, Mesquita R C, Busch D R, Durduran T, and on behalf of the HEMOCOVID-19 Consortium. *Peripheral microcirculatory alterations are associated with the severity of acute respiratory distress syndrome in covid-19 patients admitted to intermediate respiratory and intensive care units.* Critical Care, **25**(381):na, 2021.

[23] Pagliazzi M, Colombo L, Vidal-Rosas E E, Dragojević T, Parfentyeva V, Culver J P, Sekar S K V, Sieno L D, Contini D, Torricelli A, Pifferi A, Mora

A D, and Turgut Durduran. *Time resolved speckle contrast optical spectroscopy at quasi-null source-detector separation for non-invasive measurement of microvascular blood flow.* Biomed Opt Express, **12**(3):1499–1511, 2021.

[24] Samaei S, Colombo L, Borycki D, Pagliazzi M, Turgut Durduran, Sawosz P, Wojtkiewicz S, Contini D, Torricelli A, Pifferi A, and Liebert A. *Performance assessment of laser sources for time-domain diffuse correlation spectroscopy.* Biomed Opt Express, **12**(9):5351–5367, 2021.

[25] Scholkmann F, Fischer J, Frisk L K, Delgado-Mederos R, Mayos M, Highton D, Wolf U, Wolf M, and Durduran T. *Influence of study design on effects of mask wearing on fmri bold contrast and systemic physiology — a comment on law et al. (2021).* NeuroImage, **244**:118549, 2021. ISSN 1053-8119.

[26] Colombo L, Pagliazzi M, Contini S K V S D, Turgut Durduran, and Pifferi A. *In vivo time-domain diffuse correlation spectroscopy beyond the water absorption peak.* Optics letters, **45**(13):3377, 2020.

[27] Colombo L, Samaei S, Lanka P, Ancora D, Pagliazzi M, Durduran T, Sawosz P, Liebert A, and Pifferi A. *Coherent fluctuations in time-domain diffuse optics.* APL Photonics, **5**(7):071301, 2020.

[28] Dar I A, Khan I R, Maddox R K, Selioutski O, Donohue K L, Marinescu M A, Prasad S M, Quazi N H, Donlon J S, Loose E A, Ramirez G A, Ren J, Majeski J B, Abramson K, Turgut Durduran, Busch D R, and Choe R. *Towards detection of brain injury using multimodal non-invasive neuromonitoring in adults undergoing extracorporeal membrane oxygenation.* Biomed Opt Express, **11**(11):6551–6569, 2020.

[29] Fischer J B, Ghouse A, Tagliabue S, Maruccia F, Rey-Perez A, Báguena M, Cano P, Zucca R, Weigel U M, Sahuquillo J, Poca M A, and Durduran Turgut. *Non-invasive estimation of intracranial pressure by diffuse optics – a proof-of-concept study.* Journal of Neurotrauma, **37**(23):2569–2579, 2020. PMID: 32460617.

[30] Giovannella M, Urtane E, Karadeniz U, Rubins U, Weigel U M, Marcinkevics Z, and Durduran Turgut. *Microvascular blood flow changes of the abductor pollicis brevi muscle during sustained static exercise.* medRxiv, 2020. doi:10.1101/2020.06.03.20120931.

[31] Udina C, Avtzi S, Durduran Turgut, Holtzer R, Rosso A L, Castellano-Tejedor C, Perez L M, Soto-Bagaria L, and Inzitari M. *Functional near-infrared spectroscopy to study cerebral hemodynamics in older adults during cognitive and motor tasks: A review.* Frontiers in Aging Neuroscience, **11**:367, 2020.

[32] Andresen B, De Carli A, Fumagalli M, Giovannella M, Durduran Turgut, Michael Weigel U, Contini D, Spinelli L, Torricelli A, and Greisen G. *Cerebral oxygenation and blood flow in normal term infants at rest measured by a hybrid near-infrared device (babylux).* Pediatric Research, **early online**:na, 2019.

[33] Colombo L, Pagliazzi M, Sekar S K V, Contini D, Mora A D, Spinelli L, Torricelli A, Durduran T, and Pifferi A. *Effects of the instrument response function and the gate width in time-domain diffuse correlation spectroscopy: model and validations.* Neurophotonics, **6**(3):1 – 9 – 9, 2019.

[34] De Carli A, Andresen B, Giovannella M, Durduran Turgut, Contini D, Spinelli L, Weigel U M, Passera S, Pesenti N, Mosca F, Torricelli A, Fumagalli M, and Greisen G. *Cerebral oxygenation and blood flow in term infants during postnatal transition: Babylux project.* Archives of Disease in Childhood - Fetal and Neonatal Edition, 2019. ISSN 1359-2998.

[35] Di Sieno L, Contini D, Lo Presti G, Cortese L, Mateo T, Rosinski B, Venturini E, Panizza P, Mora M, Aranda G, Squarcia M, Farina A, Turgut Durduran, Taroni P, Pifferi A, and Mora A D. *Systematic study of the effect of ultrasound gel on the performances of time-domain diffuse optics and diffuse correlation spectroscopy.* Biomed Opt Express, **10**(8):3899–3915, 2019.

[36] Dragojević T, Rosas E E V, Hollmann J L, Culver J P, Justicia C, and Turgut Durduran. *High-density speckle contrast optical tomography of cerebral blood flow response to functional stimuli in the rodent brain.* Neurophotonics, **6**(4):1 – 11, 2019.

[37] Giovannella M, Andresen B, Andersen J B, El-Mahdaoui S, Contini D, Spinelli L, Torricelli A, Greisen G, Turgut Durduran, Weigel U M, and Law I. *Validation of diffuse correlation spectroscopy against 15O-water PET for regional cerebral blood flow measurement in neonatal piglets.* Journal of Cerebral Blood Flow & Metabolism, **40**(10):2055–2065, 2019.

[38] Giovannella M, Contini D, Pagliazzi M, Pifferi A, Spinelli L, Erdmann R, Donat R, Rocchetti I, Rehberger M, König N, Schmitt R H, Torricelli A, Turgut Durduran, and Weigel U M. *Babylux device: a diffuse optical system integrating diffuse correlation spectroscopy and time-resolved near-infrared spectroscopy for the neuromonitoring of the premature newborn brain.* Neurophotonics, **6**(2):1 – 15 – 15, 2019.

[39] Giovannella M, Spinelli L, Pagliazzi M, Contini D, Greisen G, Weigel U M, Torricelli A, and Turgut Durduran. *Accuracy and precision of tissue optical properties and hemodynamic parameters estimated by the babylux device: a hybrid time-resolved near-infrared and diffuse correlation spectroscopy neuro-monitor.* Biomed Opt Express, **10**(5):2556–2579, 2019.

[40] Gregori-Pla C, Blanco I, Camps-Renom P, Zirak P, Serra I, Cotta G, Maruccia F, Prats-Sánchez L, Martínez-Domeño A, Busch D R, Giacalone G, Martí-Fàbregas J, Durduran Turgut, and Delgado-Mederos R. *Early microvascular cerebral blood flow response to head-of-bed elevation is related to outcome in acute ischemic stroke.* Journal of Neurology, pages 1–8, 2019.

[41] Gregori-Pla C, Delgado-Mederos R, Cotta G, Giacalone G, Maruccia F, Avtzi S, Prats-Sánchez L, Martínez-Domeño A, Camps-Renom P, Martí-Fàbregas J, Durduran Turgut, and Mayos M. *Microvascular cerebral blood flow fluctuations in association with apneas and hypopneas in acute ischemic stroke.* Neurophotonics, **6**:0250041–15, 2019.

[42] Masvidal-Codina E, Illa X, Dasilva M, Calia A B, Dragojević T, Vidal-Rosas E E, Prats-Alfonso E, Martínez-Aguilar J, De la Cruz J M, Garcia-Cortadella R, Godignon P, Rius G, Camassa A, Del Corro E, Bousquet J, Hébert C, Durduran Turgut, Villa R, Sanchez-Vives M V, Garrido J A, and Guimerà-Brunet A. *High-resolution mapping of infraslow cortical brain activity enabled by graphene microtransistors.* Nature Materials, **18**(3):280–288, 2019.

[43] Mireles Nunez M A, Morales-Dalmau J, Johansson J D, Vidal Rosas E E, Vilches C, Martinez Lozano M d M, Sanz V, De Miguel I, Casanovas O, Quidant R, and Durduran T. *Non-invasive and quantitative in vivo monitoring of gold nanoparticle concentration and tissue hemodynamics by diffuse optical spectroscopies.* Nanoscale, **online first**:–, 2019.

[44] Murali K, Nandakumaran A K, Turgut Durduran, and Varma H M. *Recovery of the diffuse correlation spectroscopy data-type from speckle contrast measurements: towards low-cost, deep-tissue blood flow measurements.* Biomed Opt Express, **10**(10):5395–5413, 2019.

[45] Polat E O, Mercier G, Nikitskiy I, Puma E, Galan T, Gupta S, Montagut M, Piqueras J J, Bouwens M, Durduran Turgut, Konstantatos G, Goossens S, and Koppens F. *Flexible graphene photodetectors for wearable fitness monitoring.* Science Advances, **5**(9), 2019.

[46] Wojtkiewicz S, Gerega A, Zanoletti M, Sudakou A, Contini D, Liebert A, Turgut Durduran, and Dehghani H. *Self-calibrating time-resolved near infrared spectroscopy.* Biomed Opt Express, **10**(5):2657–2669, 2019.

[47] Cortese L, Presti G L, Pagliazzi M, Contini D, Mora A D, Pifferi A, Sekar S K V, Spinelli L, Taroni P, Zanoletti M, Weigel U M, de Fraguier S, Nguyen-Dihn A, Rosinski B, and Turgut Durduran. *Liquid phantoms for near-infrared and diffuse correlation spectroscopies with tunable optical and dynamic properties.* Biomed Opt Express, **9**(5):2068–2080, 2018.

[48] Delgado-Mederos R, Pla C G, Zirak P, Blanco I, Dinia L, Marín R, Turgut Durduran, and Martí-Fàbregas J. *Transcranial diffuse optical assessment of the microvascular reperfusion after thrombolysis for acute ischemic stroke.* Biomed Opt Express, **9**(3):1262–1271, 2018.

[49] Dragojević T, Hollmann J L, Tamborini D, Portaluppi D, Buttafava M, Culver J P, Villa F, and Turgut Durduran. *Compact, multi-exposure speckle contrast optical spectroscopy (scos) device for measuring deep tissue blood flow.* Biomed Opt Express, **9**(1):322–334, 2018.

[50] Giovannella M, Ibañez D, Gregori-Pla C, Kacprzak M, Mitjà G, Ruffini G, and Durduran Turgut. *Concurrent measurement of cerebral hemodynamics and electroencephalography during transcranial direct current stimulation.* Neurophotonics, **5**:5–12, 2018.

[51] Gregori-Pla C, Cotta G, Blanco I, Zirak P, Giovannella M, Mola A, Fortuna A, Durduran Turgut, and Mayos M. *Cerebral vasoreactivity in response to a head-of-bed position change is altered in patients with moderate and severe obstructive sleep apnea.* PLOS ONE, **13**(3):1–16, 2018.

[52] Konugolu Venkata Sekar S, Farina A, Dalla Mora A, Lindner C, Pagliazzi M, Mora M, Aranda G, Dehghani H, Durduran Turgut, Taroni P, and Pifferi A. *Broadband (550-1350 nm) diffuse optical characterization of thyroid chromophores.* Scientific Reports, **8**(1):early online, 2018.

[53] Pagliazzi M, Sekar S K V, Di Sieno L, Colombo L, Durduran T, Contini D, Torricelli A, Pifferi A, and Dalla Mora A. *In vivo time-gated diffuse correlation spectroscopy at quasi-null source-detector separation.* Optics letters, **43**(11):2450–2453, 2018.

[54] Pagliazzi M, Sekar S K V, Sieno L D, Colombo L, Durduran T, Contini D, Torricelli A, Pifferi A, and Mora A D. *In vivo time-gated diffuse correlation*

spectroscopy at quasi-null source-detector separation. Opt Lett, **43**(11):2450–2453, 2018.

[55] Tricoli U, Macdonald C M, Durduran Turgut, Da Silva A, and Markel V A. *Diffuse correlation tomography in the transport regime: A theoretical study of the sensitivity to brownian motion.* Phys Rev E, **97**:022408, 2018.

[56] Wojtkiewicz S, Turgut Durduran, and Dehghani H. *Time-resolved near infrared light propagation using frequency domain superposition.* Biomed Opt Express, **9**(1):41–54, 2018.

[57] Zirak P, Gregori-Pla C, Blanco I, Fortuna A, Cotta G, Bramon P, Serra I, Mola A, Solà-Soler J, Giraldo-Giraldo B F, Durduran T, and Mayos M. *Characterization of the microvascular cerebral blood flow response to obstructive apneic events during night sleep.* Neurophotonics, **5**:5 – 5 – 11, 2018.

[58] Binzoni T, Sassaroli A, Torricelli A, Spinelli L, Farina A, Turgut Durduran, Cavalieri S, Pifferi A, and Martelli F. *Depth sensitivity of frequency domain optical measurements in diffusive media.* Biomed Opt Express, **8**(6):2990–3004, 2017.

[59] Blanco I, Zirak P, Dragojević T, Castellvi C, Turgut Durduran, and Justicia C. *Longitudinal, transcranial measurement of functional activation in the rat brain by diffuse correlation spectroscopy.* Neurophotonics, **4**, 2017.

[60] Dragojevic T, Varma H M, Hollmann J L, Valdes C P, Culver J P, Justicia C, and Durduran T. *High-density speckle contrast optical tomography (scot) for three dimensional tomographic imaging of the small animal brain.* NeuroImage, **153**:283–292, 2017.

[61] Farina A, Tagliabue S, Di Sieno L, Martinenghi E, Durduran Turgut, Arridge S, Martelli F, Torricelli A, Pifferi A, and Dalla Mora A. *Time-domain functional diffuse optical tomography system based on fiber-free silicon photomultipliers.* Applied Sciences, **7**(12), 2017. ISSN 2076-3417. doi:10.3390/app7121235.

[62] Farzam P, Johansson J, Mireles M, Jimenez G A, Lozano M M, Casanovas O, and Durduran T. *Pre-clinical longitudinal monitoring of hemodynamic response to anti-vascular chemotherapy by hybrid diffuse optics.* Biomedical Optics Express, **8**(5):2563–2582, 2017.

[63] Pagliazzi M, Sekar S K V, Colombo L, Martinenghi E, Minnema J, Erdmann R, Contini D, Mora A D, Torricelli A, Pifferi A, and Durduran T. *Time domain diffuse correlation spectroscopy with a high coherence pulsed source: in vivo and phantom results.* Biomed Opt Express, **8**(11):5311–5325, 2017.

[64] Johansson J, Mireles M, Morales-Dalmau J, Farzam P, Marzinez-Lozano M, Casanovas O, and Durduran T. *Scanning, non-contact, hybrid broadband diffuse optical spectroscopy and diffuse correlation spectroscopy system.* Biomed Opt Exp, **7**(1):481–98, 2016.

[65] Konugolu S, Dalla Mora A, Bargigia I, Martinenghi E, Lindner C, Farzam P, Pagliazzi M, Durduran T, Taroni P, Pifferi A, and Farina A. *Broadband (600-1350 nm) time resolved diffuse optical spectrometer for clinical use.* IEEE Journal of Selected Topics in Quantum Electronics, **22**(3):7100609, 2016.

[66] Lindner C, Mora M, Farzam P, Squarcia M, Johannes J, Weigel U M, Halperin I, Hanzu F A, and Durduran T. *Diffuse optical characterization of*

the healthy human thyroid tissue and two pathological case studies. PLoS One, **11**(1):e0147851, 2016.

[67] Ramirez G, Proctor A R, Jung K W, Wu T T, Han S, Adams R R, Ren J, Byun D K, Madden K S, Brown E B, Foster T H, Farzam P, Turgut Durduran, and Choe R. *Chemotherapeutic drug-specific alteration of microvascular blood flow in murine breast cancer as measured by diffuse correlation spectroscopy.* Biomed Opt Express, **7**(9):3610–3630, 2016.

[68] Sekar K V S, Pagliazzi M, Negredo E, Martelli F, Farina A, Dalla Mora A, Lindner C, Farzam P, Perez-Alvarez N, Puig J, Taroni P, Pifferi A, and Durduran Turgut. *In vivo, non-invasive characterization of human bone by hybrid broadband (600-1200 nm) diffuse optical and correlation spectroscopies.* PLOS ONE, **11**(12):1–16, 2016.

[69] Sekar S K V, Dalla Mora A, Bargigia I, Martinenghi E, Lindner C, Farzam P, Pagliazzi M, Durduran Turgut, Taroni P, Pifferi A, et al. *Broadband (600–1350 nm) time-resolved diffuse optical spectrometer for clinical use.* IEEE Journal of Selected Topics in Quantum Electronics, **22**(3):406–414, 2016.

[70] Baker W, Parthasarathy A, Ko T, Busch D, Abramson K, Tzeng S, Mesquita R, Durduran T, Greenberg J, Kung D, and Yodh A. *Pressure modulation algorithm to separate cerebral hemodynamic signals from extra-cerebral artifacts.* Neurophotonics, **2**(3), 2015.

[71] Dragojevic T, Bronzi D, Varma H, Valdes C P, Castellvi C, Villa F, Tosi A, Justicia C, Zappa F, and Durduran T. *High-speed multi-exposure laser speckle contrast imaging with a single-photon counting camera.* Biomedical Optics Express, **6**(8):2865–76, 2015.

[72] Farzam P and Durduran T. *Multidistance diffuse correlation spectroscopy for simultaneous estimation of blood flow index and optical properties.* J Biomed Opt, **20**(5):055001–1, 2015.

[73] Han S, Johansson J, Mireles M, Proctor A R, Hoffman M D, Vella J B, Benoit D S W, Turgut Durduran, and Choe R. *Non-contact scanning diffuse correlation tomography system for three-dimensional blood flow imaging in a murine bone graft model.* Biomed Opt Express, **6**(7):2695–2712, 2015.

[74] Li Z, Baker W B, Parthasarathy A B, Ko T S, Wang D, Schenkel S, Durduran T, Gang L, and Yodh A G. *Calibration of diffuse correlation spectroscopy blood flow index with venous-occlusion diffuse optical spectroscopy in skeletal muscle.* J Biomed Opt, **20**(12):125005, 2015.

[75] Mora A D, Contini D, Arridge S, Martelli F, Tosi A, Boso G, Farina A, Turgut Durduran, Martinenghi E, Torricelli A, and Pifferi A. *Towards next-generation time-domain diffuse optics for extreme depth penetration and sensitivity.* Biomed Opt Express, **6**(5):1749–1760, 2015.

[76] Mora A D, Martinenghi E, Contini D, Tosi A, Boso G, Turgut Durduran, Arridge S, Martelli F, Farina A, Torricelli A, and Pifferi A. *Fast silicon photomultiplier improves signal harvesting and reduces complexity in time-domain diffuse optics.* Opt Express, **23**(11):13937–13946, 2015.

[77] Aguirre J, Morales-Dalmau J, Funk L, Jara F, Turon P, and Durduran T. *The potential of photoacoustic microscopy as a tool to characterize the in vivo degradation of surgical sutures.* Biomed Opt Exp, **5**(8):2856–69, 2014.

[78] Busch D R, Choe R, Durduran T, Friedman D H, Maidment A D, Rosen M A, Schnall M D, and Yodh A G. *Blood flow reduction in breast tissue due to mammographic compression.* Academic Radiology, **21**:151–161, 2014.

[79] Busch D R, Choe R, Durduran Turgut, Friedman D H, Baker W B, Maidment A D, Rosen M a, Schnall M D, and Yodh A G. *Blood flow reduction in breast tissue due to mammographic compression.* Academic radiology, **21**(2):151–61, 2014. ISSN 1878-4046.

[80] Choe R, Carlile P M, Durduran T, Giammarco J M, Busch D R, Jun K W, Czerniecki B J, Tchou J, Feldman M D, Mies C, Rosen M A, Schnall M D, DeMichele A, Putt M E, and Yodh A G. *Optically measured microvascular blood flow contrast of malignant breast tumors.* PLoS One, **9**(6):e99683, 2014.

[81] de la Rosa X, Cervera A, Kristoffersen A K, Valdes C P, Varma H M, Justicia C, Durduran T, Chamorro A, and Planas A M. *Mannose-binding lectin promotes local microvascular thrombosis after transient brain ischemia in mice.* Stroke, **45**(5):1453–9, 2014.

[82] Durduran T and Yodh A G. *Diffuse correlation spectroscopy for non-invasive micro-vascular cerebral blood flow measurement.* Neuroimage, **85**(1):51–63, 2014.

[83] Farzam P, Lindner C, Weigel U M, Suarez M, Urbano-Ispizua A, and Durduran T. *Noninvasive characterization of the healthy human manubrium using diffuse optical spectroscopies.* Phys Meas, **35**:1469–91, 2014.

[84] Favilla C H, Mesquita R C, Mullen M, Durduran T, Lu X, Kim M N, Minkoff D L, Kasner S E, Greenberg J H, Yodh A G, and Detre J A. *Optical bedside monitoring of cerebral blood flow in acute ischemic stroke patients during head of bed manipulation.* Stroke, **45**(5):1269–74, 2014.

[85] Kim M N, Edlow B L, Durduran T, Frangos S, Mesquita R C, Levine J M, Greenberg J H, Yodh A G, and Detre J A. *Continuous optical monitoring of cerebral hemodynamics during head-of-bed manipulation in brain-injured adults.* Neurocrit Care, **20**(3):443–453, 2014.

[86] Molteni M, Weigel U, Remiro F, Durduran T, and Ferri F. *Hardware simulator for optical correlation spectroscopy with gaussian statistics and arbitrary correlation functions.* Opt Exp, **22**(23):28002–18, 2014.

[87] Spinelli L, Botwicz M, Zolek N, Kacprzak M, Milej D, Sawosz P, Liebert A, Weigel U, Durduran T, Foschum F, Kienle A, Baribeau F, Leclair S, Bouchard J, Noiseux I, Gallant P, Mermut O, Farina A, Pifferi A, Torricelli A, Cubeddu R, Ho H, Mazurenka M, Wabnitz H, Klauenberg K, Bodnar O, Elster C, Benazech-Lavoue M, Berube-Lauziere Y, Lesage F, Khoptyar D, Subash A, Andersson-Engels S, Ninni P D, Martelli F, and Zaccanti G. *Determination of reference values for optical properties of liquid phantoms based on intralipid and india ink.* Biomed Opt Expr, **5**(7):2037–2053, 2014.

[88] Valdes C P, Varma H M, Kristoffersen A K, Dragojevic T, Culver J P, and Durduran T. *Speckle contrast optical spectroscopy, a non-invasive, diffuse optical method for measuring microvascular blood flow in tissue.* Biomed Opt Exp, **5**(8):2769–84, 2014.

[89] Varma H M, Valdes C P, Kristoffersen A K, Culver J P, and Turgut Durduran. *Speckle contrast optical tomography: A new method for*

deep tissue three-dimensional tomography of blood flow. Biomed Opt Express, **5**(4):1275–1289, 2014.

[90] Zirak P, Delgado-Mederos R, Dinia L, Carrera D, Martí–Fàbregas J, and Durduran T. *Transcranial, diffuse optical monitoring of micro-vascular cerebral hemodynamics after thrombolysis in ischemic stroke.* J Biomed Opt, **19**(1):018002, 2014.

[91] Zirak P, Delgado-Mederos R, Dinia L, Martí–Fàbregas J, and Durduran T. *Microvascular vs macrovascular cerebral vasomotor reactivity in patients with severe internal carotid artery stenosis or occlusion.* Academic Radiology, **21**(2):168–74, 2014.

[92] Zirak P, Delgado-Mederos R, Dinia L, Martí-Fàbregas J, and Durduran Turgut. *Microvascular versus macrovascular cerebral vasomotor reactivity in patients with severe internal carotid artery stenosis or occlusion.* Academic radiology, **21**(2):168–74, 2014. ISSN 1878-4046. doi:10.1016/j.acra.2013.10.010.

[93] Aguirre J, Giannoula A, Minagawa T, Funk L, Turon P, and Turgut Durduran. *A low memory cost model based reconstruction algorithm exploiting translational symmetry for photoacoustic microscopy.* Biomed Opt Expr, **4**(12):2813–2827, 2013.

[94] Baker W B, Sun Z, Hiraki T, Putt M E, Durduran T, Reivich M, Yodh A G, and Greenberg J H. *Neurovascular coupling varies with level of global cerebral ischemia in a rat model.* J Cereb Blood Flow Metab, **33**(1):97–105, 2013.

[95] Buckley E M, Lynch J M, Goff D A, Schwab P J, Baker W B, Turgut Durduran, Busch D R, Nicolson S C, Montenegro L M, Naim M Y, Xiao R, Spray T L, Yodh A, Gaynor J W, and Licht D J. *Early postoperative changes in cerebral oxygen metabolism following neonatal cardiac surgery: Effects of surgical duration.* The Journal of Thoracic and Cardiovascular Surgery, **145**:196–205, 2013.

[96] Buckley E M, Naim M, Lynch J, Goff D, Diaz L, Nicolson S, Montenegro L, Lavin N, Durduran T, Spray T, Gaynor J, Putt M, Yodh A G, Fogel M, and Licht D J. *Sodium bicarbonate causes dose-dependent increases in cerebral blood flow in infants and children with single ventricle physiology.* Pediatric Research, **73**:668–73, 2013.

[97] Busch D R, Choe R, Durduran T, and Yodh A G. *Toward noninvasive characterization of breast cancer and cancer metabolism with diffuse optics.* PET Clinics, **8**(3):345–365, 2013.

[98] Busch D R, Choe R, Rosen M A, Guo W, Turgut Durduran, Feldman M D, Mies C, Czerniecki B J, Tchou J, DeMichele A, Schnall M D, and Yodh A G. *Optical malignancy parameters for monitoring progression of breast cancer neoadjuvant chemotherapy.* Biomed Opt Express, **4**(1):105–121, 2013.

[99] Farzam P, Zirak P, Binzoni T, and Durduran T. *Pulsatile and steady-state hemodynamics of the human patella bone by diffuse optical spectroscopy.* Physiol Meas, **34**(8):839, 2013.

[100] Mesquita R C, Faseyitan O K, Turkeltaub P E, Buckley E M, Thomas A, Kim M N, Durduran T, Greenberg J H, Detre J A, Yodh A G, and Hamilton R H. *Blood flow and oxygenation changes due to low-frequency*

repetitive transcranial magnetic stimulation of the cerebral cortex. J Biomed Opt, **18**(6):067006, 2013.

[101] Mesquita R C, Putt M E, Chandra M, Yu G, Xing X, Han S W, Lech G, Shang Y, Durduran T, Zhou C, Yodh A G, and Mohler III E R. *Diffuse optical characterization of an exercising patient group with peripheral artery disease.* J Biomed Opt, **18**(5):057007, 2013.

[102] Buckley E M, Hance D, Pawlowski T, Lynch J, Wilson F B, Mesquita R C, Durduran T, Diaz L K, Putt M E, Licht D J, Fogel M A, and Yodh A G. *Validation of diffuse correlation spectroscopic measurement of cerebral blood flow using phase-encoded velocity mapping MRI.* Journal of Biomedical Optics, **17**(3):037007–1, 2012.

[103] Choe R and Durduran T. *Diffuse optical monitoring of the neoadjuvant breast cancer therapy.* IEEE Journal of Selected Topics in Quantum Electronics, **18**(4):1367–1386, 2012.

[104] Minagawa T, Zirak P, Weigel U M, Kristoffersen A K, Mateos N, Valencia A, and Durduran T. *Low-cost diffuse optical tomography for the classroom.* Am J Phys, **80**(10):876, 2012.

[105] Mesquita R C, Durduran Turgut, Yu G, Buckley E M, Kim M N, Zhou C, Choe R, Sunar U, and Yodh A G. *Direct measurement of tissue blood flow and metabolism with diffuse optics.* Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, **369**(1955):4390–4406, 2011.

[106] Busch D R, Guo W, Choe R, Durduran T, Feldman M D, Mies C, Rosen M A, Schnall M D, Czerniecki B J, Tchou J, DeMichele A, Putt M E, and Yodh A G. *Computer aided automatic detection of malignant lesions in diffuse optical mammography.* Medical Physics, **37**(4):1840–1849, 2010.

[107] Durduran T, Choe R, Baker W, and Yodh A G. *Diffuse optics for tissue monitoring and tomography.* Rep Prog Phys, **73**(7):076701–076744, 2010.

[108] Durduran T, Zhou C, Buckley E M, Kim M N, Yu G, Choe R, Gaynor W J, Spray T L, Durning S M, Mason S E, Montenegro L M, Nicolson S C, Zimmerman R A, Putt M E, Wang J J, Greenberg J H, Detre J A, Yodh A G, and Licht D J. *Optical measurement of cerebral hemodynamics and oxygen metabolism in neonates with congenital heart defects.* J Biomed Opt, **15**(3):037004, 2010.

[109] Edlow B L, Kim M N, Durduran T, Zhou C, Putt M E, Yodh A G, Greenberg J H, and Detre J A. *The effects of healthy aging on cerebral hemodynamic responses to posture change.* Physiol Meas, **31**:477–495, 2010.

[110] Goff D, Buckley E, Durduran T, Wang J J, and Licht D J. *Noninvasive cerebral perfusion imaging in high risk neonates.* Seminars in Perinatology: Recent Advances in Neuroimaging in the Newborn, **34**:46–56, 2010.

[111] Kim M N, Durduran T, Frangos S, Edlow B L, Buckley E M, Heather E M, Zhou C, Yu G, Choe R, E M, Wolf R L, Woo J H, Grady M S, Greenberg J H, Levine J M, Yodh A G, Detre J A, and Kofke W A. *Noninvasive measurement of cerebral blood flow and blood oxygenation using near-infrared and diffuse correlation spectroscopies in critically brain-injured adults.* Neurocritical Care, **12**(2):173–180, 2010.

[112] Luckl J, Baker W, Sun Z H, Durduran T, Yodh A G, and Greenberg J H. *The biological effect of contralateral forepaw stimulation in rat focal cerebral*

ischemia: a multispectral optical imaging study. Front Neuroenerg, **2**(19):1–9, 2010.

[113] Süzen M, Giannoula A, and Durduran T. *Compressed sensing in diffuse optical tomography.* Optics Express, **18**:23676–23690, 2010.

[114] Yu S, Symons T B, Durduran T, Yodh A G, and Yu G. *Effects of muscle fiber motion on diffuse correlation spectroscopy blood flow measurements during exercise.* Biomedical Optics Express, **1**(2):500–511, 2010.

[115] Zirak P, Delgado-Mederos R, Martí–Fàbregas J, and Durduran T. *Effects of acetazolamide on the micro- and macro-vascular cerebral hemodynamics: A diffuse optical and transcranial doppler ultrasound study.* Biomedical Optics Express, **1**(5):1443–1459, 2010.

[116] Buckley E M, Cook N M, Durduran T, Kim M N, Zhou C, Choe R, Yu G, Shultz S, Sehgal C M, Licht D J, Arger P H, Putt M E, Hurt H H, and Yodh A G. *Cerebral hemodynamics in preterm infants during positional intervention measured with diffuse correlation spectroscopy and transcranial doppler ultrasound.* Optics Express, **17**:12571–12581, 2009.

[117] Busch T M, Xing X, Yu G, Yodh A G, Wileyto E P, Wang H W, Durduran T, Zhu T C, and Wang K K H. *Fluence rate-dependent intratumor heterogeneity in physiologic and cytotoxic responses to photofrin photodynamic therapy.* Photochem Photobiol Sci, **8**(12):1683–1693, 2009.

[118] Cerniglia G J, Pore N, Tsai J H, Schultz S, Mick R, Choe R, Xing X, Durduran T, Yodh A G, Evans S M, Koch C J, Hahn S M, Quon H, Sehgal C M, Lee W M F, and Maity A. *Epidermal growth factor receptor inhibition modulates the microenvironment by vascular normalization to improve chemotherapy and radiotherapy efficacy.* PLoS ONE, **4**(8):e6539, 2009.

[119] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Busch D R, Pathak S, Czerniecki B J, Tchou J, Fraker D L, DeMichele A, Chance B, Arridge S R, Schweiger M, Culver J P, Schnall M D, Putt M E, Rosen M A, and Yodh A G. *Differentiation of benign and malignant breast tumors by in-vivo three-dimensional parallel-plate diffuse optical tomography.* J Biomed Opt, **14**(2):024020, 2009.

[120] Durduran T, Zhou C, Edlow B L, Yu G, Choe R, Kim M N, Cucchiara B L, Putt M E, Shah Q, Kasner S E, Greenberg J H, Yodh A G, and Detre J A. *Transcranial optical monitoring of cerebrovascular hemodynamics in acute stroke patients.* Optics Express, **17**(5):3884–3902, 2009.

[121] Luckl J, Zhou C, Durduran Turgut, Yodh A G, and Greenberg J H. *Characterization of peri-infarct flow transients with laser speckle and doppler after middle cerebral artery occlusion in the rat.* Journal of Neuroscience Research, **87**(5):1219–1229, 2009.

[122] Zhou C, Eucker S, Durduran T, Yu G, Ralston J, Friess S H, Ichord R N, Margulies S S, and Yodh A G. *Diffuse optical monitoring of hemodynamic changes in piglet brain with closed head injury.* Journal of Biomedical Optics, **14**:034015, 2009.

[123] Zhou C, Shimazu T, Durduran T, Luckl J, Kimberg D Y, Yu G, Chen X H, Detre J A, Yodh A G, and Greenberg J H. *Acute functional recovery of cerebral blood flow after forebrain ischemia in rat.* J Cereb Blood Flow Metab, **28**(7):1275, 2008.

[124] Corlu A, Choe R, Durduran T, Rosen M A, Schweiger M, Arridge S R, Schnall M D, and Yodh A G. *Three-dimensional in vivo fluorescence diffuse optical tomography of breast cancer in humans.* Optics Express, **15**(11):6696–6716, 2007.

[125] Sunar U, Makonnen S, Zhou C, Durduran T, Yu G, Wang H W, Lee W M, and Yodh A G. *Hemodynamic responses to antivascular therapy and ionizing radiation assessed by diffuse optical spectroscopies.* Opt Express, **15**(23):15507–15516, 2007.

[126] Yu G, Floyd T, Durduran T, Zhou C, Wang J J, Detre J A, and Yodh A G. *Validation of diffuse correlation spectroscopy for muscle blood flow with concurrent arterial-spin-labeling perfusion.* Opt Exp, **15**:1064–75, 2007.

[127] Zhou C, Choe R, Shah N, Durduran T, Yu G, Durkin A, Hsiang D, Mehta R, Butler J, Cerussi A, Tromberg B J, and Yodh A G. *Diffuse optical monitoring of blood flow and oxygenation in human breast cancer during early stages of neoadjuvant chemotherapy.* J Biomed Opt, **12**(5):051903, 2007.

[128] Sunar U, Quon H, Durduran T, Zhang J, Du J, Zhou C, Yu G, Choe R, Kilger A, Lustig R, Loevner L, Nioka S, Chance B, and Yodh A G. *Non-invasive diffuse optical measurement of blood flow and blood oxygenation for monitoring radiation therapy in patients with head and neck tumors: a pilot study.* J Biomed Opt, **11**:064021, 2006.

[129] Yu G, Durduran T, Zhou C, Zhu T C, Finlay J C, Busch T M, Malkowicz S B, Hahn S M, and Yodh A G. *Real-time in situ monitoring of human prostate photodynamic therapy with diffuse light.* Photochem Photobiol, **82**:1279–84, 2006.

[130] Zhou C, Yu G, Furuya D, Greenberg J H, Yodh A G, and Durduran T. *Diffuse optical correlation tomography of cerebral blood flow during cortical spreading depression in rat brain.* Opt Exp, **14**:1125–44, 2006.

[131] Choe R, Corlu A, Lee K, Durduran T, Konecky S D, Grosicka-Koptyra M, Arridge S R, Czerniecki B J, Fraker D L, DeMichele A, Chance B, Rosen M A, and Yodh A G. *Diffuse optical tomography of breast cancer during neoadjuvant chemotherapy: a case study with comparison to MRI.* Med Phys, **32**:1128–39, 2005.

[132] Corlu A, Choe R, Durduran T, Lee K, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Diffuse optical tomography with spectral constraints and wavelength optimization.* Appl Opt, **44**:2082–93, 2005.

[133] Durduran T, Choe R, Yu G, Zhou C, Tchou J C, Czerniecki B J, and Yodh A G. *Diffuse optical measurement of blood flow in breast tumors.* Opt Lett, **30**:2915–17, 2005.

[134] Yu G, Durduran T, Lech G, Zhou C, Chance B, Mohler E R, and Yodh A G. *Time-dependent blood flow and oxygenation in human skeletal muscle measured with noninvasive near-infrared diffuse optical spectroscopies.* J Biomed Opt, **10**(3):024027–1–12, 2005.

[135] Yu G, Durduran T, Zhou C, Wang H W, Putt M E, Saunders M, Seghal C M, Glatstein E, Yodh A G, and Busch T M. *Noninvasive monitoring of murine tumor blood flow during and after photodynamic therapy provides early assessment of therapeutic efficacy.* Clin Cancer Res, **11**:3543–3552, 2005.

[136] Durduran T. *Noninvasive measurements of tissue hemodynamics with hybrid diffuse optical methods.* Med Phys (peer reviewed dissertation abstract), **31**:2178, 2004.

[137] Durduran T, Burnett M G, Yu G, Zhou C, Furuya D, Yodh A G, Detre J A, and Greenberg J H. *Spatio-temporal quantification of cerebral blood flow during functional activation in rat somatosensory cortex using laser speckle flowmetry.* J Cereb Blood Flow Metab, **24**:518–525, 2004.

[138] Durduran T, Yu G, Burnett M G, Detre J A, Greenberg J H, Wang J, Zhou C, and Yodh A G. *Diffuse optical measurements of blood flow, blood oxygenation and metabolism in human brain during sensorimotor cortex activation.* Opt Lett, **29**:1766–1768, 2004.

[139] Choe R, Durduran T, Yu G Q, Nijland M J M, Chance B, Yodh A G, and Ramanujam N. *Transabdominal near infrared oximetry of hypoxic stress in fetal sheep brain in utero.* Proc Natl Acad Sci USA, **100**:12950–12954, 2003.

[140] Corlu A, Durduran T, Choe R, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Uniqueness and wavelength optimization in continous-wave multispectral diffuse optical tomography.* Opt Lett, **28**:2339–2341, 2003.

[141] Culver J P, Choe R, Holboke M J, Zubkov L, Durduran T, Slemp A, Ntziachristos V, Pattanayak D N, Chance B, and Yodh A G. *Three-dimensional diffuse optical tomography in the plane parallel transmission geometry: Evaluation of a hybrid frequency domain/continuous wave clinical system for breast imaging.* Med Phys, **30**:235–247, 2003.

[142] Culver J P, Durduran T, Furuya D, Cheung C, Greenberg J H, and Yodh A G. *Diffuse optical tomography of cerebral blood flow, oxygenation and metabolism in rat during focal ischemia.* J Cereb Blood Flow Metab, **23**:911–24, 2003.

[143] Yu G, Durduran T, Furuya D, Greenberg J H, and Yodh A G. *Frequency-domain multiplexing system for in vivo diffuse light measurements of rapid cerebral hemodynamics.* Appl Opt, **42**:2931–39, 2003.

[144] Culver J P, Durduran T, Furuya D, Cheung C, Greenberg J H, and Yodh A G. *Diffuse optical measurement of hemoglobin and cerebral blood flow in rat brain during hypercapnia, hypoxia and cardiac arrest.* Adv Exp Biol, **XXIII**:293–298, 2002.

[145] Durduran T, Choe R, Culver J P, Zubkov L, Holboke M J, Giammarco J, Chance B, and Yodh A G. *Bulk optical properties of healthy female breast tissue.* Phys Med Biol, **47**:2847–2861, 2002.

[146] Li X D, Pattanayak D N, Durduran T, Culver J P, Chance B, and Yodh A G. *Near-field diffraction tomography with diffuse photon density waves.* Phys Rev E, **61**(4):4295–4309, 2000.

[147] Durduran T, Culver J P, Holboke M J, Li X D, Zubkov L, Chance B, Pattanayak D N, and Yodh A G. *Algorithms for 3d localization and imaging using near-field diffraction tomography with diffuse light.* Optics Express, **4**(8):247–262, 1999.

[148] Zhu Q, Durduran T, Ntziachristos V, Holboke M, and Yodh A G. *Imager that combines near-infrared diffusive light and ultrasound.* Opt Lett, **24**(15):1050–1052, 1999.

[149] Durduran T, Chance B, Yodh A G, and Boas D A. *Does the photon diffusion coefficient depend on absorption?* J Opt Soc Am A, **14**:3358–3365, 1997.

[150] Li X D, Durduran T, Chance B, Yodh A G, and Pattanayak D N. *Diffraction tomography for biochemical imaging with diffuse-photon density waves.* Opt Lett, **22**(8):573–575, (errata: p 1198), 1997.

Invited Talks

[1] Durduran T. *Evaluation of microvascular health at the critical care with non-invasive diffuse optics.* In *Congress, plenary*, volume Invited talk. Hospital General de Mexico, 2023.

[2] Durduran T. *Non-invasive, deeptissue measurement of microvascular oxygenation and blood flow with diffuse light.* In *U. Birmingham departmental seminar*, volume Invited talk. U. Birmingham, 2023.

[3] Durduran T. *Peeking deep inside the body with diffuse light.* In *International School on Light Sciences and Technologies*, volume Invited talk. Universidad Internacional Menendez Pelayo, 2023.

[4] Durduran T. *Adapting to an emerging pandemic to find a role for medical optics in COVID-19 patients and more.* In *Laserlab-Europe Talks.* Laserlab-Europe, Online, 2022.

[5] Durduran T. *Deciphering laser speckle statistics of turbid media to measure deep tissue blood flow using single photon counting detectors: clinical applications.* In *ISSW 2022 - International SPAD Sensor Workshop.* ISSW, Online, 2022.

[6] Durduran T. *Diffuse optical technologies for neuromonitoring: current status & future perspectives.* In *Barcelona Medical Photonics Network annual meeting 2022.* Barcelona Medical Photonics Network, Barcelona, Spain, 2022.

[7] Durduran T. *Evaluating endothelial and microvascular function in covid-19 and other critical illnesses with diffuse optics.* In *Consortium of Industry-Academia Collaboration on Bio-Optical Imaging and Spectroscopy.* Optical Society of Japan, Japan, Online, 2022.

[8] Durduran T. *From bench-to-bedside, basics of neuromonitoring with optics and clinical examples.* In *Early-Career Autism Researcher Initiative (South China).* Center for Autism Research, School of Education of Guangzhou University, China, Guangzhou (online), 2022.

[9] Durduran T. *Non-invasively probing microvascular blood oxygenation, flow and oxygen metabolism with light and example clinical studies.* In *Scientific Sessions of Institut Clínic Respiratòri de l'hospital Clínic.* Hospital Clinic Barcelona, Barcelona, Spain (online), 2022.

[10] Durduran T. *Transcranial, hybrid, near-infrared spectroscopies for evaluating cerebral metabolism, auto-regulation & more.* In *PIC SmartCampus.* Vall d'Hebron University Hospital, Barcelona, Spain (online), 2022.

[11] Turgut Durduran. *Evaluating endothelial and microvascular function in covid-19 and other populations; towards personalized management.* In *OPTICA Biomedicals Topicals*, page TW1B.1. Optica, Miami, USA, 2022.

[12] Colombo L, Lanka P, Brodu A, Noordzij N, Pagliazzi M, Parfentyeva V, Turgut Durduran, and Pifferi A. *in vivo time-domain diffuse correlation spectroscopy with a superconducting nanowire single-photon detector.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ES1B.1, invited talk. SPIE/OSA, Munich, Germany, 2021.

[13] Cortese L, Lo Presti G, Fernandez Esteberena P, Zanoletti M, Buttafava M, Renna M, Contini D, Dalla Mora A, Pifferi A, Taroni P, Tosi A, Aranda G, , Ruiz Janer S, Squarcia M, Hanzu F, Mora Porta M, Wojtkiewicz S, Dehghani H, Weigel U M, de Fraguier S, Nguyen-Dinh A, Rosinski B, and Turgut Durduran. *Preliminary clinical study of the potential of multi-modal optical/ultrasound LUCA platform for improved thyroid cancer screening.* In *Optical Tomography and Spectroscopy of Tissue XIV*, volume invited talk. SPIE, Virtual, San Francisco, CA, USA, 2021.

[14] Durduran T. *Non-invasive, optical measurement of microvascular blood flow and oxygen metabolism dynamics a biomarker of health and wellness: from critical care monitors to mass consumer devices.* In *2021 Workshop on Novel Photonics Technologies.* Huawei, Bordeaux, France, 2021.

[15] Durduran T. *Technical group: Response of biophotonics to COVID-19: Strategies and lesson learned for the future.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume SPE3, invited panel discussion. SPIE/OSA, Munich, Germany, 2021.

[16] Durduran T. *Clinical examples of estimating static and dynamic autoregulation in patients with diffuse correlation spectroscopy.* In *Cerebral blood flow virtual seminar series.* Cerebral autoregulation network (CAR-NET), Virtual, 2021.

[17] Durduran T. *Panelist networking session on covid-19 for conference 11626.* In *Photonic Diagnosis, Monitoring, Prevention, and Treatment of Infections and Inflammatory Diseases 2021.* SPIE, Virtual, San Francisco, CA, USA, 2021.

[18] Durduran T. *Peeking deep (>1 cm) inside the body with diffuse light: fundamentals, instrumentation and a clinical journey.* In *Imaging Physics department colloquium.* Delft University of Technology, TU Delft, Netherlands, 2021.

[19] Durduran T. *Plenary talk: Seeking new biomarkers with diffuse correlation spectroscopy and next generation devices for transcranial assessment of cerebral hemodynamics.* In *Neurotechnologies Plenary.* SPIE, Virtual, San Francisco, CA, USA, 2021.

[20] Durduran T, Pagliazzi M, Cortese L, Karadeniz U, Mesquida J, and on behalf of HEMOCOVID-19 consortium . *HEMOCOVID-19: an international project evaluating microvascular and endothelial dysfunction in COVID-19 patients with diffuse optics.* In *Photonic Diagnosis, Monitoring, Prevention, and Treatment of Infections and Inflammatory Diseases 2021.* SPIE, Virtual, San Francisco, CA, USA, 2021.

[21] T Durduran o. *Going from an idea to an international clinical-trial and beyond: near-infrared diffuse optics to evaluate microvascular health in*

COVID-19 patients. In *European Optical Society Annual meeting (EOSAM) 2021*. European Optical Society (EOS), Rome, Italy, 2021.

[22] Durduran T. *Adapting to a pandemic & an international clinical trial with diffuse optics*. In *Photonics in the Fight Against COVID-19, SPIE online forum*. SPIE, Online/Virtual, 2020.

[23] Durduran T. *Hybrid diffuse optical technologies for neuro-monitoring (and more) in the clinics*. In *fNIRS Datablitz 2020*. Society for functional Near-infrared Spectroscopy (sfNIRS), Online/Virtual, 2020.

[24] Pagliazzi M, Cortese L, Karadeniz U, Mesquida J, Durduran T, and "on behalf of the HEMOCOVID-19 consortium". *Plenary: Adapting to a pandemic & an international clinical trial with diffuse optics*. In *Saratov Fall Meeting 2020*. Saratov State University, Saratov, Russia, 2020.

[25] Durduran T. *Bedside, non-invasive measurement of cerebral hemodynamics and oxygen metabolism in neurocritical care and more*. In *Neuro-critical care departmental seminar*, volume Invited talk. University of Pennsylvania, Philadelphia, USA, 2019.

[26] Durduran T. *Correlates of cerebral vasoreactivity measured by diffuse correlation spectroscopy (dcs) as biomarkers of brain injury in acute ischemic stroke*. In *164th ICB Seminar on Light and Optics in Medical Diagnosis*. International Centre of Biocybernetics, Warsaw, Polland, 2019.

[27] Durduran T. *Deep tissue blood flow measurements with light: where are we now, and, where to next?* In *Advances in biomedical optics seminar series*, volume Invited talk. Center for Magnetic Resonance and Optical Imaging, Philadelphia, USA, 2019.

[28] Durduran T. *Diffuse optical neuro-monitoring for ischemic stroke: current status and future prospects*. In *Internal seminar, Department of Neurology*. Erasmus Medical Center, Delft, Netherlands, 2019.

[29] Durduran T. *Non-invasive, deep tissue monitoring and imaging with light: foundations and clinical applications*. In *1st ICFO-UNAM International School on Frontiers of Light*. ICFO-UNAM, Queretaro, Mexico, 2019.

[30] Durduran T. *Non-invasive measurement of cerebral blood flow as a biomarker injury, therapy and recovery*. In *27th International Conference on Advanced Laser Technologies (ALT 19)*. ALT, Prague, Czech Republic, 2019.

[31] Gregori-Pla C, Mesquita R C, Favilla C G, Busch D R, Blanco I, Frisk L K, Camps-Renom P, Mullen M T, Martí-Fàbregas J, Prats-Sánchez L, no A M D, Delgado-Mederos R, Detre J A, Yodh A G, and Turgut Durduran. *A mild orthostatic challenge shows impairment of cerebrovascular autoregulation on the ipsilesional hemisphere of ischemic stroke patients*. In *European Conferences on Biomedical Optics (ECBO) 2019*, volume invited talk. SPIE/OSA, Munich, Germany, 2019.

[32] Durduran T. *Deep tissue diffuse optics; ischemic stroke & future directions*. In *Servei d'Anatomia Patològica, Grand Rounds*. Institut Hospital del Mar d'Investigacions Mediques, Barcelona, Spain, 2018.

[33] Durduran T. *Deep tissue diffuse optics; ischemic stroke & future directions*. In *Guttmann Institute Seminars*. Guttmann Institute, Barcelona, Spain, 2018.

[34] Durduran T. *Latest on noninvasive, optical blood flow measurements breaking cost, portability, and scalability limits.* In *BIOS Hot Topics, Photonics West*. SPIE, San Francisco, CA, USA, 2018.

[35] Durduran T. *Multimodal imaging with diffuse optics for cancer theranostics.* In *Department of Radiology colloquium*. Hospital Clinic Barcelona, Barcelona, Spain, 2018.

[36] Durduran T. *Non-invasive, bed-side measurement of cerebral blood flow: current trends and future directions.* In *Joint Italian-French Workshop on "Cerebral oximetry and functional near infrared spectroscopy (fNIRS)"*. Politecnico di Milano, Milan, Italy, 2018.

[37] Durduran T. *Non-invasive, clinical measurement of cerebral blood flow with laser speckles.* In *International conference on biomedical photonics*. U. Montpellier, Montpellier, France, 2018.

[38] Durduran T. *Non-invasive measurement of blood flow with diffuse speckle statistics.* In *Dynamics and Fluctuations in Biomedical Photonics XV, Photonics West*. SPIE, San Francisco, CA, USA, 2018.

[39] Durduran T. *OSA short course: Diffuse laser speckles and their statistics for non-invasive, deep tissue blood flow measurements.* In *18th Saratov Fall Meeting*. Saratov State University, Saratov, Russia, 2018.

[40] Durduran T. *Plenary: How to measure tissue blood flow non-invasively with light and what are the current trends?* In *18th Saratov Fall Meeting*. Saratov State University, Saratov, Russia, 2018.

[41] Durduran T. *Speckle contrast optical spectroscopy and tomography for scalable, low-cost, non-invasive, deep tissue blood flow monitoring.* In *Advances in biomedical optics seminar series*, volume Invited talk. Center for Magnetic Resonance and Optical Imaging, Philadelphia, USA, 2018.

[42] Durduran T. *Towards practical time resolved diffuse correlation spectroscopy.* In *Brain computer interface group*. Facebook, Online, 2018.

[43] Durduran T. *What is next for optical blood flow measurements? can we overcome the barriers due to cost, scalability and portability?* In *159th ICB Seminar on Light and Optics in Medical Diagnosis*. International Centre of Biocybernetics, Warsaw, Polland, 2018.

[44] Turgut Durduran. *Latest on our gizmos and gadgets based on speckle statistics to measure the cerebral bloodflow of the human brain.* In *OSA Biomedicals Topicals*, page BF2C.1. Optical Society of America, Miami, USA, 2018.

[45] Durduran T. *How, why and with whom does one use near-infrared light and laser speckles to probe hemodynamics of the human body?* In *BIST-UPF Master's Seminars 2017*. BIST, Barcelona, Spain, 2017.

[46] Durduran T. *Latest developments in diffuse correlation spectroscopy.* In *Biomedical Optics Series*. Physikalisch-Technische Bundesanstalt, Berlin, Germany, 2017.

[47] Durduran T. *Mext generation cerebral blood flow monitors based on laser speckles.* In *Ist Mexican symposium on NIRS neuroimaging (MEXNIRS)*. INAOE, Cholula, Mexico, 2017.

[48] Durduran T. *Multimodal imaging with diffuse optics for cancer theranostics.* In *European Congress of Radiology, ECR 2017*, volume Invited talk. European Society of Radiology, 2017.

[49] Durduran T. *Panel: Babylux project and then? priorities in technical development, standardization and clinical studies.* In *"Light-to-Cure": Steps from Photonics to Improved Care of Neonates Born Preterm.* Politecnico di Milano, Italy, 2017.

[50] Durduran T. *Probing tissue with diffuse light towards non-invasive clinical monitors.* In *2nd Workshop on Photonic Integrated Circuits for Telecom & Bio / Life Sciences.* PIC4TB , Barcelona, Spain, 2017.

[51] Durduran T. *The progress on measuring cerebral blood flow with diffuse correlation spectroscopy.* In *Photonics Ireland 2017.* Photonics Ireland, Galway, Ireland, 2017.

[52] Durduran T. *The tale of a physicist lost in between the academia, the healthcare and the industry.* In *Conference on research and innovation in the hospital ecosystem*, volume Invited talk. IESE Business School, 2017.

[53] Durduran T. *Tissue optics, light propagation through complex media and biomedical imaging with diffused light.* In *Optical Imaging - from Molecules to Humans 2nd Imaging Technology Summer Workshop of the ESMI-TOPIM TECH.* ESMI, Crete, Greece, 2017.

[54] Pagliazzi M, Martinenghi E, Minnema J, Erdmann R, Lauritsen K, Contini D, Dalla Mora A, Torricelli A, Pifferi A, and Durduran Turgut. *Compact time resolved diffuse correlation spectroscopy setup with commercial off-the-shelf (cots) components.* In *European Conferences on Biomedical Optics (ECBO) 2017*, volume invited talk. SPIE/OSA, Munich, Germany, 2017.

[55] Wojtkiewicz S, Lo Presti G, Cortese L, Lindner C, Porta M M, Farzam P, Squarcia M, Johansso J, Weigel U M, Halperin I, Hanzu F, Contini D, Turgut Durduran, and Dehghani H. *Ultrasound guided diffuse optical characterization of human thyroid tissue.* In *European Conferences on Biomedical Optics (ECBO) 2017*, volume Invited talk. SPIE/OSA, Munich, Germany, 2017.

[56] Durduran T. *How can you see inside my body with light?* In *4th Symposium of Update in Dialysis*, volume Invited talk. Hospical Clinic Barcelona, 2016.

[57] Durduran T. *Hybrid near-infrared diffuse optical methods for bed-side cerebral monitoring.* In *9th International Update on Neuro-Anesthesia & Neuro-intensive care*, volume Invited talk. Hospical Clinic Barcelona, 2016.

[58] Durduran T. *Hybrid near-infrared diffuse optical methods for bed-side cerebral monitoring.* In *XVII Simposium Internacional de Neuromonitorizacion y Tratamiento Del Paciente Neurocritico (PIC 2016)*, volume Invited talk. Vall d'Hebron University Hospital, Barcelona, Spain, 2016.

[59] Durduran T. *Neuromonitoring and imaging of cerebral blood flow with diffuse correlation spectroscopy.* In *4th European autumn school on cerebral oxymetry and optical imaging*, volume Invited talk. University of Picardie Jules Verne and the Faculty of Medicine, 2016.

[60] Durduran T. *Non-invasive, diffuse optical techniques for functional imaging.* In *VIII Spanish Drug Discovery Network Meeting 2016*, volume Invited talk. SLAS Europe, 2016.

[61] Durduran T. *Using diffuse light and speckle statistics to non-invasively measure blood flow; from theoretical foundations to clinical applications.* In *International School on Light Sciences and Technologies*, volume Invited talk. Universidad Internacional Menendez Pelayo, 2016.

[62] Durduran T. *Using light to probe inside the body.* In *Pint of science festival 2016*, volume Invited talk. Pint of Science team, 2016.

[63] Durduran T. *'why is my hand red?' or the tales of diffuse light in tissues.* In *Jornadas de Estudiantes en Ingenieria Biomedica*, volume Invited talk. IEEE EMBS BCN Student Club, 2016.

[64] Turgut Durduran. *Development and applications of diffuse correlation spectroscopy for non-invasive measurement of blood flow in clinics.* In *OSA Biomedicals Topicals*, page OTh1D.1. Optical Society of America, 2016.

[65] Durduran T. *Diffuse correlation spectroscopy: the journey from the phantoms to the clinics to the commercialization.* In *4th International Congress on Biophotonics (ICOB 2015)*, volume Invited talk. ICOB Committee, 2015.

[66] Durduran T. *How did a physicist got lost in a neurology department?* In *Institute of Applied Physics Departmental Colloquium*, volume Invited talk. University of Bern, 2015.

[67] Durduran T. *Noninvasive, optical measurement of cerebral blood flow and oxygen metabolism in healthy and injured brain.* In *Brain-IT meeting Barcelona*, volume Invited talk. Brain monitoring with Information Technology Group, 2015.

[68] Durduran T. *The promise of diffuse optical methods for non-invasive diagnosis, therapy monitoring and prediction in oncology.* In *3rd ESTRO Forum*, volume Invited talk. European Society for Radiotherapy & Oncology (ESTRO), 2015.

[69] Hollmann J and Durduran T. *Measuring cerebral blood flow with diffuse correlation spectroscopy.* In *3rd European autumn school on cerebral oxymetry and optical imaging*, volume Invited talk. University of Picardie Jules Verne and the Faculty of Medicine, 2015.

[70] Valdes C P, Varma H M, Dragojevic T, Kristoffersen A, castellvi C, Justicia C, Culver J P, and Durduran Turgut. *Deep tissue blood flow imaging with speckle contrast optical tomography.* In *European Conferences on Biomedical Optics*, volume invited talk. SPIE/OSA ECBO, Munich, Germany, 2015.

[71] Durduran T. *Biomedical imaging with diffuse light.* In *Summer school on "waves and disorder"*, volume Invited talk, class. GDR MesoImage and U. Fribourg, Corsica, France, 2014.

[72] Durduran T. *Diffuse correlation spectroscopy for non-invasive, bed-side measurement of cerebral blood flow.* In *International Conference on Laser Applications in Life Sciences (LALS 2014)*, volume Invited talk. SPIE, Ulm, Germany, 2014.

[73] Durduran T. *How do we probe the neonatal brain with light?* In *L4H 2014, Light and Pediatrics: Photonics for non-invasive pediatric monitoring*,

volume Invited talk. ICFO-The Institute of Photonic Sciences, Castelldefels, Spain, 2014.

[74] Durduran T. *How to measure blood flow with speckles and its clinical uses in neurology.* In *European Summer School on Optical Imaging Techniques for Biomedical Applications.* OILTEBIA network, Madrid, Spain, 2014.

[75] Durduran T. *New optical methods for continuous cerebral blood flow monitoring as a biomarker of cerebral pathophysiology.* In *23rd Congress of the International Commission for Optics*, volume Invited keynote talk. International Commission for Optics, Santiago de Compostela, Spain, 2014.

[76] Durduran T. *Non-invasive optical monitoring of cerebral hemodyna- mics.* In *XVI Simposium Internacional de Neuromonitorizacion y Tratamiento Del Paciente Neurocritico (PIC 2014)*, volume Invited talk. Vall d'Hebron University Hospital, Barcelona, Spain, 2014.

[77] Durduran T. *What is the role of diffuse optics in acute stroke care?* In *Advances in biomedical optics seminar series*, volume Invited talk. Center for Magnetic Resonance and Optical Imaging, Philadelphia, USA, 2014.

[78] Durduran T. *Bed-side monitoring of hemodynamics in ischemic stroke patients with diffuse correlation spectroscopy.* In *SPIE Photonics West*, pages 8580–11. San Francisco, CA, 2013.

[79] Durduran T. *Continuous cerebral blood flow monitoring as a bio-marker of cerebral pathophysiology.* In *133-134th ICB Seminar on Optical Methods for clinical Neuro-Monitoring.* International Centre of Biocybernetics, Warsaw, Polland, 2013.

[80] Durduran T. *Diffuse optical neuro-monitoring.* In *21st International SAOT workshop on optics in medicine.* SAOT Erlangen Graduate School in Advanced Optical Technologies, Erlangen, Germany, 2013.

[81] Durduran T. *Monitoring hemodynamics as biomarkers of cancer metastatis and therapy response.* volume Enabling Technologies for cancer research: imaging and diagnostics. Beverly, Massachusetts, 2013.

[82] Durduran T. *Towards a comprehensive neuro-monitor of hemodynamics of ischemic stroke patients using diffuse optical technologies.* volume Biomedical engineering seminar series. Rochester, NY, 2013.

[83] Durduran T. *Bed-side monitoring of neuro-intensive care.* In *XXIV International SMIT Conference*, volume Keynote Lecture. Society for Medical Innovation and Technology, Barcelona, Spain, 2012.

[84] Durduran T. *Bed-side neuro-critical monitoring with hybrid diffuse optics.* In *OSA Biomedical Topicals*, page BSu4A.1. Optical Society of America, Miami, FL, 2012.

[85] Durduran T. *Bed-side neuro-monitoring with hybrid diffuse optics with examples of different clinical questions that could be tackled.* In *nEUROPt Project Workshop*, volume Invited talk in Novel strategies for time-domain diffuse optical imaging of the brain. Non-invasive imaging of brain function and disease by pulsed near infrared light (nEUROpt) Consortium, Milan, Italy, 2012.

[86] Durduran T. *Bench-to-bedside: Towards a comprehensive monitor of cerebral hemodynamics in clinical stroke management.* In *Gordon Research*

Conferences, volume Brain Energy Metabolism & Blood Flow. Colby College, Waterville, MA, 2012.

[87] Durduran T. *A comprehensive neuro-monitor of cerebral hemodynamics in clinical stroke management.* In *Des Photons et des Neurones; Photonic Imaging for Neurosciences.* CNRS thematic School (Fall School), Cabries, France, 2012.

[88] Durduran T. *Diffuse correlation spectroscopy for cerebral blood flow monitoring.* In *functional Near-Infrared Spectroscopy (fNIRS).* London, UK, 2012.

[89] Durduran T. *Non-invasive optical monitoring of cerebral hemodynamics and metabolism at the neuro- intensive care.* In *XV Simposium Internacional de Neuromonitorizacion y Tratamiento Del Paciente Neurocrítico (PIC 2012)*, volume Invited talk. Vall d'Hebron University Hospital, Barcelona, Spain, 2012.

[90] Durduran T. *Photonics for neuro-monitoring.* In *International Focus Meeting on Innovation in Healthcare.* Society for Medical Innovation and Technology, Sabadell, Spain, 2012.

[91] Weigel U and Durduran T. *Pre-symposium course.* In *XV Simposium Internacional de Neuromonitorización y Tratamiento Del Paciente Neurocrítico (PIC 2012)*, volume Invited course lecturer. Vall d'Hebron University Hospital, Barcelona, Spain, 2012.

[92] Durduran T. *Bed-side, neuro-intensive care (nicu) monitoring of cerebral hemodynamics with hybrid diffuse optics.* In *Biophotonics4Life Webinar Series.* Biophotonics4Life Worldwide Consortium, Invited, Online, recorded, 2011.

[93] Durduran T. *Bed-side transcranial optical monitors for neuro-intensive care monitoring.* In *III International Symposium on Topical Problems of Biophotonics–2011.* Consortium of Organizers, St.-Petersburg – Nizhny Novgorod, Russia, 2011.

[94] Durduran T. *Diffuse optical monitoring of CBF and CMRO2 at the bed-side.* In *Special symposium on "Advances in Optical Imaging of CBF and Oxygenation" at XXVth International Symposium on Cerebral Blood Flow, Metabolism and Function (BRAIN 2011).* International Society for Cerebral Blood Flow and Metabolism (ISCBFM), Barcelona Spain, 2011.

[95] Durduran T. *Monitoring of cerebral blood flow in neonates: Transcranial doppler ultrasound, arterial spin labeled mri and diffuse correlation spectroscopy.* In *52nd Annual Meeting of the European Society for Paediatric Research*, volume Invited, course. European Society for Paediatric Research, Newcastle, United Kingdom, 2011.

[96] Durduran T and Ripoll J. *Invited tutorial: Optics for in vivo imaging and monitoring in biology and medicine.* In *2011 IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI).* IEEE-Institute of Electrical and Electronics Engineers, Chicago, Illinois, U.S.A., 2011.

[97] Süzen M, Giannoula A, and Durduran T. *Compressive diffuse optical tomography.* In *European Conferences on Biomedical Optics*, volume 20th, pages 8088–25. Munich, Germany, 2011.

[98] Durduran T. *Non-invasive optical monitors of cerebral hemodynamics and metabolism at the neuro-intensive care.* In *XIV Simposium Internacional de*

Neuromonitorización y Tratamiento Del Paciente Neurocrítico (PIC 2010). Vall d'Hebron University Hospital, Barcelona, Spain, 2010.

[99] Durduran T. *Probing tissue function and diseases with light*. In *Opening Ceremony of the Master Programme in Photonics*. Universitat Politecnica de Catalunya, ICFO-The Institute of Photonic Sciences, Universitat Autònoma de Barcelona, Universitat de Barcelona, Barcelona, Spain, 2010.

[100] Durduran T. *Diffuse optical monitors for bed-side monitoring of cerebral hemodynamics at the neuro-intensive care unit*. In *IEEE Photonics/LEOS Annual Meeting*. IEEE, Turkey, 2009.

[101] Durduran T. *Diffuse optics for clinical use: Research in icfo*. In *Workshop on Diffuse Optical Imaging*. Institute of Biomedical Engineering, Boğaziçi University, Istanbul, Turkey, 2009.

[102] Durduran T. *Hybrid near-infrared spectroscopic and diffuse correlation spectroscopic approach to measure tissue oxygen metabolism*. In *Departmental Seminar*. Institut Fresnel, Marseille, France, 2009.

[103] Durduran T. *Optical diffuse correlation spectroscopy (dcs); a new tool for bed-side monitoring*. In *105th ICB Seminar on Light and Optics in Medical Diagnosis*. International Centre of Biocybernetics, Warsaw, Polland, 2009.

[104] Durduran T and Yodh A G. *New, hybrid optical techniques to non-invasively measure oxygen metabolism*. In *TOPIM '09: Hot Topics in Molecular Imaging*. Les Houches, France, 2009.

[105] Durduran T, Kim M N, Buckley E M, Zhou C, Yu G, Choe R, Greenberg J H, Detre J A, and Yodh A G. *Diffuse optical monitoring of cerebral oxygen metabolism at the bed-side in cerebrovascular disorders*. In *OSA: Annual Meeting, Frontiers in Optics 2008*. Rochester, NY, 2008.

[106] Durduran T. *Functional imaging of blood flow in brain and in tumors during therapy*. In *OSA: Annual Meeting, Frontiers in Optics 2006*. Rochester, NY, 2006.

[107] Durduran T. *Functional imaging of blood flow in brain and in tumors during therapy*. In *Natural Sciences and Mathematics, Departmental Colloquium*. Richard Stockton College of New Jersey, NJ, 2006.

[108] Durduran T. *Optical measurement of cerebral blood flow, oxygenation and metabolism: From benchtop to the clinic*. In *Gordon Research Conferences, Lasers in Medicine and Biology*. Plymouth,NH, 2006.

[109] Durduran T. *Optical methods for tissue hemo-dynamics and metabolism*. In *OSA Biomedicals Topicals*. Fort Lauderdale, FL, 2006.

[110] Durduran T. *Diffuse correlation/wave spectroscopy: A tutorial*. In *Biomedical Optics Series*. Physikalisch-Technische Bundesanstalt, Berlin, Germany, 2005.

[111] Durduran T. *Optical measurement of cerebral blood flow, oxygenation and metabolism*. In *Berlin Neuro-Imaging Center Talks*. Charite, Berlin, Germany, 2005.

[112] Durduran T. *Non-invasive measurements of tissue hemodynamics with diffuse light*. In *McNair Scholars Program Speaker Series*. University of Alabama, Birmingham, AL, 2004.

[113] Durduran T. *Optical methods for imaging/spectroscopy of cerebral hemodynamics: From small animals to adult brain.* In *Seminar Series at Photon Migration Imaging Laboratory at the MGH/MIT/HMS.* Massachusetts General Hospital, MA, 2004.

[114] Durduran T. In Vivo *measurements of brain hemodynamics in rat brain using diffuse optical tomography and diffuse correlation spectroscopy.* In *March Meeting, American Physical Society.* Indianapolis, IN, 2002.

[115] Durduran T. *Optical tomography/spectroscopy of the breast, brain and muscle.* In *The Biomedical Optics Research Laboratory Seminar.* University College London, London, UK, 2002.

[116] Durduran T. *In Vivo measurements of rat brain hemodynamics using diffuse optical tomography and diffuse correlation spectroscopy.* In *Chalk-Talk Series, Institute of Medicine and Engineering.* University of Pennsylvania, Philadelphia, 2001.

Book Chapters

[1] Yu G, Durduran T, Zhou C, Cheng R, and Yodh A G. *Near-infrared diffuse correlation spectroscopy for assessment of tissue blood flow.* In Boas D, Pitris C, and Ramanujam N, editors, *Handbook of Biomedical Optics*, pages 195–216. CRC Press: Boca Raton, 2011.

Professional Review Work and Memberships

Associate Editor/Special issue editor Biomedical Optics Express (2023-)

Netherlands Organisation for Scientific Research expert reviewer (2021-)

Editorial Board NeuroPhotonics Journal (2021-)

Programme Committee member for European Conferences on Biomedical Optics (ECBO 2021, June, 2021, Munich, Germany, co-sponsored by SPIE and OSA)

Program committee SPIE Photonics West 2021

Chair: OSA Optical Tomography and Spectroscopy Topical, OSA Biomedical Topicals 2020, Miami USA

Advanced Material Pandemic Taskforce regional chapter member (2020-)

Engineering and Physical Sciences Research Council United Kingdom reviewer (2019-)

Swiss National Science Foundation (SNSF) and the Swiss Innovation Agency Innosuisse reviewer (2018-)

Program committee member: Dynamics and Fluctuations in Biomedical Photonics XV, Photonics West 2018, SPIE

Scientific Programme chair: fNIRS 2018 conference, Tokyo, Japan

Scientific Program Chair: OSA Optical Tomography and Spectroscopy Topical, OSA Biomedical Topicals 2018, Miami USA

French National research Agency (ANR) invited remote referee (2017-)

OSA Frontiers in Optics/Laser Science 2016 Conference program committee member .

Irish Photonic Integration Centre (IPIC, Cork, Ireland) advisory board member.

BrainLab@PoliMi (Milan, Italy) advisory board member.

Committee on biophotonics member of EPIC – European Photonics Industry Consortium

Programme committee member fNIRS 2016 conference, Paris, France.

Elected member of the executive board of Society for Functional Near Infrared Spectroscopy (sfNIRS).

Organizing committee and national scientific advisory board member 9^{th} International Update on Neuro-Anesthesia & Neuro-Intensive Care, EuroNeuro2016. April 2016, Barcelona, Spain

Programme Committee member for European Conferences on Biomedical Optics (ECBO 2015, June 21-25, 2015, Munich, Germany, co-sponsored by SPIE and OSA)

Co-chair for 133rd ICB Seminar on Optoelectronics in medical diagnosis - Warsaw, 25-28 September 2013

Reviewer for International Symposium on Cerebral Blood Flow, Metabolism, and Function & International Conference on Quantification of Brain Function with PET (BRAIN 2011, BRAIN 2013, BRAIN 2015, BRAIN 2017).

Executive organizing committee, and diffuse optical imaging programme committee member, European Conferences on Biomedical Optics (ECBO 2011, 2013).

Euro-BioImaging Stakeholders committee member (2010-)

Expert reviewer for Italian Ministry of Health (2010-)

Review committee member, World Molecular Imaging Congress (WMIC 2010 & 2012).

Expert reviewer for " Ministerio de Ciencia e Innovación" (MICINN) grants ("Spanish, National Ministry of Science and Innovation") (2010-)

Spain/Southern Europe Node-Leader for "Biophotonics for Life Worldwide Consortium" (B4L) (2009-)

Program committee member, Optical Society of America, Biomedical Optics Topical Meeting (March 2010)

Sub-committee member, International Conference on Laser Applications in Life Sciences (LALS, 2010)

International, expert review for German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) (2009-)

Expert reviewer for Swiss National Science Foundation (2009-)

Abstract reviewer for The American Association of Physicists in Medicine (AAPM) 51st Annual Meeting (2009)

Minisymposium reviewer for IEEE, Engineering in Medicine and Biology Society Annual International Conference (2008, 2009)

Program committee member, Optical Society of America, Biomedical Optics Topical Meeting (March 2008)

Expert reviewer for European Union/Commission framework programme for research and technology development grants (2007-).

Auxillary reviewer for National Institutes of Health National Institute of Neurological Disorders and Stroke (NINDS) (2006-).

Invited, external reviewer for The Research Grants Council (RGC) of Hong Kong (2008-)

Presider "Imaging of Mice and Men II" at Optical Society of America (OSA) Annual meeting, "Frontiers in Optics 2008", October 2008.

Memberships: American Physical Society (APS), Optical Society of America (OSA), International Society for Optical Engineering (SPIE), International Society of Cerebral Blood Flow and Metabolism (ISCBFM), European Society of Molecular Imaging (ESMI), European Institute for Biomedical Imaging Research (EIBIR)

Peer reviewer for Applied Optics; Optics Letters; Journal of Optical Society of America -A; Journal of Biomedical Optics (invited Editorial board member & reviewer); Optics Express; Medical Physics (Associate Editor & Reviewer); Physics in Medicine and Biology; Medical and Biological Engineering and Computing; Optics Communications; Proceedings of The National Academy of Sciences;Journal of Physics D: Applied Physics; Physical Review E; American Journal of Neuroradiology; Cell Biochemistry and Biophysics; Biomedical Engineering Online; Physics Review Letters; Journal of Neuroimaging; IEEE Transactions on Medical Imaging; Physiological Measurement; Pediatric Research; Human Brain Mapping; Inverse Problems; IEEE Transactions on Biomedical Engineering; Journal of Innovative Optical Health Sciences; WIREs Nanomedicine and Nanobiotechnology; Biomedical Optics Express; Journal of Angiogenesis Research; Neuroimage; International Journal of Radiation Oncology, Biology, Physics; Brain Research; Journal of Neurosurgical Anesthesiology; Journal of Cerebral Blood Flow and Metabolism; Review of Scientific Instruments; Nature Communications; British Journal of Dermatology; Measurement Science and Technology; Frontiers in Brain Imaging Methods (editorial board member); Frontiers in Neuroscience; Journal of Visualized Experiments; Breast Cancer Research; Sensors; International Journal of Developmental Neuroscience; Open BMJ; BMC Medical Imaging; Public Library of Science One (PLOS ONE); Neurophotonics; Optica; Optical and Quantum Electronics; Frontiers in Behavioral Neuroscience; Advances in Optics and Photonics; Sensors; Journal of Biophotonics; Scientific Reports; Journal of Optics and Laser Technology; Computer Methods and Programs in Biomedicine; Electronics; Nature Photonics; Journal of Chemical Neuroanatomy; Intensive Care Medicine; Journal of Optics; Neurologia i Neurochirurgia Polska; Journal of Neural Engineering; Cerebral Cortex; Physiological Reports; Neurosurgical review; International Journal of Neural Systems; Biomedical Signal Processing & Control; Light: Science & Applications (LSA)

Notes on Advising & Teaching Experience

Group Leader; direct a group of 25 (as of January 2024)

Sixteen Ph.D. students graduated (as of January 2024), eleven ongoing.

Twenty master's theses (as of January 2024).

Numerous (>50) undergraduates, interns, work-study and non-work-study undergraduate and graduate students at ICFO and University of Pennsylvania.

Lecturer in "Advanced Techniques in Image Analysis" in "Máster de Medicina Traslacional de la Universidad de Barcelona" (2012-)

Partial support and joint-supervision of PhD students at University of

Pennsylvania (2006-2009).

Designed and taught "Medical Optical imaging" as part of "Master in Photonics" programme. (2011-2012)

Taught a laboratory unit as part of Fundamental Techniques of Imaging course (BE899/BE 546) at Department of Bioengineering (2008).

Guest lecturer in Biochemistry and Molecular Biophysics (BMB) 620, University of Pennsylvania, Fall 2005.

Selected Proceedings and Presentations

The list of presentations in meetings of Optical Society of America (OSA), The International Society for Optical Engineering (SPIE), International Society For Cerebral Blood Flow and Metabolism (ISCBFM), International Society on Oxygen Transport to Tissue (ISOTT), American Physical Society (APS), Gordon Research Conferences (GRC), United Engineering Foundation (UEF), Engineering Conferences International (ECI), Human Brain Mapping (HBM) and American Heart Association (AHA), American Neurological Association (ANA), European Society for Molecular Imaging (ESMI), Institute of Electrical and Electronics Engineers (IEEE), etc are available upon request.

[1] Durduran T. *Evaluation of microvascular health at the critical care with non-invasive diffuse optics.* In *Congress, plenary*, volume Invited talk. Hospital General de Mexico, 2023.

[2] Durduran T. *Non-invasive, deeptissue measurement of microvascular oxygenation and blood flow with diffuse light.* In *U. Birmingham departmental seminar*, volume Invited talk. U. Birmingham, 2023.

[3] Durduran T. *Peeking deep inside the body with diffuse light.* In *International School on Light Sciences and Technologies*, volume Invited talk. Universidad Internacional Menendez Pelayo, 2023.

[4] Durduran T, Zhou C, Edlow B L, Yu G, Kim M, Choe R, Licht D J, Greenberg J H, Detre J A, and Yodh A G. *Non-invasive evaluation of microvascular and endothelial function with hybrid near-infrared spectroscopies.* In *Advances in Optics for Biotechnology, Medicine and Surgery.* Engineering Conferences International, Tomar, Portugal, 2023.

[5] Kobayashi Frisk
J B J I B d B G A G P C G A D M F J N R M P V F W U Durduran T D M R L; Fisher. *The association of clinical outcome and cerebral autoregulation in acute stroke patients during early mobilization.* In *BRAIN 2023*, volume Oral. ISCBFM, Brisbane, Australia, 2023.

[6] Lanka S, Yang L, Orive-Miguel D, Veesa J, Tagliabue S, Sudakou A, Samaei S, Forcione M, Kovacsova Z, Behera A, Gladytz T, Grosenick D, Herve L, Lo Presti G, Cortese L, Turgut Durduran, amd Magdalena Morawiec K B, Sawosz P, Kacprzak M, Gerega A, Liebert A, Belli A, Tachtsidis I, Lange F, Bale G, Baratelli L, Gioux S, Kalyanov A L, Wolf M, Sekar S, Zanoletti M, Pirovano I, Lacerenza M, Qiu L, Ferocino E, Maffeis G, Amendola C, Colombo L, Buttafava M, Renna M, Di Sieno L, Re R, Farina A, Spinelli L, Dalla Mora A, Contini D, Torricelli A, Tosi A, Taroni P, Dehghani H, Wabnitz H, and Pifferi A. *A multi-laboratory comparison of photon*

migration instruments and their performances: the bitmap exercise. In *Optical Tomography and Spectroscopy of Tissue XIV*. SPIE, Virtual, San Francisco, CA, USA, 2023.

[7] Martinez Garcia M A C B M C T C D C L D L F L G C H T K U L M M J P M P V P S S S D K S S T J T A J; Zanoletti. *Multiparametric evaluation of vascular occlusion test with hybrid diffuse optics.* In *ECBO 2023*, volume Oral presentation. SPIE/OSA, Munich, Germany, 2023.

[8] Tagliabue S, Parfentyeva V, Fischer J B, Maruccia F, Eken A, Rosas K, Delgado Alvarez I, Rey-Perez A, Piella G, Baguena M, Cano P, Fajardo Vega C, Poca M A, and Durduran T. *Microvascular cerebral blood flow dynamics for intracranial pressure estimates: transcranial diffuse correlation spectroscopy.* In *Poster*. Brain & Brain PET 2023, 31st international symposium on cerebral blood flow and metabolism, Brisbane, Australia, 2023.

[9] Tagliabue S, Parfentyeva V, Fischer J B, Maruccia F, Eken A, Rosas K, Delgado Alvarez I, Rey-Perez A, Piella G, Baguena M, Cano P, Fajardo Vega C, Poca M A, and Durduran T. *Microvascular cerebral blood patterns reveal both the absolute values and "waves" of intracranial pressure.* In *Oral*. European Conferences on Biomedical Optics (ECBO), Munich, Germany, 2023.

[10] Zanoletti A A C B M C T C D C L D L F L M G J G C H T K U L M M J P M P V P S S S D K S S T M; Yaqub. *Hybrid diffuse optical platform for the assessment of microvasculature health in the intensive care.* In *ECBO 2023*, volume Oral presentation. SPIE/OSA, Munich, Germany, 2023.

[11] Zanoletti A A C B M C T C D C L D L F L M G J G C H T K U L M M J P M P V P S S S D K S S T M; Yaqub. *Non-invasive monitoring of microvascular health in critically ill patients by means of hybrid diffuse optics during vascular occlusion test.* In *ECBO 2023*, volume Oral presentation. SPIE/OSA, Munich, Germany, 2023.

[12] Durduran T. *Adapting to an emerging pandemic to find a role for medical optics in COVID-19 patients and more.* In *Laserlab-Europe Talks*. Laserlab-Europe, Online, 2022.

[13] Durduran T. *Deciphering laser speckle statistics of turbid media to measure deep tissue blood flow using single photon counting detectors: clinical applications.* In *ISSW 2022 - International SPAD Sensor Workshop*. ISSW, Online, 2022.

[14] Durduran T. *Diffuse optical technologies for neuromonitoring: current status & future perspectives.* In *Barcelona Medical Photonics Network annual meeting 2022*. Barcelona Medical Photonics Network, Barcelona, Spain, 2022.

[15] Durduran T. *Evaluating endothelial and microvascular function in covid-19 and other critical illnesses with diffuse optics.* In *Consortium of Industry-Academia Collaboration on Bio-Optical Imaging and Spectroscopy*. Optical Society of Japan, Japan, Online, 2022.

[16] Durduran T. *From bench-to-bedside, basics of neuromonitoring with optics and clinical examples.* In *Early-Career Autism Researcher Initiative (South*

China). Center for Autism Research, School of Education of Guangzhou University, China, Guangzhou (online), 2022.

[17] Durduran T. *Non-invasively probing microvascular blood oxygenation, flow and oxygen metabolism with light and example clinical studies*. In *Scientific Sessions of Institut Clínic Respiratòri de l'hospital Clínic*. Hospital Clinic Barcelona, Barcelona, Spain (online), 2022.

[18] Durduran T. *Transcranial, hybrid, near-infrared spectroscopies for evaluating cerebral metabolism, auto-regulation & more*. In *PIC SmartCampus*. Vall d'Hebron University Hospital, Barcelona, Spain (online), 2022.

[19] Fischer J B, Frisk L K, de Basea Gomez A B, Roman M N, Jimeno I B, Marin M P, Perez A A, Parfentyeva V, Weigel U M, Alonso D G, Fabregas J M, Mederos R D, and Turgut Durduran. *Non-invasive assessment of cerebral autoregulation in ischemic and hemorrhagic stroke patients*. SPIE, SPIE, 2022.

[20] Fisher L B d B G A N R M B J I P M M A P A P V W U G A D M F J D M R Durduran T JB; Kobayashi Frisk. *Non-invasive assessment of cerebral autoregulation in ischemic and hemorrhagic stroke patients*. In *Photonics West 2022*, volume Oral. SPIE, San Francisco CA, USA, 2022.

[21] Frisk L K, Fischer J B, de Basea Gomez A B, Roman M N, Jimeno I B, Marin M P, Perez A A, Pla C G, Weigel U M, Alonso D G, Fabregas J M, Mederos R D, and Turgut Durduran. *New biomarkers derived from hybrid diffuse optical techniques: a first step to personalized treatment in the stroke unit*. SPIE, SPIE, 2022.

[22] Kobayashi Frisk J B J I B d B G A G P C G A D M F J N R M P V F W U Durduran T D M R L; Fisher. *Diffuse optical measurement of cerebral autoregulation during first mobilization to personalize physiotherapy in a randomized stroke trial*. In *Society of fNIRS Conference 2022*, volume Oral. Society for functional near-infrared spectroscopy, Boston MA, USA, 2022.

[23] Kobayashi Frisk J B J I B d B G A G P C G A D M F J N R M P V F W U Durduran T D M R L; Fisher. *Transcranial diffuse optical measurement of cerebral hemodynamics in acute stroke patients*. In *OPTICA 2022*, volume Oral. OPTICA, Miami FL, USA, 2022.

[24] Kobayashi Frisk J B J I B d B G A N R M P M M A P A G P C W U G A D M F J Durduran T D M R L; Fisher. *Novel biomarkers for the prognosis of neurological deterioration – towards individualized post stroke physiotherapy regiments*. In *BRAIN 2022*, volume Poster. ISCBFM, Online, 2022.

[25] Kobayashi Frisk J B J I B d B G A N R M P M M P A A G P C W U G A D M F J Durduran T D M R L; Fisher. *Optically measured biomarkers of neurological deterioration: towards individualized post stroke physiotherapy regiments*. In *Physics in Biology and Medicine*. Societat Catalana de Física, XXXVII Trobades Científiques de la Mediterrània, 2022.

[26] Kobayashi Frisk J G A D G P C B J I B d B G A N R M P V F W U M F J D M R Durduran T

L; Fisher. *New biomarkers derived from hybrid diffuse optical techniques: a first step to personalized treatment in the stroke unit.* In *Photonics West 2022*, volume Oral. SPIE, San Francisco CA, USA, 2022.

[27] Tagliabue S, Lindner C, Chochron d, Sanches-Guerrero A, Serra I, Kacprzak M, Maruccia F, Martinez Silva O, Weigel U M, de Nadal M, Sahuquillo J, and Durduran Turgut. *Cerebral hemodynamics and oxygen metabolism versus the bispectral index during propofol-induced anesthesia.* volume Oral presentation. SPIE, Online - on demand, 2022.

[28] Turgut Durduran. *Evaluating endothelial and microvascular function in covid-19 and other populations; towards personalized management.* In *OPTICA Biomedicals Topicals*, page TW1B.1. Optica, Miami, USA, 2022.

[29] Amendola C, Lacerenza M, Buttafava M, Zanoletti M, Cortese L, Pagliazzi M, Tosi A, Spinelli L, Turgut Durduran, Torricelli A, and Contini D. *a hybrid dcs and td-nirs device for monitoring tissue oxygenation and perfusion, towards ICU applications.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ES1B.6. SPIE/OSA, Munich, Germany, 2021.

[30] Avtzi S, Cristina U, Parfentyeva V, Mota M, Castellano-Tejedor C, Soto-Bagaria L, Inzitari M, and Durduran T. *Functional diffuse correlation spectroscopy measurements on cognitively healthy and mild cognitive impaired populations during single and dual motor tasks.* In *Optical Tomography and Spectroscopy of Tissue XIV*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[31] Colombo L, Lanka P, Brodu A, Noordzij N, Pagliazzi M, Parfentyeva V, Turgut Durduran, and Pifferi A. *in vivo time-domain diffuse correlation spectroscopy with a superconducting nanowire single-photon detector.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ES1B.1, invited talk. SPIE/OSA, Munich, Germany, 2021.

[32] Colombo L, Pagliazzi M, Sekar S, Contini D, Turgut Durduran, and Pifferi A. *In vivo time-domain diffuse correlation spectroscopy at 1 um.* In *Optical Tomography and Spectroscopy of Tissue XIV*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[33] Colombo L, Samei S, Lanka P, Ancora D, Pagliazzi M, Durduran T, Sawosz P, Liebert A, and Pifferi A. *Speckle fluctuations in time-domain diffuse optics.* In *Dynamics and Fluctuations in Biomedical Photonics XVIII*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[34] Cortese L, de Oliveira L B, Barcelona M, Delazari L E B, Besen B, Busch D, Caballer A, Robles V C, Castro P, Lima A C B, Cheruku S, Chiscano L, Choi C, Mesquita R C, Dave S, Ratti L d R, Falcao A L E, Espinal C, Fernandez S, Ferrer R, Font F, de Acil M G, Gruartmoner G, Karadeniz U, Lahsaei P, Emodio G L, Corral J M, Matas A, Forti R M, Mera A, Hernandez F J M D O, Myers T, Nogales S, Olson D, Pagliazzi M, Guzman M P, Pacheco A P, Teran P P, Picazo L, Vazquez D P, Soto A F Q, Siccha R M Q, Romero D, Aguayo E S, Serra I, Loyola R S, Tellez A, Taniguchi L U, Vila C, Zanoletti M, Mesquida J, and Durduran T. *HEMOCOVID-19 study: an international clinical study to evaluate microvascular and endothelial impairments in severe COVID-19 patients using near-infrared spectroscopy.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETh3A.1. SPIE/OSA, Munich, Germany, 2021.

[35] Cortese L, Lo Presti G, Fernandez Esteberena P, Zanoletti M, Buttafava M, Renna M, Contini D, Dalla Mora A, Pifferi A, Taroni P, Tosi A, Aranda G, , Ruiz Janer S, Squarcia M, Hanzu F, Mora Porta M, Wojtkiewicz S, Dehghani H, Weigel U M, de Fraguier S, Nguyen-Dinh A, Rosinski B, and Turgut Durduran. *Preliminary clinical study of the potential of multi-modal optical/ultrasound LUCA platform for improved thyroid cancer screening.* In *Optical Tomography and Spectroscopy of Tissue XIV*, volume invited talk. SPIE, Virtual, San Francisco, CA, USA, 2021.

[36] Cortese L, Lo Presti G, Pagliazzi M, Fischer J B, Giovannella M, Zanoletti M, Ferri F, Martelli F, Dalla Mora A, Contini D, Wojtkiewicz S, Dehghani H, Weigel U M, and Turgut Durduran. *Optimization of diffuse correlation spectroscopy instrumental and experimental parameters based on precision targets.* In *Optical Tomography and Spectroscopy of Tissue XIV*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[37] Cortese L, Pagliazzi M, Karadeniz U, Zanoletti M, Sekar S K V, Willigenburg T, Floor-Westerdijk M, Mesquida J, and Turgut Durduran. *Performance assessment of commercial continuous-wave near-infrared spectroscopy devices for the international HEMOCOVID-19 clinical trial.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETu3C.5. SPIE/OSA, Munich, Germany, 2021.

[38] Durduran T. *Non-invasive, optical measurement of microvascular blood flow and oxygen metabolism dynamics a biomarker of health and wellness: from critical care monitors to mass consumer devices.* In *2021 Workshop on Novel Photonics Technologies*. Huawei, Bordeaux, France, 2021.

[39] Durduran T. *Technical group: Response of biophotonics to COVID-19: Strategies and lesson learned for the future.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume SPE3, invited panel discussion. SPIE/OSA, Munich, Germany, 2021.

[40] Durduran T. *Clinical examples of estimating static and dynamic autoregulation in patients with diffuse correlation spectroscopy.* In *Cerebral blood flow virtual seminar series*. Cerebral autoregulation network (CAR-NET), Virtual, 2021.

[41] Durduran T. *Panelist networking session on covid-19 for conference 11626.* In *Photonic Diagnosis, Monitoring, Prevention, and Treatment of Infections and Inflammatory Diseases 2021*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[42] Durduran T. *Peeking deep (>1 cm) inside the body with diffuse light: fundamentals, instrumentation and a clinical journey.* In *Imaging Physics department colloquium*. Delft University of Technology, TU Delft, Netherlands, 2021.

[43] Durduran T. *Plenary talk: Seeking new biomarkers with diffuse correlation spectroscopy and next generation devices for transcranial assessment of cerebral hemodynamics.* In *Neurotechnologies Plenary*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[44] Durduran T, Pagliazzi M, Cortese L, Karadeniz U, Mesquida J, and on behalf of HEMOCOVID-19 consortium . *HEMOCOVID-19: an international project evaluating microvascular and endothelial dysfunction in COVID-19 patients with diffuse optics.* In *Photonic Diagnosis,*

Monitoring, Prevention, and Treatment of Infections and Inflammatory Diseases 2021. SPIE, Virtual, San Francisco, CA, USA, 2021.

[45] Esteberena P F, Aranda G, Buttafava M, Contini D, Cortese L, Mora A D, Dehghani H, de Fraguier S, Hanzu F, Presti G L, Nguyen-Dihn M M P A, Pifferi A, Renna M, Rosinski B, Ruiz S, Squarcia M, Taroni P, Tosi A, Weigel U, Wojtkiewicz S, Zanoletti M, and Turgut Durduran. *Potential for improved thyroid cancer screening aided by multi-modal clinical ultrasound and hybrid diffuse optics (LUCA platform)*. In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETu3C.3. SPIE/OSA, Munich, Germany, 2021.

[46] Fernandez Esteberena P R, Vilches C, del Mar Martinez Lozano M, de Miguel I, Casanovas O, Quidant R, and Turgut Durduran. *A toolbox for the comprehensive, real-time optimization of plasmonic photothermal therapy demonstrated on an orthotopic renal tumor model*. In *Optical Tomography and Spectroscopy of Tissue XIV*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[47] Fischer J, Frisk L K, Tachtsidis I, Mederos R D, Perez M M, Scholkmann F, and Turgut Durduran. *Does wearing a non-medical face mask cause changes in cerebral hemodynamics?* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETu1C.4. SPIE/OSA, Munich, Germany, 2021.

[48] Fischer J, Tagliabue S, Maruccia F, Jiemez-Sanchez A, Sathialingam E, Baker W, Eken A, Ghouse A, Rey-Perez A, Baguena M, Rosas K, Sadan O, Kandiah P, Samuels O, Balu R, Zucca R, Weigel U, Busch D, Buckley E, Yodh A, Licht D, Kofke A, Poca M, Piella G, Sahuquillo J, and Durduran T. *Non-invasive estimation of intracranial pressure by fast diffuse correlation spectroscopy: a multi-center study*. In *Optical Tomography and Spectroscopy of Tissue XIV*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[49] Fischer J B, Ghouse A, Tagliabue S, Maruccia F, Eken A, Jimenez A F, Medina Martí J, Rey-Perez A, Rosas K, Zucca R, Weigel U M, Poca M A, Piella G, Sahuquillo J, and Durduran Turgut. *Non-invasive estimation of intracranial pressure by diffuse optics in traumatic brain injury patients*. volume Oral presentation. Society of fNIRS, Online, 2021.

[50] Frisk L K, Fischer J, Jimeno I B, de Basea Gomez A B, Roman M N, Pla C G, Weigel U, Alonso D G, Marti-Fabregas J, Mederos R D, and Turgut Durduran. *Hybrid diffuse optics for bedside measurements of cerebral hemodynamics in a large cohort of stroke patients*. In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETu3A.2. SPIE/OSA, Munich, Germany, 2021.

[51] Frisk L K, Fischer J B, Jimeno I B, de Basea Gomez A B, Roman M N, Marin M P, Perz A A, Pla C G, Weigel U M, Alonso D G, Fàbregas J M, Mederos R D, and Turgut Durduran. *Novel biomarkers for the prognosis of neurological deterioration - towards individualized post stroke physiotherapy regiments*. In *Society of fNIRS 2021 (fNIRS)*. Society of fNIRS, 2021.

[52] Kobayashi Frisk
J B J I B d B G A N R M P M M A P A G P C W U G A D M F J D M R Durduran T L; Fisher. *Novel biomarkers for the prognosis of neurological deterioration – towards individualized post stroke physiotherapy regiments*. In *Society of fNIRS Virtual Conference 2021*, volume Poster. Society for functional near-infrared spectroscopy, Online, 2021.

[53] Lin C P, Orukari I E, Tracy C, Verma M, Kobayashi Frisk L, Chetia S, Trobaugh J W, , Turgut Durduran, and Culver J P. *The feasibility of multi-mode fiber based speckle contrast optical spectroscopy.* In *Dynamics and Fluctuations in Biomedical Photonics XVIII*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[54] Orukari I E, Lin C P, Kobayashi Frisk L, Chetia M V S, Eggebrecht A T, Turgut Durduran, Culver J P, and Trobaugh J W. *Simulation study of speckle contrast optical tomography performance using an anatomical head model.* In *Clinical and Translational Neurophotonics 2021*. SPIE, Virtual, San Francisco, CA, USA, 2021.

[55] Sekar S K V, Guadagno C N, Zanoletti M, Cortese L, Pagliazzi M, , Lanka P, Munoz R R, Sagarzazu E G, Carteano T, Parsa S, Weigel U, Torricelli A, Pifferi A, Contini D, Turgut Durduran, , and Andersson-Engels S. *Phantoms for performance verification and quality control in developing a photonics-based medical device (VASCOVID): a regulatory driven approach.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume EM1A.9. SPIE/OSA, Munich, Germany, 2021.

[56] T Durduran o. *Going from an idea to an international clinical-trial and beyond: near-infrared diffuse optics to evaluate microvascular health in COVID-19 patients.* In *European Optical Society Annual meeting (EOSAM) 2021*. European Optical Society (EOS), Rome, Italy, 2021.

[57] Tachtsidis I, Lange F, Pinti P, Bale G, Sokolska M, Advic-Belltheus A, Robertson N, Parsa S, Weigel U, and Turgut Durduran. *an optical biomarker of hypoxic-ischaemic injury severity in the neonatal brain.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETu1C.3. SPIE/OSA, Munich, Germany, 2021.

[58] Tagliabue S, Kacprzak M, Maruccia F, Fischer J B, Serra I, Rey-Perez A, Poca M A, Sahuquillo J, and Durduran Turgut. *Does hyperventilation therapy lead to periods of "misery perfusion" in neurocritical care patients? a pilot study by transcranial optical monitoring.* volume Oral presentation. International Society on Oxygen Transport to Tissue, Virtual, 2021.

[59] Tagliabue S, Serra I, , Kacprzak M, Fischer J B, Maruccia F, Herea L M, Rey-Perez A, Vallés Angulo S, Jimenes A F, Poca M A, Sahuquillo J, and Durduran Turgut. *Transcranial detection of periods of misery perfusion risk during induced hypocapnia in patients with severe traumatic brain injury.* volume Oral presentation. Society of fNIRS, Online, 2021.

[60] Zanoletti1 M, Cortese L, Amendola C, Buttafava M, Carteano T, Contini D, Demarteu L, Frabasile L, Guadagno C N, Houtbeckers T, Karadeinz U, Lacerenza M, Mesquida J, Munoz R R, Parsa S, Sagarzazu E G, Sekar S K V, Tomanik J, Torricelli A, Tosi A, Weigel U M, Wagenaar T, and Turgut Durduran. *VASCOVID: an integrated platform to evaluate endothelial and microvascular impairment in severe COVID-19 patients.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume ETh3A.4. SPIE/OSA, Munich, Germany, 2021.

[61] Colombo L, Pagliazzi M, Contini S K V S D, Turgut Durduran, and Pifferi A. *In vivo time-domain diffuse correlation spectroscopy beyond the water absorption peak.* In *Biophotonics Congress: Biomedical Optics*, page SM3D.2. Optical Society of America, Optical Society of America, virtual conference, Washington, DC, United States, 2020.

[62] Cortese L, Presti G L, Giovannella M, Fischer J B, Pagliazzi M, Zanoletti M, Mora A D, Contini D, Wojtkiewicz S, Dehgani H, Weigel U M, and Durduran T. *Effects of different hardware and measurement parameters on diffuse correlation spectroscopy.* In *Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN)*, page JTu3A.7. Optical Society of America, 2020.

[63] Cortese L, Presti G L, Zanoletti M, Buttafava M, Renn M, Contini D, Mora A D, Pifferi A, Taroni P, Tosi A, Aranda G, Janer S R, Squarcia M, Hanzu F, Porta M M, Wojtkiewicz S, Dehghani H, Weigel U M, de Fraguier S, Nguyen-Dihn A, Rosinski B, and Durduran T. *Luca device: a multi-wavelength time-resolved spectroscopy and diffuse correlation spectroscopy device with an integrated clinical ultrasound module/probe.* In *Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN)*, page SW4D.7. Optical Society of America, 2020.

[64] Dar I, Khan I R, Maddox R K, Prasad S M, Selioutski O, Donohue K L, Abramson K, Yodh A G, Durduran Turgut, Busch D R, and Choe R. *Application of non-invasive cerebral blood flow monitoring modalities in adults undergoing extracorporeal membrane oxygenation.* In *Biophotonics Congress: Biomedical Optics*, page STu2D.4. Optical Society of America, Optical Society of America, virtual conference, Washington, DC, United States, 2020.

[65] Dragojević T, Hollmann J L, Vidal-Rosas E E, Pasquinelli K, Cusini I, Culver J P, Villa F, and Turgut Durduran. *Fast, high-density speckle contrast optical tomography of the adult brain.* In *OSA*, volume Oral presentation, page BTh3C.3. Optical Society of America, Optical Society of America, virtual conference, Washington, DC, United States, 2020.

[66] Durduran T. *Adapting to a pandemic & an international clinical trial with diffuse optics.* In *Photonics in the Fight Against COVID-19, SPIE online forum.* SPIE, Online/Virtual, 2020.

[67] Durduran T. *Hybrid diffuse optical technologies for neuro-monitoring (and more) in the clinics.* In *fNIRS Datablitz 2020.* Society for functional Near-infrared Spectroscopy (sfNIRS), Online/Virtual, 2020.

[68] Fischer J B, Ghouse A, Tagliabue S, Maruccia F, Rey-Perez A, Báguena M, Cano P, Zucca R, Weigel U M, Sahuquillo J, Poca M A, and Turgut Durduran. *Non-invasive estimation of intracranial pressure by diffuse correlation spectroscopy.* In *Biophotonics Congress: Biomedical Optics*, volume Oral presentation, page BTh3C.4. Optical Society of America, Optical Society of America, virtual conference, Washington, DC, United States, 2020.

[69] Frisk L K, Fischer J B, Alonso D G, Pla C G, Jimeno I B, de Basea Gomez A B, Roman M N, Weigel U M, Martí-Fàbregas J, Delgado-Mederos R, and Turgut Durduran. *Diffuse optical evaluation of hemodynamic and metabolic biomarkers towards guiding management in acute ischemic stroke.* In *Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN)*, page TW1B.4. Optical Society of America, 2020.

[70] Lanka S R P K, Yang L, Orive-Miguel D, Veesa J D, Tagliabue S, Sudakou A, Samaei S, Forcione M, Kovacsova Z, Behera A, Gladytz T, Grosenick D, Herve L, Presti G L, Cortese L, Turgut Durduran, Bejm K, Morawiec M, Kacprzak M, Sawosz P, Grega A, Liebert A, Belli A, Tachtsidis I, Lange F,

Bale G, Baratelli L, Gioux S, Alexander K, Wolf M, Sekar S K V, Zanoletti M, Pirovano I, 1 M L, Qiu L, Ferocino E, Maffeis G, Amendola C, Colombo L, Sieno L D, Re R, Farina A, Spinelli L, Mora A D, Contini D, Taroni P, Torricelli A, Dehgani H, Wabnitz H, and Pifferi A. *Multi-laboratory efforts for the standardization of performance assessment of diffuse optics instruments – the bitmap exercise,*. In *Biophotonics Congress: Biomedical Optics*, page STu1D.6. Optical Society of America, Optical Society of America, virtual conference, Washington, DC, United States, 2020.

[71] Lin C P, Orukari I E, Tracy C, Durduran Turgut, and Culver J P. *Exploring the feasibility of fiber-based speckle contrast optical spectroscopy.* In *Biophotonics Congress: Biomedical Optics*, pages JW3A–37. Optical Society of America, Optical Society of America, virtual conference, Washington, DC, United States, 2020.

[72] Pagliazzi M, Cortese L, Karadeniz U, Mesquida J, Durduran T, and "on behalf of the HEMOCOVID-19 consortium". *Plenary: Adapting to a pandemic & an international clinical trial with diffuse optics.* In *Saratov Fall Meeting 2020*. Saratov State University, Saratov, Russia, 2020.

[73] Verma M, Dragojević T, Ghouse A, Carbonell L M, Karadeniz U, Cuenca D F, Vidal-Rosas E E, Tamborini D, Portaluppi D, Buttafava M, Villa F, and Turgut Durduran. *Wearable, low-cost device for monitoring cerebral blood flow with speckle contrast optical spectroscopy.* page JTu3A.13. Optical Society of America, 2020.

[74] Bale G, Fischer J B, Lo Presti G, Cortese L, Weigel U M, Durduran Turgut, and Tachtsidis I. *A new broadband nirs and dcs device to monitor cerebral blood flow and cellular metabolism simultaneously.* In *fNIRS UK2019*, volume Oral presentation. fNIRS UK, Birmingham, UK, 2019.

[75] Cuenca D F, Fischer J B, Cortese L, Ghouse A, Presti G L, Torra F J, Weigel U M, and Turgut Durduran. *A multi-tau, fast, stackable correlator for multi-channel diffuse correlation spectroscopy.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume Conference 11074, poster. SPIE/OSA, Munich, Germany, 2019.

[76] Dragojević T, Vidal-Rosas E E, Hollmann J L, Culver J P, Justicia C, and Turgut Durduran. *Functional high-density speckle contrast optical tomography (scot) in small animals and in human brain.* In *Brain 2019*, volume Poster presentation. ISCBFM, Yokohama, Japan, 2019.

[77] Dragojević T, Vidal-Rosas E E, Hollmann J L, Lussana R, Culver J P, Villa F, and Turgut Durduran. *High-density functional speckle contrast optical tomography (hd-fscot) of the adult brain.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume Oral presentation. SPIE/OSA, Munich, Germany, 2019.

[78] Dragojević T, Vidal-Rosas E E, Masvidal-Codina E, Illa X, Dasilva M, Calia A B, Prats-Alfonso E, Martínez-Aguilar J, la Cruz J D, Garcia-Cortadella R, Godignon P, Rius G, Camassa A, Corro E D, Bousquet J, Hébert C, Durduran T, Villa R, Sanchez-Vives M V, Garrido J A, and Guimerà-Brunet A. *Simultaneous measurement of infraslow cerebral evoked potentials and cerebral blood flow during cortical spreading depression enabled by transparent graphene electrode array and laser speckle flowmetry.* In *Brain 2019*, volume Poster presentation. ISCBFM, Yokohama, Japan, 2019.

[79] Durduran T. *Bedside, non-invasive measurement of cerebral hemodynamics and oxygen metabolism in neurocritical care and more.* In *Neuro-critical care departmental seminar*, volume Invited talk. University of Pennsylvania, Philadelphia, USA, 2019.

[80] Durduran T. *Correlates of cerebral vasoreactivity measured by diffuse correlation spectroscopy (dcs) as biomarkers of brain injury in acute ischemic stroke.* In *164th ICB Seminar on Light and Optics in Medical Diagnosis*. International Centre of Biocybernetics, Warsaw, Polland, 2019.

[81] Durduran T. *Deep tissue blood flow measurements with light: where are we now, and, where to next?* In *Advances in biomedical optics seminar series*, volume Invited talk. Center for Magnetic Resonance and Optical Imaging, Philadelphia, USA, 2019.

[82] Durduran T. *Diffuse optical neuro-monitoring for ischemic stroke: current status and future prospects.* In *Internal seminar, Department of Neurology.* Erasmus Medical Center, Delft, Netherlands, 2019.

[83] Durduran T. *Non-invasive, deep tissue monitoring and imaging with light: foundations and clinical applications.* In *1st ICFO-UNAM International School on Frontiers of Light.* ICFO-UNAM, Queretaro, Mexico, 2019.

[84] Durduran T. *Non-invasive measurement of cerebral blood flow as a biomarker injury, therapy and recovery.* In *27th International Conference on Advanced Laser Technologies (ALT 19).* ALT, Prague, Czech Republic, 2019.

[85] Fischer J B and Durduran T. *Diffuse optics – how to measure blood flow and oxygenation non-invasively?* In *Colloquium (Photonics Masters , MUAS), 2019*, volume Oral presentation. Munich University of Applied Sciences (MUAS), Munich, Germany, 2019.

[86] Fischer J B, Ghouse A, Tagliabue S, Maruccia F, Zucca R, Weigel U M, Sahuquillo J, Poca M A, and Durduran Turgut. *Derivation of an intracranial pressure index by an analysis of the pulsatile cerebral blood flow measured by diffuse correlation spectroscopy.* In *fNIRS UK2019*, volume Poster presentation. fNIRS UK, Birmingham, UK, 2019.

[87] Fischer J B, Ghouse A, Tagliabue S, Maruccia F, Zucca R, Weigel U M, Sahuquillo J, Poca M A, and Turgut Durduran. *Derivation of an intracranial pressure index by the waveform analysis of cerebral blood flow measured non-invasively using fast diffuse correlation spectroscopy.* In *Brain & Brain PET 2019*, volume oral presentation, BS08-4. ISCBFM, Yokohama, Japan, 2019.

[88] Fischer J B, Ghouse A, Tagliabue S, Maruccia F, Zucca R, Weigel U M, Sahuquillo J, Poca M A, and Turgut Durduran. *Machine learning for the derivation of an intracranial pressure index using the waveform of the cerebral blood flow measured non-invasively using fast diffuse correlation spectroscopy.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume Conference 11074, oral presentation. SPIE/OSA, Munich, Germany, 2019.

[89] Fischer J B, Giacalone G, Cuenca D F, Ghouse A, Baker W B, Turgut Durduran, and Weigel U M. *Characterization of effects of head of bed position changes on the pulsatility of blood flow measured by fast diffuse correlation spectroscopy.* In *Brain & Brain PET 2019*, volume poster, PB02-C03. ISCBFM, Yokohama, Japan, 2019.

[90] Fischer J B, Giacalone G, Cuenca D F, Ghouse A, Baker W B, Turgut Durduran, and Weigel U M. *Effects of head-of-bed position on the critical closing pressure and the pulsatility of blood flow measured by fast diffuse correlation spectroscopy.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume Conference 11074, oral presentation. SPIE/OSA, Munich, Germany, 2019.

[91] Fischer J B, Giacalone G, Fernández Cuenca D, Ghouse A, Baker W B, Durduran Turgut, and Weigel U M. *Digging deeper into the cerebrovascular changes induced by a mild-orthostatic challenge.* In *fNIRS UK2019*, volume Poster presentation. fNIRS UK, Birmingham, UK, 2019.

[92] Fischer J B, Kobayashi Frisk L, Belmonte-Jimeno I, Bosch de Basea-Gomez A, Navarra-Roman M, Weigel U M, Guisado-Alonso D, Martí-Fabregas J, Raquel D M, and Durduran Turgut. *Pulsatile hemodynamic parameters as a biomarker of cerebral health during the first mobilization of stroke patients.* In *fNIRS UK2019*, volume Oral presentation. fNIRS UK, Birmingham, UK, 2019.

[93] Gregori-Pla C, Mesquita R C, Favilla C G, Busch D R, Blanco I, Frisk L K, Camps-Renom P, Mullen M T, Martí-Fàbregas J, Prats-Sánchez L, no A M D, Delgado-Mederos R, Detre J A, Yodh A G, and Turgut Durduran. *A mild orthostatic challenge shows impairment of cerebrovascular autoregulation on the ipsilesional hemisphere of ischemic stroke patients.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume invited talk. SPIE/OSA, Munich, Germany, 2019.

[94] Maruccia F, Tagliabue S, , Gomariz L, Sahuquillo J, Durduran T, and Poca M A. *Is the enlargement of subarachnoid spaces benign? building a pathophysiological frame through the development assessment and continuous non invasive optical monitoring.* In *Brain 2019*, volume Poster presentation. ISCBFM, Yokohama, Japan, 2019.

[95] Maruccia F, Tagliabue S, , Gomáriz L, Sahuquillo J, Durduran T, and Poca M. *Psychomotor development assessment and non invasive optical monitoring in children with "benign enlargement of subarachnoid spaces".* In *fNIRS UK 2019*, volume Poster presentation. SfNIRS, Birmingham, UK, 2019.

[96] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Fischer J B, Poca M A, Sahuquillo J, and Durduran Turgut. *Bedside non-invasive assessment of the hemodynamic consequences of hyperventilation treatment in traumatic brain injury.* In *Brain 2019*, volume Poster presentation. ISCBFM, Yokohama, Japan, 2019.

[97] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Fischer J B, Poca M A, Sahuquillo J, and Durduran Turgut. *Characterization of the hemodynamic and metabolic changes during hyperventilation therapy in severe traumatic brain injury patients.* In *fnirsUK 2019*, volume Oral presentation. School of Computer Science University of Birmingham, Birmingham, UK, 2019.

[98] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Fischer J B, Poca M A, Sahuquillo J, and Durduran Turgut. *Diffuse optical signal characterization in the injured brain.* In *fnirsUK 2019*, volume Poster presentation. School of Computer Science University of Birmingham, Birmingham, UK, 2019.

[99] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Fischer J B, Poca M A, Sahuquillo J, and Durduran Turgut. *Hybrid diffuse optical assessment of hyperventilation treatment in neuro-critical care.* In *ECBO 2019*, volume Oral presentation. SPIE/OSA, Munich, Germany, 2019.

[100] Tagliabue S, Kacprzak M, Maruccia F, Vilaboa M R, Rey-Perez A, Fischer J B, Poca M A, Sahuquillo J, and Turgut Durduran. *Hybrid diffuse optical assessment of hyperventilation treatment in neuro-critical care.* In *European Conferences on Biomedical Optics (ECBO) 2019*, volume Talk. SPIE/OSA, Munich, Germany, 2019.

[101] Udina-Argilaga C, Avtzi S, Durduran Turgut, Soto L, Perez M, and Inzitari M. *Medphotage study: relative cerebral blood flow(rcbf) and oxygenation in older adults with and without mild cognitive impairment (mci) using near-infrared(nirs) and diffuse correlation spectroscopies (dcs).* In *AGS 2019*. American Geriatrics Society (AGS) Annual Scientific Meeting 2019, Portland, USA, 2019.

[102] Colombo L, Pagliazzi M, Sekar S K V, Contini D, Dalla Mora A, Torricelli A, Pifferi A, and Durduran Turgut. *Effects of temporal gating in time domain diffuse correlation spectroscopy for real systems.* In *Optical Tomography and Spectroscopy*, pages OTu2D–1. Optical Society of America, 2018.

[103] Cortese L, Aranda G, Buttafava M, Contini D, Mora A D, de Fraguier S, Dehghani H, Garcia E, Gomis R, Hanzu F, Krischak K, Presti G L, Mora M, Pifferi A, Renna M, Rosinski B, Sekar S K V, Squarcia M, Taroni P, Tosi A, Weigel U M, Wojtkiewicz S, Zolda P, and Durduran T. *The luca project - laser and ultrasound co-analyzer for thyroid nodules: Overview and current status.* In *Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS)*, page OTh4D.5. Optical Society of America, 2018.

[104] Cortese L, Presti G L, Pagliazzi M, Contini D, Mora A D, Pifferi A, Sekar S K V, Spinelli L, Taroni P, Zanoletti M, Weigel U, and Durduran T. *A recipe for near infrared spectroscopy and diffuse correlation spectroscopy phantoms with tunable optical and dynamic properties.* In *Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS)*, page OTu2D.5. Optical Society of America, 2018.

[105] Dragojević T, Hollmann J L, Portaluppi D, Butaffava M, Tamborini D, , Culver J P, Villa F, and Durduran Turgut. *Compact, low power consumption and low cost multi-exposure speckle contrast optical spectroscopy (scos) device for real-time measurement of deep tissue blood flow.* In *OSA 2018*. OSA Biophotonics Congress: Biomedical optics, Miami, USA, 2018.

[106] Dragojević T, Hollmann J L, Portaluppi D, Butaffava M, Tamborini D, Culver J P, Villa F, and Durduran Turgut. *Compact, low power consumption and low cost multi-exposure speckle contrast optical spectroscopy (scos) device for real-time measurement of deep tissue blood flow.* In *OSA 2018*. OSA Biophotonics Congress: Biomedical optics, Miami, USA, 2018.

[107] Dragojević T, Hollmann J L, Portaluppi D, Culver J P, Conca E, Zappa F,

and Durduran Turgut. *Compact, multi-exposure speckle contrast optical spectroscopy (scos) for measuring real-time deep tissue blood flow in adult brain.* In *IEEE 2018*. IEEE Nuclear Science Symposium and Medical Imaging conference, Sydney, AU, 2018.

[108] Dragojević T, Vidal-Rosas E, Hollmann J L, Culver J P, Zappa F, and Durduran Turgut. *Multi-distance, multi-exposure, functional speckle contrast optical spectroscopy (fscos) of the adult brain.* In *fNIRS 2018*. fNIRS 2018, Tokyo, Japan, 2018.

[109] Durduran T. *Deep tissue diffuse optics; ischemic stroke & future directions.* In *Servei d'Anatomia Patològica, Grand Rounds*. Institut Hospital del Mar d'Investigacions Mediques, Barcelona, Spain, 2018.

[110] Durduran T. *Deep tissue diffuse optics; ischemic stroke & future directions.* In *Guttmann Institute Seminars*. Guttmann Institute, Barcelona, Spain, 2018.

[111] Durduran T. *Latest on noninvasive, optical blood flow measurements breaking cost, portability, and scalability limits.* In *BIOS Hot Topics, Photonics West*. SPIE, San Francisco, CA, USA, 2018.

[112] Durduran T. *Multimodal imaging with diffuse optics for cancer theranostics.* In *Department of Radiology colloquium*. Hospital Clinic Barcelona, Barcelona, Spain, 2018.

[113] Durduran T. *Non-invasive, bed-side measurement of cerebral blood flow: current trends and future directions.* In *Joint Italian-French Workshop on "Cerebral oximetry and functional near infrared spectroscopy (fNIRS)"*. Politecnico di Milano, Milan, Italy, 2018.

[114] Durduran T. *Non-invasive, clinical measurement of cerebral blood flow with laser speckles.* In *International conference on biomedical photonics*. U. Montpellier, Montpellier, France, 2018.

[115] Durduran T. *Non-invasive measurement of blood flow with diffuse speckle statistics.* In *Dynamics and Fluctuations in Biomedical Photonics XV, Photonics West*. SPIE, San Francisco, CA, USA, 2018.

[116] Durduran T. *OSA short course: Diffuse laser speckles and their statistics for non-invasive, deep tissue blood flow measurements.* In *18th Saratov Fall Meeting*. Saratov State University, Saratov, Russia, 2018.

[117] Durduran T. *Plenary: How to measure tissue blood flow non-invasively with light and what are the current trends?* In *18th Saratov Fall Meeting*. Saratov State University, Saratov, Russia, 2018.

[118] Durduran T. *Speckle contrast optical spectroscopy and tomography for scalable, low-cost, non-invasive, deep tissue blood flow monitoring.* In *Advances in biomedical optics seminar series*, volume Invited talk. Center for Magnetic Resonance and Optical Imaging, Philadelphia, USA, 2018.

[119] Durduran T. *Towards practical time resolved diffuse correlation spectroscopy.* In *Brain computer interface group*. Facebook, Online, 2018.

[120] Durduran T. *What is next for optical blood flow measurements? can we overcome the barriers due to cost, scalability and portability?* In *159th ICB Seminar on Light and Optics in Medical Diagnosis*. International Centre of Biocybernetics, Warsaw, Polland, 2018.

[121] Fischer J B, Giacalone G, Fernández Cuenca D, Ghouse A, Baker W B, Durduran Turgut, and Weigel U M. *Effects of head of bed position changes on the pulsatility of blood flow in healthy volunteers measured by fast diffuse correlation spectroscopy.* In *XVIII Simposium PIC 2108.* Vall d'Hebron Hospital and UNINN, Barcelona, Spain, 2018.

[122] Fischer J B, Giacalone G, Fernández Cuenca D, Ghouse A, Baker W B, Durduran Turgut, and Weigel U M. *Effects of head of bed posture changes on cerebral hemodynamics measured with fast diffuse correlation spectroscopy.* In *fNIRS 2018.* The Society for functional near-infrared spectroscopy (SfNIRS), Tokyo, Japan, 2018.

[123] Fischer J B, Giacalone G, Fernández Cuenca D, Ghouse A, Durduran Turgut, and Weigel U M. *Fast diffuse correlation spectroscopy measurements based on a custom hardware correlator.* In *Optics in Neuromonitoring.* Nalecz Institute of Biocybernetics and Biomedical Engineering Polish Academy of Sciences (IBIB PAN) and International Centre of Biocybernetics, Warsaw, Poland, 2018.

[124] Giovannella M, Andresen B, Andersen J B, El-Mahdaoui S, Contini D, Pifferi A, Spinelli L, Torricelli A, Law I, Greisen G, Turgut Durduran, and Weigel U M. *Validation and potential calibration of diffuse correlation spectroscopy versus* $^{1}5$*o-water positron emission tomography on neonatal piglets.* In *Functional near infrared spectroscopy (fNIRS) conference.* fNIRS, Tokyo, Japan, 2018.

[125] Giovannella M, Andresen B, De Carli A, Pagliazzi M, Fumagalli M, Greisen G, Contini D, Pifferi A, Spinelli L, Turgut Durduran, Weigel U M, and Torricelli A. *The babylux device: a hybrid diffuse optical device for monitoring the neonatal infant brain.* In *Joint Italian-French Workshop on Cerebral oximetry and functional near infrared spectroscopy (fNIRS).* Politecnico di Milano, Milan, Italy, 2018.

[126] Giovannella M, Andresen B, De Carli A, Pagliazzi M, Fumagalli M, Greisen G, Contini D, Pifferi A, Spinelli L, Turgut Durduran, Weigel U M, and Torricelli A. *The babylux device: baseline hemodynamic and optical properties of the newborn brain and the reproducibility of the measurements.* In *OSA Biomedical Optics (BIOMED) meeting.* OSA, Miami, Florida United States, 2018.

[127] Gregori-Pla C, Avtzi S, Cotta G, Giacalone G, Maruccia F, Camps-Remom P, Martí-F àbregas J, Delgado-Mederos R, Mayos M, and Durduran Turgut. *Microvascular cerebral blood flow fluctuations due to periodic apneas in acute ischemic stroke.* In *OSA Biomedicals Topicals.* Optical Society of America, Florida, USA, 2018.

[128] Gregori-Pla C, Avtzi S, Cotta G, Giacalone G, Maruccia F, Camps-Remom P, Martí-Fàbregas J, Delgado-Mederos R, Mayos M, and Durduran Turgut. *Microvascular cerebral blood flow fluctuations due to periodic apneas in acute ischemic stroke.* In *OSA Biomedicals Topicals.* Optical Society of America, Hollywood, Florida-United States of America, 2018.

[129] Kobayashi Frisk L, Gregori Pla C, Maruccia F, Durduran Turgut, and Kainerstorfer J M. *Diffuse optical parameterization of cerebral autoregulation in healthy adults.* In *fNIRS 2018.* The Society for functional near-infrared spectroscopy (SfNIRS), Tokyo, Japan, 2018.

[130] Lo T, Piper I, Depreitere B, Meyfroidt G, Poca M, Sahuquillo J, Durduran T, Enblad P, Nilsson P, Ragauskas A, Kiening K, Morris K, Agbeko R, Levin R, Weitz J, Park C, Davis P, and on behalf of BrainIT. *KidsBrainIT: a new multi-centre, multi-disciplinary, multi-national paediatric brain monitoring collaboration.* In *Acta Neurochir Suppl*, volume 126, pages 39–43. Springer, 2018.

[131] Lo Presti G, Cortese L, Berdún S, Bale G, Tachtsidis I, Eixarch E, Gratacós E, and Durduran Turgut. *Continuous monitoring of fetal cerebral blood flow, hemodynamics and cytochrome c oxidase during acute ischemia in the rabbit fetus.* In *fNIRS 2018*. The society for functional near infrared spectroscopy, Tokyo, Japan, 2018.

[132] Maruccia F, Tagliabue S, Gomáriz L, Sahuquillo J, Durduran Turgut, and Poca M A. *"benign" enlargement of subarachnoid spaces (bess): children psychomotor development and findings in continuous icp and non-invasive cerebral oxygenation and blood flow monitoring.* In *Barcelona 2018*. XVIII Simposium PIC 2018, Vall d'Hebron Hospital and Neurotrauma and Neurosurgery Research Unit, Barcelona, Spain, 2018.

[133] Maruccia F, Tagliabue S, Gomáriz L, Sahuquillo J, Durduran Turgut, and Poca M A. *"benign" enlargement of subarachnoid spaces (bess): toddler psychomotor development and continuous non-invasive optical monitoring.* In *Edinburgh 2018*. BrainIT, Edinburgh, Scotland, 2018.

[134] Maruccia F, Tagliabue S, Sahuquillo J, Durduran Turgut, and Poca M A. *Benign enlargement of subarachnoid spaces: neurological sequelae and effects on children psychomotor development.* In *Warsaw 2018*. Nalec institute of biocybernetics and biomedical engineering Polish academy of sciences (IBIB PAN) and International centre of biocybernetics, Warsaw, Poland, 2018.

[135] Morales-Dalmau J, Vilches C, Mireles M, Martínez-Lozano M, Sanz V, de Miguel I, Casanovas O, Quidant R, and Durduran Turgut. *Optical monitoring and optimization of targeted photothermal therapy for oncological medicine.* In *1st Spanish Conference on Biomedical Applications of Nanomaterials (SBAN)*. ICMM-CSIC, Madrid, Spain, 2018.

[136] Pagliazzi M, Giovannella M, Andresen B, De Carli A, Fumagalli M, Greisen G, Contini D, Pifferi A, Spinelli L, Durduran Turgut, et al. *The babylux device: Baseline hemodynamic and optical properties of the newborn brain and the reproducibility of the measurements.* In *Optical Tomography and Spectroscopy*, pages OW4C–2. Optical Society of America, 2018.

[137] Pagliazzi M, Konugolu Venkata Sekar S, Contini D, Dalla Mora A, Torricelli A, Pifferi A, and Durduran Turgut. *In vivo enhancement of depth sensitivity with fast (1s resolution) time domain diffuse correlation spectroscopy.* In *Joint Italian-French Workshop on Cerebral oximetry and functional near infrared spectroscopy (fNIRS)*. Politecnico di Milano, 2018.

[138] Pagliazzi M, Konugolu Venkata Sekar S, Martinenghi E, Minnema J, Erdmann R, Lauritsen K, Contini D, Dalla Mora A, Torricelli A, Pifferi A, and Durduran Turgut. *In vivo enhancement of depth sensitivity with fast (1s resolution) time domain diffuse correlation spectroscopy.* French-Italian NIRS Society, 2018.

[139] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Fischer J, Poca M A, Sahuquillo J, and Durduran Turgut. *Cerebral and*

systemic responses to therapeutic hyperventilation in traumatic brain injury management. In *fnirs 2018*. Society for fNIRS, Tokyo, Japan, 2018.

[140] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Poca M A, Sahuquillo J, and Durduran Turgut. *Hyperventilation treatment monitoring via non-invasive biomarkes in traumatically injured brain to prevent ischemia.* Vall d'hebron hospital and UNINN, Barcelona, Spain, 2018.

[141] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Poca M A, Sahuquillo J, and Durduran Turgut. *Invasive and non-invasive physiological signals as response to hyperventilation treatment in traumatic brain injury patients.* Nalec institute of biocybernetics and biomedical engineering Polish academy of sciences (IBIB PAN) and International centre of biocybernetics, Warsaw, Poland, 2018.

[142] Tagliabue S, Kacprzak M, Maruccia F, Riveiro Vilaboa M, Rey-Perez A, Poca M A, Sahuquillo J, and Durduran Turgut. *Non-invasive assessment of the cerebral hemodynamic response to hyperventilation treatment for intracranial pressure reduction in traumatic brain injury.* BrainIT, Edinburgh, Great Britain, 2018.

[143] Tagliabue S, Kacprzak M, Maruccia F, Scheel J, Castro L, Vilaboa M R, Rey-Perez A, Poca M A, Sahuquillo J, and Turgut Durduran. *The impact of hyperventilation therapy on cerebral blood flow and oxygenation in traumatic brain injured patients measured by diffuse optics.* In *OSA Biomedicals Topicals*, page CW2B.4. Optical Society of America, 2018.

[144] Turgut Durduran. *Latest on our gizmos and gadgets based on speckle statistics to measure the cerebral bloodflow of the human brain.* In *OSA Biomedicals Topicals*, page BF2C.1. Optical Society of America, Miami, USA, 2018.

[145] Vilches C, Morales-Dalmau J, Mireles M, Martínez-Lozano M, Sanz V, de Miguel I, Casanovas O, Quidant R, and Durduran Turgut. *Optical monitoring and optimization of targeted photothermal therapy for oncological medicine.* In *13th annual meeting of the European Technology Platform on Nanomedicine (ETPN).* ETPN, Berlin, Germany, 2018.

[146] Cortese L, Lo Presti G, Pagliazzi M, Contini D, Dalla Mora A, Pifferi A, Konugolu Venkata Sekar S, Spinelli L, Taroni P, Zanoletti M, Weigel U, De Fraguier S, Nguyen-Dihn A, Rosinski B, and Durduran Turgut. *Phantoms for time-resolved spectroscopy and diffuse correlation spectroscopy with tunable optical and dynamic properties.* In *European Conferences on Biomedical Optics (ECBO) 2017.* SPIE/OSA, Munich, Germany, 2017.

[147] Dragojević T, Hollmann J L, Tamborini D, Portaluppi D, Villa F, Culver J P, Zappa F, , and Durduran Turgut. *A compact, low-cost device for measuring cerebral blood flow in human brain using a new method; speckle contrast optical spectroscopy.* In *European Conferences on Biomedical Optics (ECBO) 2017.* OSA/SPIE, Munich, Germany, 2017.

[148] Dumont V, Zuba D, Lebargy S, Giovannella M, Durduran T, Weigel U M, Zabalia M, Guillois B, and N R. *Functional diffuse correlation spectroscopy to investigate the perception of missing stimuli in a regular tactile sequence by preterm neonates.* In *Brain 2017.* ISCBFM, Berlin, Germany, 2017.

[149] Durduran T. *How, why and with whom does one use near-infrared light and laser speckles to probe hemodynamics of the human body?* In *BIST-UPF Master's Seminars 2017*. BIST, Barcelona, Spain, 2017.

[150] Durduran T. *Latest developments in diffuse correlation spectroscopy.* In *Biomedical Optics Series*. Physikalisch-Technische Bundesanstalt, Berlin, Germany, 2017.

[151] Durduran T. *Mext generation cerebral blood flow monitors based on laser speckles.* In *Ist Mexican symposium on NIRS neuroimaging (MEXNIRS)*. INAOE, Cholula, Mexico, 2017.

[152] Durduran T. *Multimodal imaging with diffuse optics for cancer theranostics.* In *European Congress of Radiology, ECR 2017*, volume Invited talk. European Society of Radiology, 2017.

[153] Durduran T. *Panel: Babylux project and then? priorities in technical development, standardization and clinical studies.* In *"Light-to-Cure": Steps from Photonics to Improved Care of Neonates Born Preterm*. Politecnico di Milano, Italy, 2017.

[154] Durduran T. *Probing tissue with diffuse light towards non-invasive clinical monitors.* In *2nd Workshop on Photonic Integrated Circuits for Telecom & Bio / Life Sciences*. PIC4TB , Barcelona, Spain, 2017.

[155] Durduran T. *The progress on measuring cerebral blood flow with diffuse correlation spectroscopy.* In *Photonics Ireland 2017*. Photonics Ireland, Galway, Ireland, 2017.

[156] Durduran T. *The tale of a physicist lost in between the academia, the healthcare and the industry.* In *Conference on research and innovation in the hospital ecosystem*, volume Invited talk. IESE Business School, 2017.

[157] Durduran T. *Tissue optics, light propagation through complex media and biomedical imaging with diffused light.* In *Optical Imaging - from Molecules to Humans 2nd Imaging Technology Summer Workshop of the ESMI-TOPIM TECH*. ESMI, Crete, Greece, 2017.

[158] Giovannella M, Andresen B, Chamizo V, Contini D, De Carli A, Donat R, Durduran T, Erdmann R, Fumagalli M, Greisen G, Pagliazzi M, Pifferi A, Rehberger M, Spinelli L, Weigel U M, and Torricelli A. *Baseline haemodynamic and optical properties of the newborn brain and the reproducibility of the measurements: a preliminary report from the babylux project.* In *European Conferences on Biomedical Optics (ECBO) 2017*. OSA/SPIE, Munich, Germany, 2017.

[159] Gregori-Pla C, Cotta G, Blanco I, Zirak P, Giovannella M, Serra I, Mola A, Fortuna A, Mayos M, and Durduran Turgut. *Cerebral hemodynamic response to a head-of-bed challenge in patients with severe obstructive sleep apnea before and after two years of continuous positive air pressure treatment by diffuse optics.* In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[160] Gregori-Pla C, Delgado Mederos R, Cotta G, Camps Remom P, Marti Fabregas J, and Durduran Turgut. *Cerebrovascular reactivity assessed by diffuse optics and transcranial doppler ultrasound; acetazolamide versus head-of-bed positioning versus breath-holding challenges.* In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[161] Kacprzak M, Tagliabue S, Lindner C, Chochron da Prat I, Sanchez-Guerrero A, Martinez Silva O, Hollmann J L, Weigl U M, de Nadal M, Sahuquillo J, and Durduran Turgut. *Non-invasive, multi-modal monitoring of bispectral index, cerebral oxygen metabolism and cerebral blood flow under general anesthesia.* In *Brain 2017*. ISCBFM, Berlin, Germany, 2017.

[162] Kacprzak M, Tagliabue S, Scheel J, Lindner C, Sanchez-Guerrero A, Castro L, Radoi A, Weigl U M, Sahuquillo J, and Durduran Turgut. *Characterizing the response to orthostatic stress and hyperventilation in critically brain injured patients with diffuse correlation spectroscopy and time-resolved near infrared spectroscopy.* In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[163] Konugolu Venkata Sekar S, Farina A, Dalla Mora A, Taroni P, Lindner C, Porta M M, Farzam P, Pagliazzi M, Squarcia M, Halperin I, Hanzu F, Dehghani H, and Turgut Durduran. *Thyroid tissue constituents characterization and application to in vivo studies by broadband (600-1200 nm) diffuse optical spectroscopy.* In *European Conferences on Biomedical Optics*. Munich, Germany, 2017.

[164] Lo Presti G, Aranda G, Buttafava M, Chamizo V, Contini D, Cortese L, Dalla Mora A, de Fraguier S, Dehghani H, Fischer J, Garcia E, Gomis R, Halperin I, Hanzu F, Katte K, Krischak K, Mora Porta M, Pifferi A, Rosinski B, Konugolu S, Squarcia M, Taroni P, Tosi A, Weigel M Udo, Wojtkiewicz S, Zolda P, and Durduran Turgut. *The overview and current status of the luca project - laser and ultrasound co-analyzer for thyroid nodules.* In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[165] Mireles M, Morales-Dalmau J, Vidal-Rosas E, Jimenéz-Valerio G, Casanovas O, and Durduran Turgut. *Early therapy response discrimination of renal cell carcinoma to antiangiogenic therapy monitored by diffuse optical spectroscopies.* In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[166] Morales-Dalmau J, Mireles M, Johansson J, Martinez-Lozano M, Vilches C, Vidal E, Sanz V, de Miguel I, Casanovas O, Quidant R, and Durduran Turgut. *A method for non-invasive, simultaneous measurement of in vivo gold nanoparticle concentration and hemodynamics.* In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[167] Pagliazzi M, Martinenghi E, Minnema J, Erdmann R, Lauritsen K, Contini D, Dalla Mora A, Torricelli A, Pifferi A, and Durduran Turgut. *Compact time resolved diffuse correlation spectroscopy setup with commercial off-the-shelf (cots) components.* In *European Conferences on Biomedical Optics (ECBO) 2017*, volume invited talk. SPIE/OSA, Munich, Germany, 2017.

[168] Tagliabue S, Di Sieno L, Farina A, Martinenghi E, Arridge S, Martelli F, Durduran T, Torricelli A, Pifferi A, and Dalla Mora A. *Near-infrared, time-resolved optical tomography with a novel compact system.* In *BRAIN & PET BRAIN 2017*. International Society for Cerebral Blood Flow and Metabolism- ISCBFM, Berlin, Germany, 2017.

[169] Tagliabue S, Di Sieno L, Farina A, Martinenghi E, Arridge S, Martelli F, Durduran Turgut, Torricelli A, Pifferi A, and Dalla Mora A. *Time-domain*

diffuse optical tomography system based on eight probe-hosted silicon photomultipliers and a time-to-digital converter. In *European Conferences on Biomedical Optics (ECBO) 2017*. SPIE/OSA, Munich, Germany, 2017.

[170] Wojtkiewicz S, Lo Presti G, Cortese L, Lindner C, Porta M M, Farzam P, Squarcia M, Johansso J, Weigel U M, Halperin I, Hanzu F, Contini D, Turgut Durduran, and Dehghani H. *Ultrasound guided diffuse optical characterization of human thyroid tissue.* In *European Conferences on Biomedical Optics (ECBO) 2017*, volume Invited talk. SPIE/OSA, Munich, Germany, 2017.

[171] Busch D, Gregori-Pla C, Blanco I, Giovannella M, Favilla C, Lynch J, Winters M, Mensah-Brown K, McCarthy A, Detre J, Yodh A, Licht D, Mesquita R, and Durduran Turgut. *Cerebral blood flow response to orthostatic challenges in healthy and diseased populations.* In *Children Neurology Society 2016*. Children Neurology Society, Vancouver, Canada, 2016.

[172] Busch D R, Gregori-Pla C, Blanco I, Giovannella M, Favilla C, Lynch J, Winters M, Mensah-Brown K, Ko T, McCarthy A, Detre J A, Yodh A G, Licht D, Mesquita R, and Turgut Durduran. *Blood flow response to orthostatic challenges in health and diseased populations.* In *OSA Biomedicals Topicals*, page TTh4B.5. Optical Society of America, 2016.

[173] Choe R, Ramirez G, Proctor A R, Han S, Turgut Durduran, and Brown E B. *Diffuse correlation spectroscopy and tomography for longitudinal monitoring of blood flow changes induced by chemotherapy in breast cancer xenografts.* In *OSA Biomedicals Topicals*, page CTu4A.4. Optical Society of America, 2016.

[174] Delgado-Mederos R, Gregori-Pla C, Zirak P, Blanco I, Prats-Sanchez L, Martinez-Domeno A, Marti-Fabregas J, and Durduran T. *Early cerebral blood flow response to head-of-bed (hob) manipulation is related to outcome in acute ischemic stroke: a transcranial optical monitoring study.* In *ESO 2016, European Stroke Organization Conference*. 2016.

[175] Dragojević T, Bronzi D, Varma H M, Valdes C P, Castellvi C, Tosi A, Zappa F, Justicia C, and Durduran T. *A new method utilizing novel single-photon avalanche diode arrays for multi-exposure laser speckle flowmetry.* In *OSA Biomedicals Topicals*, page JW3A.13. Optical Society of America, 2016.

[176] Dragojević T, Hollmann J, Varma H M, Valdes C, Bronzi D, Tamborini D, Villa F, Tosi A, Zappa F, Justicia C, Culver J P, and Durduran T. *Latest developments in speckle contrast optical tomography (scot) for deep tissue blood flow imaging.* In *OSA Biomedicals Topicals*, page OTh4C.4. Optical Society of America, 2016.

[177] Dragojević T, Hollmann J L, Tamborini D, Buttafaca M, Culver J P, Zappa F, and Durduran Turgut. *Speckle contrast optical spectroscopy of the adult brain with a novel, compact system.* In *fNIRS 2016*. sfNIRS, Paris, France, 2016.

[178] Durduran T. *How can you see inside my body with light?* In *4th Symposium of Update in Dialysis*, volume Invited talk. Hospical Clinic Barcelona, 2016.

[179] Durduran T. *Hybrid near-infrared diffuse optical methods for bed-side cerebral monitoring.* In *9th International Update on Neuro-Anesthesia & Neuro-intensive care*, volume Invited talk. Hospical Clinic Barcelona, 2016.

[180] Durduran T. *Hybrid near-infrared diffuse optical methods for bed-side cerebral monitoring.* In *XVII Simposium Internacional de Neuromonitorizacion y Tratamiento Del Paciente Neurocritico (PIC 2016)*, volume Invited talk. Vall d'Hebron University Hospital, Barcelona, Spain, 2016.

[181] Durduran T. *Neuromonitoring and imaging of cerebral blood flow with diffuse correlation spectroscopy.* In *4th European autumn school on cerebral oxymetry and optical imaging*, volume Invited talk. University of Picardie Jules Verne and the Faculty of Medicine, 2016.

[182] Durduran T. *Non-invasive, diffuse optical techniques for functional imaging.* In *VIII Spanish Drug Discovery Network Meeting 2016*, volume Invited talk. SLAS Europe, 2016.

[183] Durduran T. *Using diffuse light and speckle statistics to non-invasively measure blood flow; from theoretical foundations to clinical applications.* In *International School on Light Sciences and Technologies*, volume Invited talk. Universidad Internacional Menendez Pelayo, 2016.

[184] Durduran T. *Using light to probe inside the body.* In *Pint of science festival 2016*, volume Invited talk. Pint of Science team, 2016.

[185] Durduran T. *'why is my hand red?' or the tales of diffuse light in tissues.* In *Jornadas de Estudiantes en Ingenieria Biomedica*, volume Invited talk. IEEE EMBS BCN Student Club, 2016.

[186] Giovannella M, Mitja G, Gregori-Pla C, Ibanez D, Ruffini G, and Turgut Durduran. *Concurrent diffuse optical measurement of cerebral hemodynamics and eeg during transcranial direct current stimulation (tdcs) in humans.* In *OSA Biomedicals Topicals*, page JW3A.33. Optical Society of America, 2016.

[187] Giovannella M, Mitjia G, Gregori Pla C, Kacprzak M, Ibanez D, Ruffini G, and Durduran Turgut. *Concurrent diffuse optical measurement of cerebral hemodynamics and EEG during transcranial direct current stimulation (tDCS) in humans.* In *fNIRS 2016*. sfNIRS, Paris, France, 2016.

[188] Giovannella M, Urtane E, Chamizo V, Spinelli L, Re R, Weigel U, Marcinkevics Z, and Turgut Durduran. *Measurement of haemodynamics of exercising and non-exercising vastus lateralis muscle with hybrid diffuse optics.* In *OSA Biomedicals Topicals*, page OTh2C.4. Optical Society of America, 2016.

[189] Gregori-Pla C, Blanco I, Zirak P, Giovannella M, Fortuna A, Mola A, Cotta G, Serra I, Mayos M, and Durduran Turgut. *Cerebral hemodynamic response in severe obstructive sleep apnea patients before and after two years of continuous positive air pressure therapy.* In *EuroNeuro 2016*. Euro Neuro, Barcelona, Spain, 2016.

[190] Gregori-Pla C, Zirak P, Blanco I, Bramon P, Cotta G, Fortuna A, Mola A, Serra I, Mayos M, and Durduran Turgut. *What happens to cerebral hemodynamics during an obstructive sleep apnea?* In *fNIRS 2016*. Society for Functional Near-Infrared Spectroscopy, Paris, France, 2016.

[191] Hollmann J, Dragojević T, Varma H M, CJusticia, Valdes C, Culver J P, and Durduran T. *High density speckle contrast optical tomography for transcranial, three-dimensional imaging of cerebral blood flow in rodents.* In

OSA Biomedicals Topicals, page BTh2D.5. Optical Society of America, 2016.

[192] Lindner C, Chochrón da Prat I, Sánchez-Guerrero A, Weigel U M, de Nadal M, Sahuquillo J, and Durduran Turgut. *Cerebral metabolism and blood flow during bispectral index-controlled, propofol-induced anesthesia assessed by hybrid diffuse optics.* In *OSA Biomedicals Topicals*, page JW3A.29. Optical Society of America, 2016.

[193] Lindner C, Cochron I, Sanchez-Guerrero A, Hollmann J L, Kacprzak M, Weigel U M, de Nadal M, Sahuquillo J, and Durduran Turgut. *Microvascular cerebral metabolism and blood flow and bispectral index.* In *fNIRS 2016*. sfNIRS, Paris, France, 2016.

[194] Lindner C, Mora M, Farzam P, Squarcia M, Johansson J, Weigel U M, Halperin I, Hanzu F A, and Durduran Turgut. *Diffuse optical characterization of the human thyroid.* In *OSA Biomedicals Topicals*, page CTh4A.5. Optical Society of America, 2016.

[195] Mayos M, Gregori-Pla C, Zirak P, Blanco I, Fortuna A, Cotta G, Mola A, and Durduran Turgut. *Variaciones en el flujo de la microcirculacion cerebral en pacientes con sindrome de apnea-hipopnea obstructiva del sueno (sahs).* In *SEPAR 2016*. Sociedad espanola de pneumología y cirugia toracica, 2016.

[196] Mayos M, Gregori-Pla C, Zirak P, Blanco I, Fortuna A, Cotta G, Mola A, and Durduran Turgut. *Variacions en el flux de la microcirculacio cerebral en pacients amb la sindrome d'apnea-hipopnea obstructiva del son (sahs).* page 1. Societat Catalana de Pneumologia, SOCAP, Recinte Firal firaReus,Avda. Bellisens, 40, 43204 Reus, 2016.

[197] Mireles M, Johansson J, Morales-Dalmau J, Farzam P, Martinez-Lozano M, Casanovas O, and Turgut Durduran. *Non-contact, scanning hyperspectral diffuse optical spectroscopy and diffuse correlation spectroscopy system.* In *OSA Biomedicals Topicals*, page OTh1D.4. Optical Society of America, 2016.

[198] Morales-Dalmau J, Mireles M, Johansson J, Martinez-Lozano M, Vilches C, Sanz V, Casanovas O, Quidant R, and Turgut Durduran. *Simultaneous, non-invasive measurement of local tissue hemodynamics, oxygen metabolism and gold nanorod concentration in vivo.* In *OSA Biomedicals Topicals*, page JM3A.42. Optical Society of America, 2016.

[199] Pagliazzi M, Giovannella M, Weigel U, Pifferi A, Torricelli A, and Turgut Durduran. *Long-lasting, liquid phantom for diffuse optical and correlation spectroscopies.* In *OSA Biomedicals Topicals*, page JTu3A.24. Optical Society of America, 2016.

[200] Pifferi A, Dalla Mora A, Martinenghi E, Contini D, di Sieno L, Re R, Arridge S, Martelli F, Tosi A, Farina A, Turgut Durduran, and Torricelli A. *Photonics advancements in time-domain diffuse imaging: Towards hand-held and wearable devices.* In *OSA Biomedicals Topicals*, page OTh2C.6. Optical Society of America, 2016.

[201] Pla C G, Blanco I, Zirak P, Giovannella M, Fortuna A, Mola A, Cotta G, Mayos M, Serra I, and Turgut Durduran. *Cerebral hemodynamic response to an orthostatic challenge in patients with severe obstructive sleep apnea before and after two years of continuous positive air pressure treatment.* In *OSA Biomedicals Topicals*, page TTu2B.5. Optical Society of America, 2016.

[202] Pla C G, Zirak P, Blanco I, Bramon P, Fortuna A, Mola A, Cotta G, Mayos M, Serra I, and Turgut Durduran. *Characterization of cerebral hemodynamics during obstructive sleep apnea by diffuse optics.* In *OSA Biomedicals Topicals*, page BTh4D.3. Optical Society of America, 2016.

[203] Sekar S K V, Mora A D, Martinenghi E, Taroni P, Pifferi A, Farina A, Puig J, Negredo E, Lindner C, Pagliazzi M, and Turgut Durduran. *In vivo time domain broadband (600 -1200 nm) diffuse optical characterization of human bone.* In *OSA Biomedicals Topicals*, page CTu4A.4. Optical Society of America, 2016.

[204] Tagliabue S, Di Sieno L, Dalla Mora A, Martinenghi E, Farina A, Durduran Turgut, Torricelli A, and Pifferi A. *Compact eight channel time-domain diffuse optical tomography system based on SiPMs for functional brain imaging.* In *fNIRS 2016*. sfNIRS, Paris, France, 2016.

[205] Turgut Durduran. *Development and applications of diffuse correlation spectroscopy for non-invasive measurement of blood flow in clinics.* In *OSA Biomedicals Topicals*, page OTh1D.1. Optical Society of America, 2016.

[206] Weigel U M, Andresen B, Chamizo V, Contini D, de Carli A, Donat R, Turgut Durduran, Erdmann R, Fumagalli M, Giovannella M, Greisen G, Hyttel-Sorensen S, Konig N, Lauritsen K, Pagliazzi M, Pifferi A, Rehberger M, Rocchetti I, Rohlicke T, Spinelli L, Wahl M, and Torricelli A. *The babylux project - an optical neuro-monitor of cerebral oxygen metabolism and blood flow for neonatology.* In *OSA Biomedicals Topicals*, page JM3A.30. Optical Society of America, 2016.

[207] Blanco I, Zirak P, Gregori-Pla C, Marta-Bueno R, Sestelo M, Serra I, Marti-Fabregas J, and Durduran Turgut. *Monitoring cerebral hemodynamics during early hours after stroke measured by hybrid diffuse optics.* In *Brain 2015*. International Society for Cerebral Blood Flow and Metabolism, Vancouver, Canada, 2015.

[208] Choe R, Proctor A, Jung K, Adams R, Kim H, Han S, Mannoh E, Byun D, Madden K, Brown E, Farzam P, and Durduran T. *Diffuse optical quantification of early hemodynamic changes by chemotherapy on breast cancer xenografts and its implication for therapeutic prediction in clinic.* In *SPIE photonics west conference (BIOS)*. 2015.

[209] Contini D, Mora A D, Arridge S R, Martelli F, Tosi A, Boso G, Farina A, Turgut Durduran, Martinenghi E, Torricelli A, and Pifferi A. *Time-domain diffuse optics: towards next generation devices.* In *European Conferences on Biomedical Optics*. Munich, Germany, 2015.

[210] Delgado-Mederos R, Zirak P, Blanco I, Gregori C, Dinia L, Bueno R, Marti-Fabregas J, and Durduran T. *Real-time transcranial optical monitoring of cerebral blood flow in acute ischemic stroke after thrombolysis.* In *ESO 2015, European Stroke Organization Conference*. 2015.

[211] Dragojević T, Bronzi D, Varma H M, Valdes C Claudia P Castellvi, , Tosi A, Zappa F, Justicia C, and Durduran Turgut. *Multi-exposure, continuous laser speckle contrast imaging of mouse brain enabled by a novel single photon avalanche diode (SPAD) array.* In *Brain 2015*. ISCBFM, Vancouver, Canada, 2015.

[212] Durduran T. *Diffuse correlation spectroscopy: the journey from the phantoms to the clinics to the commercialization.* In *4th International*

Congress on Biophotonics (ICOB 2015), volume Invited talk. ICOB Committee, 2015.

[213] Durduran T. *How did a physicist got lost in a neurology department?* In *Institute of Applied Physics Departmental Colloquium*, volume Invited talk. University of Bern, 2015.

[214] Durduran T. *Noninvasive, optical measurement of cerebral blood flow and oxygen metabolism in healthy and injured brain.* In *Brain-IT meeting Barcelona*, volume Invited talk. Brain monitoring with Information Technology Group, 2015.

[215] Durduran T. *The promise of diffuse optical methods for non-invasive diagnosis, therapy monitoring and prediction in oncology.* In *3rd ESTRO Forum*, volume Invited talk. European Society for Radiotherapy & Oncology (ESTRO), 2015.

[216] Farzam P and Durduran T. *Can we measure blood flow and optical properties of tissue by diffuse correlation spectroscopy?* In *European Conferences on Biomedical Optics*. Munich, Germany, 2015.

[217] Farzam P, Lindner C, Weigel U, Suarez M, Urbano-Ispizua A, and Durduran T. *Towards the application of diffuse optics in the management of hematological malignancies: can diffuse optics probe the bone marrow?* In *European Conferences on Biomedical Optics*. Munich, Germany, 2015.

[218] Giovannella M, Weigel U, Marcinkevics Z, and Durduran T. *Hybridization of hamamatsu trs-20 time-resolved near-infrared spectroscopy and hemophotonics hemoflomo diffuse correlation spectroscopy systems.* In *European Conferences on Biomedical Optics*. Munich, Germany, 2015.

[219] Gregori C, Zirak P, Blanco I, Bramon P, Fortuna C G M A M M A, and Durduran T. *Characterization of cerebral hemodynamics during obstructive sleep apnea.* In *European Conferences on Biomedical Optics*. Munich, Germany, 2015.

[220] Gregori-Pla C, Serra I, Zirak P, Blanco I, Bramon P, Fortuna A, Cotta G, Mola A, Mayos M, and Durduran T. *Characterization of cerebral hemodynamics and oxygen metabolism during individual obstructive sleep apnea events by diffuse optics.* In *Research Perspectives CRM Barcelona of the Birkhauser's series Trends in Mathematics*, volume 7. Centre de Recerca Matematica (CRM), Campus de Bellaterra, Edifici C, 08193 Bellaterra (Barcelona), Spain, 2015.

[221] Gregori-Pla C, Zirak P, Blanco I, Marta-Bueno R, Sestelo M, Serra I, Marti-Fbregas J, and Durduran Turgut. *Cerebral blood flow and oxygenation in acute ischemic stroke after intravenous thrombolysis measured by hybrid diffuse optics.* In *Brain 2015*. International Society for Cerebral Blood Flow and Metabolism, Vancouver, Canada, 2015.

[222] Han S, Johansson J, Mireles M A, Proctor A R, Turgut Durduran, and Choe R. *A non-contact system for three dimensional blood flow imaging in mouse leg using diffuse correlation tomography.* In *SPIE Photonics West*. SPIE, San Francisco, CA, 2015.

[223] Hollmann J and Durduran T. *Measuring cerebral blood flow with diffuse correlation spectroscopy.* In *3rd European autumn school on cerebral oxymetry and optical imaging*, volume Invited talk. University of Picardie Jules Verne and the Faculty of Medicine, 2015.

[224] Johansson J D, Farzam P, Valerio G A J, del Mar Martínez Lozano M, Casanovas O, and Turgut Durduran. *Optical investigation of antiangiogenic therapy in renal cell carcinoma.* Munich, Germany, 2015.

[225] Lindner C, Porta M, Farzam P, Squarcia M, Johansson J, Weigel U, Halperin I, Hanzu F, and Durduran T. *Diffuse optical characterization of the human thyroid.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2015.

[226] Marcinkevics Z, Urtane E, Giovannella M, Weigel U, and Durduran T. *Hybridization of hamamatsu trs-20 time-resolved near-infrared spectroscopy and hemophotonics hemoflomo diffuse correlation spectroscopy systems.* In *73rd Scientific Conference of the University of Latvia.* University of Latvia, Riga LV-1586, Latvia, 2015.

[227] Mireles M, Johansson J, Farzam P, and Durduran T. *Non-contact, scanning hyperspectral diffuse optical spectroscopy and diffuse correlation spectroscopy system.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2015.

[228] Mora A D, Contini D, Arridge S R, Martelli F, Tosi A, Boso G, Farina A, Turgut Durduran, Martinenghi E, Torricelli A, and Pifferi A. *Towards next generation time-domain diffuse optics devices.* In *Proc. SPIE, SPIE Photonics West*, volume 9319. SPIE, San Francisco, CA, 2015.

[229] Morales-Dalmau J, Aguirre J, Funk L, Jara F, Turon P, , and Turgut Durduran. *The potential of photoacoustic microscopy as a tool to characterize the in vivo degradation of surgical sutures.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2015.

[230] Sekar S K V, Farina A, Martinenghi E, Mora A D, Taroni P, Pifferi A, Negredo E, Puig J, Escrig R, Rosales Q, Lindner C, Pagliazzi M, and Turgut Durduran. *Time-resolved diffused optical characterization of key tissue constituents of human bony prominence locations.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2015.

[231] Sekar S K V, Farina A, Martinenghi E, Mora A D, Taroni P, Pifferi A, Turgut Durduran, Pagliazzi M, Lindner C, Mora M, Squarcia M, and Urbano-Ispizua A. *Broadband time-resolved diffuse optical spectrometer for clinical diagnostics: characterization and in-vivo measurements in the 600-1350 nm spectral range.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2015.

[232] Valdes C P, Varma H M, Dragojevic T, Kristoffersen A, castellvi C, Justicia C, Culver J P, and Durduran Turgut. *Deep tissue blood flow imaging with speckle contrast optical tomography.* In *European Conferences on Biomedical Optics*, volume invited talk. SPIE/OSA ECBO, Munich, Germany, 2015.

[233] Zirak P, Blanco I, Bramon P, Gregori-Pla C, Fortuna A, Cotta G, Mayos M, Mola A, and Durduran Turgut. *Cerebral blood flow dynamics during individual obstructive sleep apnea events measured by hybrid diffuse optics.* In *Brain 2015.* International Society for Cerebral Blood Flow and Metabolism, Vancouver, Canada, 2015.

[234] Baker W, Parthasarathy A B, Busch D R, Mesquita R C, Turgut Durduran, Abramson K, and Yodh A G. *Probe pressure modulation algorithm reduces extracerebral contamination in optical measurements of cerebral blood flow.* 2014.

[235] Choe R, Jung K, Kim H, Proctor A, Byun D, Farzam P, Madden K, Durduran T, and Brown E. *Quantification of early hemodynamic changes induced by cyclophosphamide on breast cancer xenografts using diffuse optics.* In *Biomedical Optics 2014*, page BS3A.10. Optical Society of America, OSA, Washington, D.C., 2014.

[236] Durduran T. *Biomedical imaging with diffuse light.* In *Summer school on "waves and disorder"*, volume Invited talk, class. GDR MesoImage and U. Fribourg, Corsica, France, 2014.

[237] Durduran T. *Diffuse correlation spectroscopy for non-invasive, bed-side measurement of cerebral blood flow.* In *International Conference on Laser Applications in Life Sciences (LALS 2014)*, volume Invited talk. SPIE, Ulm, Germany, 2014.

[238] Durduran T. *How do we probe the neonatal brain with light?* In *L4H 2014, Light and Pediatrics: Photonics for non-invasive pediatric monitoring*, volume Invited talk. ICFO-The Institute of Photonic Sciences, Castelldefels, Spain, 2014.

[239] Durduran T. *How to measure blood flow with speckles and its clinical uses in neurology.* In *European Summer School on Optical Imaging Techniques for Biomedical Applications.* OILTEBIA network, Madrid, Spain, 2014.

[240] Durduran T. *New optical methods for continuous cerebral blood flow monitoring as a biomarker of cerebral pathophysiology.* In *23rd Congress of the International Commission for Optics*, volume Invited keynote talk. International Commission for Optics, Santiago de Compostela, Spain, 2014.

[241] Durduran T. *Non-invasive optical monitoring of cerebral hemodyna- mics.* In *XVI Simposium Internacional de Neuromonitorizacion y Tratamiento Del Paciente Neurocritico (PIC 2014)*, volume Invited talk. Vall d'Hebron University Hospital, Barcelona, Spain, 2014.

[242] Durduran T. *What is the role of diffuse optics in acute stroke care?* In *Advances in biomedical optics seminar series*, volume Invited talk. Center for Magnetic Resonance and Optical Imaging, Philadelphia, USA, 2014.

[243] Farzam P, Lindner C, Weigel U, Suarez M, Urbano-Ispizua A, and Durduran T. *Diffuse optical characterization of the healthy human manubrium as a window to the hematological malignancies.* Ulm, 2014.

[244] GCotta I B A M P Z T D A Fortuna and Mayos M. *Cerebral blood flow (cbf) response to orthostatic stress in patients with obstructive sleep apnea (osa).* In *European Respiratory Society (ERS).* 2014.

[245] I Blanco A F G C M M A M P Zirak and Durduran T. *The effect of obstructive sleep apnea on the cerebral blood flow response to orthostatic stress.* In *The Optical Society (OSA).* 2014.

[246] I Blanco A F G C M M A M P Zirak and Durduran T. *The effect of obstructive sleep apnoea syndrome on the microvascular cerebral blood flow response to orthostatic stress.* In *fNIRS.* 2014.

[247] I Blanco C G A F G C M M A M P Bramon and Durduran T. *Diffuse optical characterization of the microvascular cerebral blood flow during obstructive sleep apnea events.* 2014.

[248] I Blanco C J T D A M P P Zirak and Durduran T. *A transcutaneous fiber optic probe for longitudinal, functional measurements of rodent cerebral*

blood flow with diffuse correlation spectroscopy. In *23rd Congress of the International Commission for Optics*. 2014.

[249] Johansson J, Mireles M, Farzam P, and Durduran T. *Practical height correction for diffuse optical spectroscopy to account for curved tissue surfaces.* In *Biomedical Optics 2014*, page BS3A.5. Optical Society of America, OSA, Washington, D.C., 2014.

[250] P Zirak I B L D D C J M R Delgado-Mederos and Durduran T. *Bedside monitoring of cerebral blood flow in the hyper-acute phase of ischemic stroke.* In *The Optical Society (OSA)*. 2014.

[251] Valdes C P, Varma H M, Kristoffersen A, Culver J P, and Durduran Turgut. *Multi-distance and multi-exposure speckle contrast spectroscopy for measuring blood flow in deep tissues.* In *Biomedical Optics*, pages BM3A–9. Optical Society of America, 2014.

[252] Varma H M, Valdes C P, Kristoffersen A, Culver J P, and Durduran Turgut. *Speckle contrast optical tomography (scot): Reconstructing the three dimensional distribution of blood flow in deep tissues.* In *Biomedical Optics*, pages BW3B–2. Optical Society of America, 2014.

[253] Varma H M, Valdes C P, Kristoffersen A, Culver J P, and Durduran Turgut. *Laser speckle based tomographic imaging of deep tissue blood flow.* In *fNIRS 2014*. fNIRS, Montreal, Canada, 2014.

[254] Baker W B, Rodgers Z, Cai K, Buckley E M, Greenberg J H, Durduran T, Yodh A G, and Reddy R. *Monitoring changes in the cerebral metabolic rate of oxygen consumption with diffuse optical and mri suspectometry techniques in a pig model.* In *SPIE Photonics West*, pages 8578–115. San Francisco, CA, 2013.

[255] Blanco I, Zirak P, Justicia C, Sola C, and Anna Maria Planas Turgut Durduran. *A skull implantable fiber optic probe for longitudinal, functional measurements of rodent cerebral blood flow with diffuse correlation spectroscopy.* In *European Conferences on Biomedical Optics*. Munich, Germany, 2013.

[256] Buch P, Minagawa T, and Turgut Durduran. *Partial volume effect reduction in diffuse correlation spectroscopy flow measurements by utilizing a penalty function.* In *European Conferences on Biomedical Optics*. Munich, Germany, 2013.

[257] Choe R, Busch D R, Durduran T, Giammarco J M, Pathak S, Chung S H, Ban H Y, Foster E K, Averna T, Jung K W, Carlie P, Buckley E M, Kim M N, Putt M E, Mies C, Schnall M D, Rosen M A, DeMichele A, and Yodh A G. *Earlier prediction of neoadjuvant chemotherapeutic efficacy with multi-parametric diffuse optical methods.* In *SPIE Photonics West*, pages 8578–14. San Francisco, CA, 2013.

[258] Durduran T. *Bed-side monitoring of hemodynamics in ischemic stroke patients with diffuse correlation spectroscopy.* In *SPIE Photonics West*, pages 8580–11. San Francisco, CA, 2013.

[259] Durduran T. *Continuous cerebral blood flow monitoring as a bio-marker of cerebral pathophysiology.* In *133-134th ICB Seminar on Optical Methods for clinical Neuro-Monitoring*. International Centre of Biocybernetics, Warsaw, Polland, 2013.

[260] Durduran T. *Diffuse optical neuro-monitoring.* In *21st International SAOT workshop on optics in medicine.* SAOT Erlangen Graduate School in Advanced Optical Technologies, Erlangen, Germany, 2013.

[261] Durduran T. *Monitoring hemodynamics as biomarkers of cancer metastatis and therapy response.* volume Enabling Technologies for cancer research: imaging and diagnostics. Beverly, Massachusetts, 2013.

[262] Durduran T. *Towards a comprehensive neuro-monitor of hemodynamics of ischemic stroke patients using diffuse optical technologies.* volume Biomedical engineering seminar series. Rochester, NY, 2013.

[263] Farzam P and Turgut Durduran. *Multi-distance diffuse correlation spectroscopy to simultaneously estimate the absolute reduced scattering coefficient and the blood flow index.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2013.

[264] Kristoffersen A, S d X, Valdes C, Justicia C, Planas A M, and Durduran T. *Reperfusion in mannose-binding lectin knock-out mice following middle cerebral artery occlusion.* In *Brain.* Shanghai , China, 2013.

[265] Lindner C, Weigel U M, Zirak P, Tercero J, Gracia I, Carrero E, Valero R, Fabregas N, and Durduran T. *Micro-vascular cbf response to hypercapnia in healthy adults at elevated head-of-bed position (hob).* In *Brain.* Shanghai , China, 2013.

[266] Minagawa T, Buch P, Giannoula A, and Turgut Durduran. *Mbio: a comprehensive monte-carlo package for diffuse correlation spectroscopy/tomography.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2013.

[267] P Z, Delgado-Mederos R, Dinia L, Carrera D, Fabregas J M, and Durduran T. *Real-time measurement of micro-vascular cbf and blood oxygenation after thrombolysis in patients with acute ischemic stroke.* In *Brain.* Shanghai , China, 2013.

[268] P Z, Delgado-Mederos R, Dinia L, Carrera D, Granell E, Fabregas J M, and Durduran T. *Diffuse optical monitoring of micro-vascular cbf and oxygenation after thrombolysis in acute stroke.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2013.

[269] Spinelli L, Botwicz M, Zolek N, Kacprzak M, Milej D, Sawosz P, Liebert A, Weigel U, Durduran T, Poschum F, Kienle A, Baribeau F, Lecair S, Bouchard J P, Noiseuz I, Gallant P, Mermut O, Farina A, Pifferi A, Torricelli A, Cubeddu R, Ho H C, Mazurenka M, Wabnitz H, Klauenberg K, Bodnar O, Elster C, Benazech-Lavoue M, Berube-Lauziere Y, Lesage F, Khoptyar D, Subash A A, Andersson-Engels S, di Ninni P, Martelli F, and Zaccanti G. *Optical properties of tissue-like phantoms based on intralipid and india ink accurately assessed by means of a multi-center study.* In *SPIE Photonics West*, pages 8583–5. San Francisco, CA, 2013.

[270] Weigel U M, Remiro F, Benet R, Corrales E, Oliverio N, Cifuentes J C, and Turgut Durduran. *Docneuro: A hybrid diffuse correlation spectroscopy (dcs), frequency domain nirs prototype.* In *European Conferences on Biomedical Optics.* Munich, Germany, 2013.

[271] Buckley E M, Lynch J M, Goff D A, Schwab P J, Baker W B, Turgut Durduran, Busch D R, Nicolson S C, Montenegro L M, Naim M Y, Xiao R, Spray T L, Yodh A, Gaynor J W, and Licht D J. *Early*

postoperative changes in cerebral oxygen metabolism following neonatal cardiac surgery: Effects of surgical duration. In *92nd Annual Meeting of The American Association for Thoracic Surgery*. 2012.

[272] Busch D, Choe R, Durduran T, Baker W, Foster E, Alverna T, Friedman D, Rosen M, Schnall M, and Yodh A. *Microvascular blood flow changes in human breast during simulated mammography.* In *OSA Biomedical Topicals*, page JM3A.13. Optical Society of America, Miami, FL, 2012.

[273] Busch D, Choe R, Durduran T, Baker W, Rosen M, and Yodh A. *Compression-induced changes in breast hemodynamics.* In *SPIE Photonics West*, pages 8216–12. San Francisco, CA, 2012.

[274] Busch D, Guo W, Choe R, Durduran T, Feldman M, Mies C, Czerniecki B, Tchou J, DeMichele A, Rosen M, Schnall M D, and Yodh A G. *Computer aided monitoring of neoadjuvant chemotherapy for breast cancer.* In *OSA Biomedical Topicals*, page BSu5A.7. Optical Society of America, Miami, FL, 2012.

[275] Choe R, Turgut Durduran, Busch D R, Chung S H, Pathak S, Ban H Y, Foster E K, Averna T, Buckley E M, Kim M N, Mies C, Rosen M A, Schnall M D, DeMichele A, and Yodh A G. *Early changes in breast cancer blood flow due to chemotherapy: Potential predictor for therapeutic efficacy.* In *OSA Biomedical Topicals*, page BW4B.4. Optical Society of America, Miami, FL, 2012.

[276] Durduran T. *Bed-side monitoring of neuro-intensive care.* In *XXIV International SMIT Conference*, volume Keynote Lecture. Society for Medical Innovation and Technology, Barcelona, Spain, 2012.

[277] Durduran T. *Bed-side neuro-critical monitoring with hybrid diffuse optics.* In *OSA Biomedical Topicals*, page BSu4A.1. Optical Society of America, Miami, FL, 2012.

[278] Durduran T. *Bed-side neuro-monitoring with hybrid diffuse optics with examples of different clinical questions that could be tackled.* In *nEUROPt Project Workshop*, volume Invited talk in Novel strategies for time-domain diffuse optical imaging of the brain. Non-invasive imaging of brain function and disease by pulsed near infrared light (nEUROpt) Consortium, Milan, Italy, 2012.

[279] Durduran T. *Bench-to-bedside: Towards a comprehensive monitor of cerebral hemodynamics in clinical stroke management.* In *Gordon Research Conferences*, volume Brain Energy Metabolism & Blood Flow. Colby College, Waterville, MA, 2012.

[280] Durduran T. *A comprehensive neuro-monitor of cerebral hemodynamics in clinical stroke management.* In *Des Photons et des Neurones; Photonic Imaging for Neurosciences*. CNRS thematic School (Fall School), Cabries, France, 2012.

[281] Durduran T. *Diffuse correlation spectroscopy for cerebral blood flow monitoring.* In *functional Near-Infrared Spectroscopy (fNIRS)*. London, UK, 2012.

[282] Durduran T. *Non-invasive optical monitoring of cerebral hemodynamics and metabolism at the neuro- intensive care.* In *XV Simposium Internacional de Neuromonitorizacion y Tratamiento Del Paciente Neurocrítico (PIC 2012)*,

volume Invited talk. Vall d'Hebron University Hospital, Barcelona, Spain, 2012.

[283] Durduran T. *Photonics for neuro-monitoring.* In *International Focus Meeting on Innovation in Healthcare*. Society for Medical Innovation and Technology, Sabadell, Spain, 2012.

[284] Farzam P, Zirak P, Binzoni T, and Durduran T. *Pulsatile and static hemodynamics of human patella during rest and cuff inflation.* In *OSA Biomedical Topicals*, page JM3A.40. Optical Society of America, Miami, FL, 2012.

[285] Kristoffersen A K, de la Rosa Siles X, Valdes C, Justicia C, Planas A M, and Turgut Durduran. *Reperfusion in mannose-binding lectin knock-out mice following middle cerebral artery occlusion.* In *Gordon Research Conferences*, volume Brain Energy Metabolism & Blood Flow. Colby College, Waterville, MA, 2012.

[286] Mesquita R, Schenkel S, Durduran T, Favilla C, Kim M, Minkoff D, Mullen M, Greenberg J, Detre J, Kasner S, and Yodh A G. *Diffuse correlation spectroscopy for flow assessment & management of acute ischemic stroke.* In *OSA Biomedical Topicals*, page BW4B.4. Optical Society of America, Miami, FL, 2012.

[287] Minagawa T, Zirak P, Weigel U M, Kristoffersen A, Mateos N, Valencia A, and Turgut Durduran. In *OSA Biomedical Topicals*, page BTu3A.54. Optical Society of America, Miami, FL, 2012.

[288] Spinelli L, Botwicz M, Zolek N, Kacprzak M, Milej D, Liebert A, Weigel U, Durduran T, Foschum F, Kienle A, Baribeau F, Leclair S, Bouchard J P, Noiseux I, Gallant P, Mermut O, Pifferi A, Torricelli A, Cubeddu R, Ho H C, Mazurenka M, Wabnitz H, Klauenberg K, Bodnar O, Elster C, Benazech-Lavoue M, Berube-Lauziere Y, Lesage F, Ninni P D, Martelli F, and Zaccanti G. *Inter-laboratory comparison of optical properties performed on intralipid and india ink.* In *OSA Biomedical Topicals*, page BW1A.6. Optical Society of America, Miami, FL, 2012.

[289] Weigel U and Durduran T. *Pre-symposium course.* In *XV Simposium Internacional de Neuromonitorización y Tratamiento Del Paciente Neurocrítico (PIC 2012)*, volume Invited course lecturer. Vall d'Hebron University Hospital, Barcelona, Spain, 2012.

[290] Weigel U, Remiro F, Benet R, and Durduran T. *Docneuro: Towards a pre-commercial, clinical development of a hybrid diffuse correlation spectroscopy (dcs) and frequency domain diffuse optical spectroscopy (dos) for bed-side neuromonitoring.* In *functional Near-Infrared Spectroscopy (fNIRS)*. London, UK, 2012.

[291] Weigel U, Revilla R, Oliverio N, Gonzalez A, Cifuentes J, Zirak P, Saiz R, Mitrani D, Ninou J, Casellas O, and Durduran T. *A new, modular frequency domain diffuse optical monitor in the digital domain.* In *OSA Biomedical Topicals*, page JM3A.36. Optical Society of America, Miami, FL, 2012.

[292] Zirak P, Delgado-Mederos R, Dinia L, Marti-Fabregas J, and Durduran T. *Assessment of micro- and macro-vascular cerebral vasomotor reactivity in patients with severe internal carotid artery stenosis or occlusion.* In *Gordon Research Conferences*, volume Brain Energy Metabolism & Blood Flow. Colby College, Waterville, MA, 2012.

[293] Zirak P, Delgado-Mederos R, Dinia L, Marti Fabregas J, and Durduran T. *Cerebral vasomotor reactivity in micro-and macro-vasculature of patients with severe steno-occlusive internal carotid artery lesions.* In *OSA Biomedical Topicals*, page JM3A.28. Optical Society of America, Miami, FL, 2012.

[294] Buckley E M, Goff D A, Hance D, Durduran T, Kim M N, Mesquita R, Greenberg J H, Putt M A, Licht D J, and Yodh A G. *Cerebral hemodynamic effects of blood transfusions in neonates measured with diffuse optics.* In *BRAIN 11, International Society of Cerebral Blood Flow and Metabolism.* Barcelona, Spain, 2011.

[295] Choe R, Pathak S, Chung S H, Durduran T, Ban H Y, Busch D R, Averna T, Buckley E M, Kim M N, DeMichele A, Mies C, Rosen M A, Schnall M D, and Yodh A G. *In-vivo cancer therapy monitoring with diffuse optical techniques.* In *SPIE Photonics West*, pages 7896–41. San Francisco, CA, 2011.

[296] Delgado-Mederos R, P Z, Dinia L, Marin-Bueno R, Marti-Fabregas J, and Durduran T. *Monitorizacion no invasiva del flujo sanguineo cerebral mediante espectroscopia optica y doppler transcranial: estudio comparativo en pacientes con estenosis carotidea.* In *Reunion anual de la sociedad Espanola de Neurologia.* Barcelona, Spain, 2011.

[297] Delgado-Mederos R, Zirak P, Marti-Fabregas J, Dinia L, Marin R, and Durduran T. *Noninvasive monitoring of cerebral blood flow changes during acetazolamide challenge using diffuse correlation spectroscopy and transcranial doppler ultrasound.* In *International Stroke Conference.* American Heart Association, Dallas TX, Los Angeles, USA, 2011.

[298] Dinia R, Delgado-Mederos R, P Z, Marin-Bueno R, Durduran T, and Marti-Fabregas J. *Noninvasive monitoring of cerebral blood flow changes during acetazolamide challenge using diffuse correlation spectroscopy and transcranial doppler ultrasound.* In *Congresso nazionale societa Italiana di Neurologia.* Torino, Italy, 2011.

[299] Durduran T. *Bed-side, neuro-intensive care (nicu) monitoring of cerebral hemodynamics with hybrid diffuse optics.* In *Biophotonics4Life Webinar Series.* Biophotonics4Life Worldwide Consortium, Invited, Online, recorded, 2011.

[300] Durduran T. *Bed-side transcranial optical monitors for neuro-intensive care monitoring.* In *III International Symposium on Topical Problems of Biophotonics–2011.* Consortium of Organizers, St.-Petersburg – Nizhny Novgorod, Russia, 2011.

[301] Durduran T. *Diffuse optical monitoring of CBF and CMRO2 at the bed-side.* In *Special symposium on "Advances in Optical Imaging of CBF and Oxygenation" at XXVth International Symposium on Cerebral Blood Flow, Metabolism and Function (BRAIN 2011).* International Society for Cerebral Blood Flow and Metabolism (ISCBFM), Barcelona Spain, 2011.

[302] Durduran T. *Monitoring of cerebral blood flow in neonates: Transcranial doppler ultrasound, arterial spin labeled mri and diffuse correlation spectroscopy.* In *52nd Annual Meeting of the European Society for Paediatric Research*, volume Invited, course. European Society for Paediatric Research, Newcastle, United Kingdom, 2011.

[303] Durduran T and Ripoll J. *Invited tutorial: Optics for in vivo imaging and monitoring in biology and medicine.* In *2011 IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI)*. IEEE-Institute of Electrical and Electronics Engineers, Chicago, Illinois, U.S.A., 2011.

[304] Farzam P and Durduran Turgut. *Design of a broadband near infrared spectroscopy (nirs) and diffuse correlation spectroscopy (dcs) device with a self-calibrated probe for experimental oncology.* In *European Conferences on Biomedical Optics*, volume 20th, pages 8088–41. Munich, Germany, 2011.

[305] Luckl J, Baker W, Sun Z H, Durduran T, Yodh A G, and Greenberg J H. *Parameters of flow and oxy hemoglobin transients show spatial heterogeneity in rat focal brain ischemia.* In *BRAIN 11, International Society of Cerebral Blood Flow and Metabolism.* Barcelona, Spain, 2011.

[306] Minkoff D L, Durduran T, Kim M N, Hance D, Buckley E M, Tobia M, Wang J J, Greenberg J H, and Detre J A. *Continuous measurement of relative changes in cmro2 using simultaneous mri and diffuse optical methods during hypercapnia & hyperoxia.* In *BRAIN 11, International Society of Cerebral Blood Flow and Metabolism.* Barcelona, Spain, 2011.

[307] Minkoff D L, Turgut Durduran, Kim M N, Hance D, Buckley E M, Tobita M, Wang J, Greenberg J H, Detre J A, and Yodh A G. *Comparison of mri and diffuse optical methods for calculating relative changes in the cerebral metabolic rate of oxygen.* In *European Conferences on Biomedical Optics*, volume 20th, pages 8088–10. Munich, Germany, 2011.

[308] Oliverio N H, Cifuentes J C, Farzam P, Saiz R, Mitrani D, Ninou J, Casellas O, and Turgut Durduran. *Design and evaluation of a modular, digital, frequency domain diffuse optical monitor.* In *European Conferences on Biomedical Optics*, volume 20th, pages 8088–42. Munich, Germany, 2011.

[309] P Z, Delgado-Mederos R, Marti-Fabregas J, Dinia L, and Durduran T. *Effects of acetazolamide challenge on cerebral hemodynamics in patients with severe carotid artery stenosis and healthy controls.* In *Brain 2011.* Barcelona, Spain, 2011.

[310] Süzen M, Giannoula A, and Durduran T. *Compressive diffuse optical tomography.* In *European Conferences on Biomedical Optics*, volume 20th, pages 8088–25. Munich, Germany, 2011.

[311] Zirak P, Delgado-Mederos R, Dinia L, Marti-Fabregas J, and Turgut Durduran. *Noninvasive evaluation of cerebral hemodynamics during acetazolamide challenge: a diffuse optics and transcranial doppler study.* In *European Conferences on Biomedical Optics*, volume 20th, pages 8088–4. Munich, Germany, 2011.

[312] Zirak P, Delgado-Mederos R, Marti-Fabregas J, Dinia L, and Turgut Durduran. *Effects of acetazolamide challenge on cerebral hemodynamics in patients with severe carotid artery stenosis and healthy controls.* In *BRAIN 11, International Society of Cerebral Blood Flow and Metabolism.* Barcelona, Spain, 2011.

[313] Buckley E M, Durduran Turgut, Goff M N Donna Aand Kim, Headstrom G H, Cook N, Mesquita R C, Detre J A, Greenberg J H, and Yodh A G. *Monitoring cerebral hemodynamics of critically-ill neonates.* In *American Society of Photochemistry and Photobiology Annual Meeting.* 2010.

[314] Buckley E M, Goff D, Durduran T, Hedstrom G, N K M, Mesquita R, Putt M E, Licht D J, and Yodh A G. *Cerebral metabolism changes during hypercapnia in neonates with congenital heart defects.* In *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona, SPAIN, 2010.

[315] Buckley E M, Goff D A, Durduran Turgut, Hedstrom G H, Kim M N, Mesquita A G Ricksonand Yodh, and Licht D J. *Cerebral hemodynamics during hypercapnia in neonates with complex congenital heart defects.* In *CHOP Student Poster Day*. Philadelphia, PA, 2010.

[316] Busch D R, Guo W, Choe R, Durduran T, Pathak S, Putt M E, Schnall M D, Rosen M A, and Yodh A G. *Automatic tumor localization and characterization in diffuse optical tomography.* In *Gordon Research Conferences*, volume Lasers in Medicine and Biology. Holderness, NH, 2010.

[317] Busch D R, Guo W, Choe R, Durduran T, Pathak S, Putt M E, Schnall M D, Rosen M D, and G Y A. *Computer aided detection for diffuse optical mammography.* In *Medical Physics*, volume 37:6, pages 3405–3405. AAPM, 2010.

[318] Busch D R, Guo W, Choe R, Durduran T, Rosen M A, Schnall M D, Putt M E, and Yodh A G. *Computer-aided detection of tumors in 3d tomograms from diffuse optical mammography.* In *OSA Biomedical Topicals*. Miami, FL, 2010.

[319] Busch D R, Minkoff D L, Choe R, Turgut Durduran, Schnall M D, Rosen M A, and Yodh A G. *Blood flow and volume changes during simulated mammography.* In *Medical Physics*, volume 37:6, pages 3331–3331. AAPM, 2010.

[320] Choe R, Durduran T, Chung S H, Konecky S D, Pathak S, Ban H Y, Busch D R, Buckley E M, Kim M N, DeMichele A, Mies C, Rosen M A, Schnall M D, and Yodh A G. *Breast cancer therapy monitoring with diffuse optical tomography and diffuse correlation spectroscopy.* In *OSA Biomedical Topicals*. Miami, FL, 2010.

[321] Choe R, Durduran T, and Yodh A G. *Diffuse optical methods for cancer therapy monitoring in vivo.* In *SPIE Photonics West*, pages 7557–01. San Francisco, CA, 2010.

[322] Choe R, Durduran T, and Yodh A G. *In vivo cancer therapy monitoring with diffuse optics.* In *The XII International Conference on Laser Applications in Life Sciences*. Oulu, Finland, 2010.

[323] Durduran T. *Non-invasive optical monitors of cerebral hemodynamics and metabolism at the neuro-intensive care.* In *XIV Simposium Internacional de Neuromonitorización y Tratamiento Del Paciente Neurocrítico (PIC 2010)*. Vall d'Hebron University Hospital, Barcelona, Spain, 2010.

[324] Durduran T. *Probing tissue function and diseases with light.* In *Opening Ceremony of the Master Programme in Photonics*. Universitat Politecnica de Catalunya, ICFO-The Institute of Photonic Sciences, Universitat Autònoma de Barcelona, Universitat de Barcelona, Barcelona, Spain, 2010.

[325] Durduran T, Minkoff D L, Kim M N, Buckley E M, Hance D, Tobita M, Wang J J, Greenberg J H, Detre J A, and Yodh A G. *CMRO2 response to hypercapnia and hyperoxia measured with mri and diffuse optics.* In *16th*

Annual Meeting of the Organization for Human Brain Mapping. Barcelona, SPAIN, 2010.

[326] Durduran T, Minkoff D L, Kim M N, Hance D, Buckley E M, Tobita M, Wang J J, Greenberg J H, Detre J A, and Yodh A G. *Concurrent mri and diffuse correlation & near-infrared spectroscopic measurement of cerebral hemodynamic response to hypercapnia and hyperoxia*. In *OSA Biomedical Topicals*. Miami, FL, 2010.

[327] Goff D A, Buckley E M, Durduran Turgut, Mesquita R, Kim M N, Headstrom G H, Yodh A G, and Licht D J. *Diffuse correlative spectroscopy (dcs) enhances neuromonitoring of cerebral hemodynamics in postoperative cardiac patients during blood transfusions.* In *Pediatric Academic Society*. Vancouver, BC, 2010.

[328] Kim M N, Durduran T, Edlow B, Buckley E M, Mesquita R, Grady S M, Levine J, Greenberg J H, Kofke A W, Detre J A, and Yodh A G. *Optical monitoring of cerebral hemodynamics during head elevation in brain-injured adults*. In *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona, SPAIN, 2010.

[329] Kim M N, Turgut Durduran, Edlow B L, Buckley E M, Mesquita R C, Grady M S, Levine J M, Greenberg J H, Detre J A, and Yodh A G. *Diffuse optical measurements of cerebral blood flow and blood oxygenation during head elevation in healthy and brain-injured adults*. In *OSA Biomedical Topicals*. Miami, FL, 2010.

[330] Mesquita R, Buckley E M, Kim M N, Olufunsho F, Turkeltaub P, Thomas A, Tobita M, Durduran T, Detre J A, Yodh A G, and Hamilton R. *Optical monitoring of microvascular effects of transcranial magnetic stimulation*. In *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona, SPAIN, 2010.

[331] Mesquita R, Durduran T, Favilla C, Kim M N, Buckley E M, Greenberg J H, Detre J A, Kasner S E, and Yodh A G. *Optical cerebral hemodynamics monitoring in stroke patients*. In *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona, SPAIN, 2010.

[332] Minkoff D L, Busch D R, Buckley E M, Durduran T, Licht D J, and Yodh A G. *Diffuse optical measurements of blood oxygenation and flow for monitoring cmro2 in neonates with congenital heart defects*. In *Medical Physics*, volume 37:6, pages 3141–3141. AAPM, 2010.

[333] Süzen M, Giannoula A, Zirak P, Oliverio N, Weigel U, Farzam P, and Durduran T. *Sparse image reconstruction in diffuse optical tomography: An application of compressed sensing*. In *OSA Biomedical Topicals*. Miami, FL, 2010.

[334] Zirak P, Delgado-Mederos R, Weigel U, Suzen M, Marti-Fabregas J, and Durduran T. *Diffuse optical evaluation of cerebral hemodynamics with acetazolamide challenge*. In *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona, SPAIN, 2010.

[335] Zirak P, Delgado-Mederos R, Weigel U, Süzen M, Marti-Fabregas J, and Durduran T. *Near-infrared, diffuse-correlation-spectroscopy evaluation of cerebral hemodynamics with acetazolamide challenge in healthy and acute ischemic stroke subjects*. In *OSA Biomedical Topicals*. Miami, FL, 2010.

[336] Ban H Y, Choe R, Pathak S, Konecky S D, Corlu A, Lee K, Durduran T, Busch D R, Culver J P, and Yodh A G. *3d breast cancer imaging with diffuse optical tomography.* In *Inter-Institute Workshop on Optical Diagnostic and Biophotonic Methods from Bench to Bedside*. National Institutes of Health, Bethesda, MD, 2009.

[337] Buckley E M, Cook N, Durduran T, Kim M, Zhou C, Choe R, Yu G, Licht D J, Detre J A, Greenberg J H, Hurg H, and Yodh A G. *Cerebral hemodynamics of preterm infants during postural intervention measured with diffuse correlation spectroscopy and transcranial doppler ultrasound.* In *BRAIN 09, International Society of Cerebral Blood Flow and Metabolism*. Chicago, USA, 2009.

[338] Buckley E M, Durduran T, Goff D A, Tang S J, Kim M N, Mesquita R C, Nicolson S C, Durning S M, Choe R, Putt M E, Wang J J, Detre J A, Yodh A G, and Licht D J. *The use of diffuse optical and diffuse correlation spectroscopies in neonates with congenital heart defects.* In *Inter-Institute Workshop on Optical Diagnostic and Biophotonic Methods from Bench to Bedside*. National Institutes of Health, Bethesda, MD, 2009.

[339] Busch D R, Choe R, Durduran T, Ban H Y, Pathak S, Putt M E, Guo W, Rosen M A, Schnall M D, and Yodh A G. *Automatic segmentation of tissue types in diffuse optical tomography of human breast cancer.* In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2009.

[340] Busch D R, Choe R, Durduran T, Schnall M D, Rosen M A, and Yodh A G. *Changes in microvascular blood flow and endogenous chromophores during mammographic-like compression of the human breast.* In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2009.

[341] Busch D R, Choe R, Durduran Turgut, Chaby L, Rosen M A, and Yodh A G. *Measurement of micro-vascular blood flow in the human breast during compression with diffuse correlation spectroscopy.* In *SPIE Photonics West*. San Jose, CA, 2009.

[342] Busch D R, Choe R, Durduran Turgut, Lee K, Ban H Y, Putt M E, Guo W, Rosen M A, Schnall M D, and Yodh A G. *Tissue-type image segmentation in optical mammography with population-derived probability functions: a step towards optical computer aided diagnosis.* In *SPIE Photonics West*. San Jose, CA, 2009.

[343] Busch D R, Rajput A S, Durduran Turgut, Choe R, Zhao Z, Intes X, Nioka S, Chance B, Rosen M A, Schnall M D, and Yodh A G. *A hybrid dynamical diffuse optical tomography and mri mammography instrument.* In *SPIE Photonics West*. San Jose, CA, 2009.

[344] Choe R, Durduran T, Konecky S D, Corlu A, Lee K, Busch D R, and Yodh A G. *In-vivo breast cancer detection, characterization, and therapy monitoring using diffuse optical techniques: correlation with mri.* In *SPIE Photonics West*. San Jose, CA, 2009.

[345] Choe R, Durduran T, and Yodh A G. *Diffuse optical tomography and spectroscopy of disease in brain and breast.* In *The 4th Asian and Pacific Rim Symposium on Biophotonics*, volume 4, pages DOT–6. Jeju Island, Korea, 2009.

[346] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Busch D R, Czerniecki B J, Tchou J, Fraker D L, DeMichele A, Chance B, Putt M E, Schnall M D,

Rosen M A, and Yodh A G. *Differentiation of benign and malignant breast tumors by in-vivo three-dimensional parallel-plate diffuse optical tomography.* In *SPIE Photonics West*. San Jose, CA, 2009.

[347] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Busch D R, Pathak S, Rosen M A, Schnall M D, Czerniecki B J, Tchou J, Arridge S R, Schweiger M, Putt M E, Chance B, and Yodh A G. *Differentiation of benign and malignant breast lesions with 3-d diffuse optical tomography.* In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2009.

[348] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Busch D R, Pathak S, Rosen M A, Schnall M D, Czerniecki B J, Tchou J, Arridge S R, Schweiger M, Putt M E, Chance B, and Yodh A G. *Differentiation of benign and malignant breast lesions with 3D diffuse optical tomography.* In *European Conferences on Biomedical Optics*, volume 19th, page MO1. Munich, Germany, 2009.

[349] Cook N, Buckley E M, Turgut Durduran, Kim M N, Zhou C, Schultz S, Sehgal C, Arger P, Putt M, Licht D, Hurt H, and Yodh A. *Diffuse correlation spectroscopy reveals that cerebrovascular autoregulation is intact in preterm infants undergoing a postural challenge.* In *The 4th International Conference on Brain Monitoring and Neuroprotection in the Newborn*. 2009.

[350] Durduran T. *Diffuse optical monitors for bed-side monitoring of cerebral hemodynamics at the neuro-intensive care unit.* In *IEEE Photonics/LEOS Annual Meeting*. IEEE, Turkey, 2009.

[351] Durduran T. *Diffuse optics for clinical use: Research in icfo.* In *Workshop on Diffuse Optical Imaging*. Institute of Biomedical Engineering, Boğaziçi University, Istanbul, Turkey, 2009.

[352] Durduran T. *Hybrid near-infrared spectroscopic and diffuse correlation spectroscopic approach to measure tissue oxygen metabolism.* In *Departmental Seminar*. Institut Fresnel, Marseille, France, 2009.

[353] Durduran T. *Optical diffuse correlation spectroscopy (dcs); a new tool for bed-side monitoring.* In *105th ICB Seminar on Light and Optics in Medical Diagnosis*. International Centre of Biocybernetics, Warsaw, Polland, 2009.

[354] Durduran T, Buckley E M, Goff D A, Tang S J, Kim M N, Nicolson S C, Durning S M, Choe R, Putt M E, Wang J J, Detre J A, Yodh A G, and Licht D J. *Longitudinal monitoring of post-surgical dynamic autoregulation of neonates with congenital heart defects.* In *Optical Imaging of Brain Function, 446. WE-Heraeus Seminar*. Bad Honnef, Germany, 2009.

[355] Durduran T, Greenberg J H, Detre J A, and Yodh A G. *Development of an optical bed-side monitor of oxygen metabolism in neuro-intensive care.* In *4th European Molecular Imaging Meeting*, P-093. European Society for Molecular Imaging, ESMI, Barcelona, 2009.

[356] Durduran T, Greenberg J H, Detre J A, and Yodh A G. *Non-invasive measurement of cerebral autoregulation and oxygen metabolism at the intensive care unit.* In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2009.

[357] Durduran T, Kim M N, Buckley E M, Choe R, Zhou C, Yu G Y, and Yodh A G. *Validation of diffuse correlation spectroscopy for measurement of cerebral blood flow across spatial scales and against multiple modalities.* In *SPIE Photonics West*. San Jose, CA, 2009.

[358] Durduran T, Kim M N, Buckley E M, Minkoff D L, Greenberg J H, Detre J A, Licht D J, and Yodh A G. *Validation of cerebral blood flow measurements by diffuse correlation spectroscopy across spatial scales.* In *Optical Imaging of Brain Function, 446. WE-Heraeus Seminar.* Bad Honnef, Germany, 2009.

[359] Durduran T, Kim M N, Buckley E M, Zhou C, Yu G, Choe R, Durning S M, Mason S, Montenegro L M, Nicholson S C, Putt M E, Zimmerman R A, Wang J, Greenberg J H, Detre J A, Yodh A G, and Licht C J. *Cerebral oxygen metabolism (cmro2) reactivity to hypercapnia in neonates with severe congenital heart defects measured with diffuse optics.* In *BRAIN 09, International Society of Cerebral Blood Flow and Metabolism.* Chicago, USA, 2009.

[360] Durduran T and Yodh A G. *New, hybrid optical techniques to non-invasively measure oxygen metabolism.* In *TOPIM '09: Hot Topics in Molecular Imaging.* Les Houches, France, 2009.

[361] Edlow B, Kim M N, Durduran T, Buckley E M, Zhou C, Yu G, Putt M E, Yodh A G, Greenberg J H, and Detre J A. *The effect of healthy aging on cerebral and systemic hemodynamic responses to posture change.* In *BRAIN 09, International Society of Cerebral Blood Flow and Metabolism.* Chicago, USA, 2009.

[362] Kim M N, Durduran T, Frangos S, Buckley E M, Zhou C, Yu G, Moss H, Edlow B L, "Maloney-Wilensky" E, Detre J A, Greenberg J H, Kofke A W, Yodh A G, Grady S M, Wolf R L, and Levine J. *Diffuse optical measurements of cerebral blood flow and oxygenation in patients after traumatic brain injury or subarachnoid hemorrhage.* In *Inter-Institute Workshop on Optical Diagnostic and Biophotonic Methods from Bench to Bedside.* National Institutes of Health, Bethesda, MD, 2009.

[363] Kim M N, Durduran T, Frangos S, Edlow B L, Buckley E M, Moss H, Zhou C, Yu G, Choe R, Maloney-Wilensky E, Wolf R L, Woo J H, Grady M S, Greenberg J H, Levine J, Yodh A G, Detre J A, and Kofke W A. *Non-invasive measurements of cerebral blood flow with diffuse optics in patients after severe head injury.* In *BRAIN 09, International Society of Cerebral Blood Flow and Metabolism.* Chicago, USA, 2009.

[364] Kim M N, Durduran T, Frangos S, Edlow B L, Buckley E M, Moss H, Zhou C, Yu G, Choe R, Maloney-Wilensky E, Wolf R L, Woo J H, Grady S M, Greenberg J H, Levine J, Detre J A, Kofke W A, and Yodh A G. *Measurements of cerebral blood flow and blood oxygenation with diffuse optics in patients after severe brain injury.* In *European Conferences on Biomedical Optics, OSA.* Munich, Germany, 2009.

[365] Liu S K, Choe R, Durduran T, Sunar U, Kim S, Poptani H, Kilger A, Quon H, Chance B, and Yodh A G. *Noninvasive diffuse optical measurements of hemodynamics in head and neck tumors.* In *SPIE Photonics West.* San Jose, CA, 2009.

[366] Zhou C, Euckner S A, Durduran T, Yu G, Ralston J, Friess S H, Ichord R N, Margulies S S, and Yodh A G. *Diffuse optical monitoring of cerebral hemodynamics in piglet with traumatic brain injury.* In *BRAIN 09, International Society of Cerebral Blood Flow and Metabolism.* Chicago, USA, 2009.

[367] Zirak P, Süzen M, Weigel U, and Durduran T. *NIRS-DCS hybrid optical monitoring of cerebrovascular reserve and reactivity in acute ischemic stroke patients.* In *Optical Imaging of Brain Function, 446. WE-Heraeus Seminar.* Bad Honnef, Germany, 2009.

[368] Zirak P, Suzen M, Weigel U, Durduran T, Licht D J, Greenberg J H, Detre J A, and Yodh A G. *Non-invasive measurement of cerebral autoregulation and oxygen metabolism at the intensive care unit.* In *Photonics4Life meeting.* Photonics4Life, Barcelona, Spain, 2009.

[369] Buckley E M, Kim M N, Durduran T, Yu G, Choe R, Zhou C, Shultz S, Sehgal C M, Licht D J, Arger P H, Hurt H H, Cook N M, and Yodh A G. *Monitoring hemodynamic changes in preterm infants using optical spectroscopies and doppler ultrasound.* In *OSA Biomedicals Topicals*, page CN279. St Petersburg, FL, 2008.

[370] Busch D R, Zhou C, Yu G, Choe R, Durduran T, Rosen M A, Schnall M D, and Yodh A G. *Effects of compression on transillumination measurements of blood flow and chromophore concentrations in human breast tissue.* In *OSA Biomedicals Topicals*, page CN401. St Petersburg, FL, 2008.

[371] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Busch D R, Czerniecki B J, Tchou J, Fraker D L, DeMichele A, Chance B, Putt M E, Schnall M D, Rosen M A, and Yodh A G. *Differentiation of benign and malignant breast lesions by in-vivo three-dimensional diffuse optical tomography.* In *San Antonio Breast Cancer Symposium*, page 805. (San Antonio, TX), 2008.

[372] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Zhou C, Czerniecki B J, Tchou J C, DeMichele A, Rosen M A, Schnall M D, Chance B, and Yodh A G. *In vivo breast cancer characterization and therapy monitoring using diffuse optical methods based on endogenous optical/exogenous fluorescence contrast.* In *OSA Biomedicals Topicals*, page CN393. St Petersburg, FL, 2008.

[373] Durduran T, Kim M N, Buckley E M, Edlow B L, Moss H, Zhou C, Yu G, Choe R, Frangos S K, Wilensky-Mahoney E, Kofke A, Levine J M, Wolf R L, Woo J, Kasner S E, Cucchiara B L, Putt M E, Yodh A G, Greenberg J H, and Detre J A. *Bedside monitoring of cerebral hemodynamics for stroke and neurocritical care using novel diffuse optical probes.* In *Annual Meeting of the American Neurological Association*, page Abstract 298. American Neurological Association, Salt Lake City, Utah, 2008.

[374] Durduran T, Kim M N, Buckley E M, Zhou C, Yu G, Choe R, Greenberg J H, Detre J A, and Yodh A G. *Diffuse optical monitoring of cerebral oxygen metabolism at the bed-side in cerebrovascular disorders.* In *OSA: Annual Meeting, Frontiers in Optics 2008.* Rochester, NY, 2008.

[375] Durduran T, Zhou C, Edlow B L, Yu G, Choe R, Kim M N, Cucchiara B L, Putt M E, Shah Q, Kasner S E, Greenberg J H, Detre J A, and Yodh A G. *Non-invasive measurement of cerebral autoregulation of acute ischemic stroke patients with diffuse correlation/wave spectroscopy.* In *OSA Biomedicals Topicals*, page CN208. St Petersburg, FL, 2008.

[376] Durduran T, Zhou C, Kim M N, Buckley E M, Yu G, Choe R, Durning S M, Mason S, Montenegro L M, Nicholson S C, Zimmerman R A, Wang J J, Detre J A, Yodh A G, and Licht D J. *Validation of diffuse correlation spectroscopy for non-invasive, continuous monitoring of cbf in neonates with congenital heart defects.* In *Annual Meeting of the American Neurological*

Association, page Abstract 299. American Neurological Association, Salt Lake City, Utah, 2008.

[377] Kim M N, Durduran T, Edlow B L, Zhou C, Yu G, Buckley E M, Yodh A G, Greenberg J H, and Detre J A. *Healthy aging alters the hemodynamic response to orthostatic stress*. In *International Stroke Conference*, volume P599. American Heart Association, 2008.

[378] Kim M N, Durduran T, Frangos S, Buckley E M, Zhou C, Yu G, Edlow B L, Mahoney-Wilensky E, Grady S M, Levine J, Detre J A, Greenberg J H, and Yodh A G. *Diffuse optical measurements of cerebral blood flow and oxygenation in patients after traumatic brain injury or subarachnoid hemhorrage*. In *OSA Biomedicals Topicals*, page CN237. St Petersburg, FL, 2008.

[379] Kim M N, Durduran T, Frangos S, Buckley E M, Zhou C, Yu G, Moss H, Edlow B L, Maloney-Wilensky E, Detre J A, Greenberg J H, Kofke W A, Yodh A G, Grady M S, Woo J H, Wolf R L, and Levine J. *Validation of diffuse correlation spectroscopy against xenon ctcbf in humans after traumatic brain injury or subarachnoid hemorrhage*. In *Neurocritical Care Society Annual Meeting*. Miami, FL, 2008.

[380] Luckl J, Zhou C, Durduran T, Yodh A G, and Greenberg J H. *Simultaneous monitoring of peri-infarct flow transients with laser speckle and laser doppler during middle cerebral artery occlusion in rat*. In *International Stroke Conference*, volume P382. American Heart Association, 2008.

[381] Shih-Ki L, Choe R, Konecky S D, Durduran T, Sunar U, Kilger A, Quon H, Chance B, and Yodh A G. *Noninvasive diffuse optical measurement for monitoring hemodynamic response of radiation treatment in head and neck tumors*. In *OSA Biomedicals Topicals*, page CN348. St Petersburg, FL, 2008.

[382] Xing X, Mohler III E R, Durduran T, Zhou C, Lech G, Yodh A G, and Yu G. *Diffuse light quantification of peripheral artery disease (pad)*. In *OSA Biomedicals Topicals*, page CN273. St Petersburg, FL, 2008.

[383] Yu G, Ahn C, Xing X, Durduran T, Mohler III E R, Erdman F, Yodh A G, and Salcido R. *Heat and cold on the back modulate blood flow in distant skeletal muscles*. In *55th annual meeting of American College of Sports and Medicine (ACSM)*. 2008.

[384] Yu G, Busch T M, Durduran T, Zhou C, Xing X, Zhu T, Finlay J C, Malkowicz S B, Hahn S M, and Yodh A G. *Blood flow responses to photodynamic therapy with two photosensitizers: Photofrin and motexafin lutetium (mlu)*. In *OSA Biomedicals Topicals*, page CN244. St Petersburg, FL, 2008.

[385] Choe R, Konecky S D, Corlu A, Lee K, Zhou C, Durduran T, Rosen M A, Schnall M D, Czerniecki B J, Tchou J C, Chance B, and Yodh A G. *Breast cancer detection, characterization, and therapy monitoring using diffuse optical methods*. In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2007.

[386] Durduran T, Zhou C, Edlow B, Choe R, Yu G, Kasner S, Cucchiara B, Greenberg J H, Detre J A, and Yodh A G. *Diffuse correlation/wave spectroscopy for measurement of cerebral blood flow at the intensive care unit*. In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2007.

[387] Durduran T, Zhou C, Edlow B L, Yu G, Choe R, Cucchiara B L, Putt M, Shah Q, Kasner S E, Yodh A G, Greenberg J H, and Detre J A. *CBF during changes in head of bed position in acute, ischemic stroke monitored at the bed-side: hemispheric effect of infarct.* In *BRAIN 07, International Society of Cerebral Blood Flow and Metabolism.* Osaka, Japan, 2007.

[388] Durduran T, Zhou C, Edlow B L, Yu G, Kim M, Choe R, Licht D J, Greenberg J H, Detre J A, and Yodh A G. *Transcranial optical measurement of cerebral blood flow at the neuro-intensive care.* In *Engineering Conferences International.* Florida, USA, 2007.

[389] Durduran T, Zhou C, Yu G, Choe R, Silvestre D, Wang J J, Nicolson S, Montenegro L, Detre J A, Yodh A G, and Licht D. *Preoperative measurement of co2 reactivity and cerebral autoregulation in neonates with severe congenital heart defects.* In *SPIE Photonics West.* San Jose, CA, 2007.

[390] Durduran T, Zhou C, Yu G, Edlow B, Choe R, Shah Q, Kasner S E, Cucchiara B L, Yodh A G, Greenberg J H, and Detre J A. *Bed-side monitoring of cerebral blood flow (CBF) in acute stroke patients during changes in head of bed position.* In *International Stroke Conference*, volume P37. American Heart Association, Dallas TX, San Francisco, 2007.

[391] G Y, Durduran T, Zhou C, Wang H W, Putt M, Busch T M, and Yodh A G. *Prediction of treatment efficacy by hemodynamic responses to PDT in RIF tumors.* In *11 th World Congress of the International Photodynamic Association (IPA).* International Photodynamic Association, Shanghai, China, 2007.

[392] G Y, Durduran T, Zhou C, Zhu T C, Finlay J C, Busch T M, Malkowicz S B, Hahn S M, Friedberg S J, and Yodh A G. *Optical measurements of tissue blood flow and oxygenation during clinical prostate and pleural photodynamic therapy.* In *11 th World Congress of the International Photodynamic Association (IPA).* International Photodynamic Association, Shanghai, China, 2007.

[393] Lee K, Konecky S D, Corlu A, Durduran T, and Yodh A G. *Transmission rf diffuse optical tomography instrument for human breast imaging.* In *European Conferences on Biomedical Optics, OSA.* Munich, Germany, 2007.

[394] Sia R, Stapels C J, Johnson E B, Durduran T, Zhou C, Yu G, Yodh A G, Augustine F L, and Christian J F. *Geiger photodiodes for diffuse optical correlation tomography.* In *Nuclear Science Symposium Conference Record, 2007. NSS '07. IEEE*, volume 6, pages 4062–4067. 2007. ISSN 1082-3654. doi:10.1109/NSSMIC.2007.4437020.

[395] Sunar U, Kim S, Choe R, Poptani H, Quon H, Durduran T, Zhou C, Yu G, Nioka S, Chance B, and Yodh A G. *Early prediction of treatment response of head and neck cancers with diffuse optical spectroscopies.* In *European Conferences on Biomedical Optics, OSA.* Munich, Germany, 2007.

[396] Sunar U, Makonnen S, Zhou C, Wang H W, Yu G, Durduran T, Lee W M F, and Yodh A G. *Monitoring hemodynamic responses to antivascular therapy and ionizing radiation assessed by diffuse optical spectroscopies.* In *European Conferences on Biomedical Optics, OSA.* Munich, Germany, 2007.

[397] Xing X, Mohler E I, Zhou C, Durduran T, Lech G M, Shi Y, Wilensky R, Moore J, Yodh A G, and Yu G. *Hemodynamic changes in diabetic pig muscle.* In *SPIE Photonics West.* San Jose, CA, 2007.

[398] Xing X, Mohler III E R, Zhou C, Durduran T, Lech G M, Shi Y, Wilensky R, Moore J, Yodh A G, and Yu G. *Hemodynamic changes in diabetic pig muscle.* In *18th Annual Scientific Sessions.* Society for Vascular Medicine and Biology, 2007.

[399] Yu G, Durduran T, Zhou C, Lech G, Choe R, Mohler III E R, and Yodh A G. *Assessment of muscle vascular disease with diffuse light.* In *European Conferences on Biomedical Optics, OSA.* Munich, Germany, 2007.

[400] Yu G, Durduran T, Zhou C, Zhu T C, Finlay J C, Busch T M, Malkowicz S B, Hahn S M, Friedberg S J, and Yodh A G. *Diffuse optical measurements of tissue blood flow and oxygenation during clinical prostate and pleural photodynamic therapy.* In *SPIE Photonics West.* San Jose, CA, 2007.

[401] Yu G, Floyd T F, Durduran T, Zhou C, Wang J J, Murphy J M, Mohler E M I, and Yodh A G. *Concurrent diffuse optical and mri measurement of blood flow in human skeletal muscle.* In *SPIE Photonics West.* San Jose, CA, 2007.

[402] Yu G, Floyd T M, Durduran T, Zhou C, Wang J J, Detre J A, and Yodh A G. *Validation of diffuse correlation spectroscopy for muscle blood flow with concurrent arterial-spin-labeling perfusion MRI.* In *54th annual meeting of American College of Sports and Medicine (ACSM).* 2007.

[403] Zhou C, Durduran T, Szabados T, Yu G Q, Choe R, Xing X M, Greenberg J H, Durian D J, and Yodh A G. *A signal-to-noise analysis for laser speckle contrast imaging.* In *SPIE Photonics West.* San Jose, CA, 2007.

[404] Zhou C, Eucker S, Durduran T, Yu G Q, Ralston J, Friess S, Ichord R, Margulies S, and Yodh A G. *Diffuse optical monitoring of hemodynamic changes in neonatal piglet brain due to head trauma injury.* In *SPIE Photonics West.* San Jose, CA, 2007.

[405] Zhou C, Shimazu T, Durduran T, Kimberg D Y, Yu G, Chen X H, Detre J A, Yodh A G, and Greenberg J H. *Acute functional recovery of cerebral blood flow following forebrain ischemia in the rat.* In *BRAIN 07, International Society of Cerebral Blood Flow and Metabolism.* Osaka, Japan, 2007.

[406] Zhou C, Shimazu T, Durduran T, Kimberg D Y, Yu G, Chen X H, Detre J A, Yodh A G, and Greenberg J H. *General linear modeling of speckle contrast imaging during functional activation following transient ischemia in the rat.* In *13th Annual Meeting of the Organization for Human Brain Mapping.* Chicago, USA, 2007, [Poster].

[407] Choe R, Konecky S D, Corlu A, Lee K, Durduran T, Chance B, and Yodh A G. *Breast cancer detection and characterization using 3D diffuse optical tomography.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[408] Choe R, Zhou C, Durduran T, Yu G, Shah N, Durkin A, Cerussi A, Tromberg B J, and Yodh A G. *Neoadjuvant chemotherapy monitoring with diffuse optical measurement of blood flow in breast tumors.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[409] Corlu A, Durduran T, Choe R, Lee K, Schweiger M, Arridge S R, and Yodh A G. *White light diffuse optical tomography and validation of optimum wavelengths for cw dot.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[410] Durduran T. *Functional imaging of blood flow in brain and in tumors during therapy.* In *OSA: Annual Meeting, Frontiers in Optics 2006.* Rochester, NY, 2006.

[411] Durduran T. *Functional imaging of blood flow in brain and in tumors during therapy.* In *Natural Sciences and Mathematics, Departmental Colloquium.* Richard Stockton College of New Jersey, NJ, 2006.

[412] Durduran T. *Optical measurement of cerebral blood flow, oxygenation and metabolism: From benchtop to the clinic.* In *Gordon Research Conferences, Lasers in Medicine and Biology.* Plymouth,NH, 2006.

[413] Durduran T. *Optical methods for tissue hemo-dynamics and metabolism.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[414] Durduran T, Zhou C, Yu G, Hoang A M, Tang K Z, Detre J A, Greenberg J H, and Yodh A G. *Diffuse optical measurement of local cerebral blood flow, blood oxygenation and metabolism during cognitive tasks.* In *12th Annual Meeting of the Organization for Human Brain Mapping.* Florence, Italy, 2006.

[415] Eucker S, Naim M, Smith C, Friess S, Ralston J, Zhou C, Durduran T, Yu G, Yodh A G, and Margulies S. *Hypertonic saline increases cerebral blood flow after traumatic brain injury.* In *J Neurotrauma*, volume 23:6, page 1024. 2006.

[416] Sunar A, Quon H, Zhang J, Du J, Durduran T, Zhou C, Yu G, Kilger A, Lustig R, Loevner L, Nioka S, Chance B, and Yodh A G. *Changes in optical blood flow and oxygenation of head and neck tumors during chemo-radiation therapy.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[417] Sunar U, Kim S, Choe R, Poptani H, Quon H, Durduran T, Zhou C, Yu G, Kilger A, Lustig B, Loevner L, Nioka S, Chance B, Chance B, and Yodh A G. *Early metabolic responses of head and neck tumors to chemo-radiation therapy assessed by diffuse optical spectroscopy: Case study with MRI.* In *World Congress on Medical Physics and Biomedical Engineering 2006(WC 2006).* 2006.

[418] Sunar U, Makonnen S, Wang H W, Durduran T, Zhou C, Yu G, Lee W M F, and Yodh A G. *Non-invasive, continuous monitoring of a vascular targeting drug by diffuse optical blood flow and blood oxygenation measurements.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[419] Sunar U, Zhou C, Durduran T, Yu G, Yodh A G, and Lee I. *Acute changes of tumor oxidative metabolism, permeability, and energy status in response to a novel chemotherapy drug.* In *World Congress on Medical Physics and Biomedical Engineering 2006(WC 2006).* 2006.

[420] Sunar U, Zhou C, Durduran T, Yu G, Yodh A G, and Lee I. *Ranpirnase enhances efficacy of radiation on A549 human lung cancer xenografts of nude mice assessed by diffuse optical spectroscopies.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[421] Yu G, Durduran T, Zhou C, Finlay J C, Zhu T C, Busch T M, Malkowicz S B, Hahn S M, and Yodh A G. *Diffuse optical measurements of tissue blood flow and oxygenation during interstitial prostate PDT.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[422] Yu G, Durduran T, Zhou C, Lech G, Mohler III E R, and Yodh A G. *Assessment of muscle vascular disease with diffuse light.* In *World Congress on Medical Physics and Biomedical Engineering 2006(WC 2006).* 2006.

[423] Yu G, Durduran T, Zhou C, Lech G, Mohler III E R, and Yodh A G. *Assessment of muscle vascular disease with diffuse light.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[424] Yu G, Durduran T, Zhou C, Lech G, Mohler III E R, and Yodh A G. *Diffuse light quantification of blood flow, oxygenation and metabolism in skeletal muscle.* In *53th annual meeting of American College of Sports and Medicine (ACSM).* 2006.

[425] Yu G, Durduran T, Zhou C, Zhu T, Finlay J, Busch T M, Malkowicz S B, Hahn S, and Yodh A G. *Real-time diffuse optical measurement of hemodynamic responses to pdt in human prostate.* In *World Congress on Medical Physics and Biomedical Engineering 2006(WC 2006).* 2006.

[426] Yu G, Floyd T F, Durduran T, Zhou C, Wang J M J Jand Murphy, Mohler III E R, and Yodh A G. *Concurrent optical-MRI measurement of limb blood flow/perfusion.* In *17th Annual Scientific Sessions.* Society for Vascular Medicine and Biology, 2006.

[427] Zhou C, Durduran T, Szabados T, Pascual O, Yu G, Yodh A G, Haydon P G, and Greenberg J H. *Optical imaging of cerebral hemodynamic response during vibrissae stimulation in transgenic mice stroke models.* In *Multi-modal functional neuroimaging meeting.* Martinos Center, MGH, Cortona, Italy, 2006.

[428] Zhou C, Durduran T, Szabados T, Yu G, Choe R, Xing X, Greenberg J H, Durian D J, and Yodh A G. *Noise model for laser speckle contrast imaging.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[429] Zhou C, Durduran T, Yu G, Eucker S, Friess S, Ichor R, Margulies S, and Yodh A G. *Diffuse optical monitoring of hemodynamic changes in piglet brain with head trauma injury.* In *World Congress on Medical Physics and Biomedical Engineering 2006(WC 2006).* 2006.

[430] Zhou C, Durduran T, Yu G, Eucker S, Friess S, Ichord R, Margulies S, and Yodh A G. *Real-time monitoring of hemodynamic changes in neonatal pig brain with head trauma injury.* In *OSA Biomedicals Topicals.* Fort Lauderdale, FL, 2006.

[431] Choe R, Corlu A, Lee K, Durduran T, Grosicka-Koptyra M, Konecky S D, Schnall M D, Fraker D L, Czerniecke B J, Arridge S R, Chance B, and Yodh A G. *Diffuse optical tomography of breast cancer: Search for cancer contrast.* In *NTROI Retreat.* Irvine, CA, 2005.

[432] Choe R, Corlu A, Lee K, Durduran T, Konecky S D, Chance B, and Yodh A G. *Diffuse optical tomography of breast cancer during neoadjuvant chemotherapy.* In *European Conferences on Biomedical Optics, OSA.* Munich, Germany, 2005.

[433] Choe R, Corlu A, Lee K, Konecky S D, Durduran T, Chance B, and Yodh A G. *3D CW diffuse optical tomography of breast cancer with* a priori *spectral method.* In *SPIE Photonics West.* San Jose, CA, 2005.

[434] Corlu A, Durduran T, Choe R, Lee K, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Diffuse optical tomography with spectral*

constraints. In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2005.

[435] Corlu A, Durduran T, Choe R, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Diffuse optical tomography with spectral constraints*. In *SPIE Photonics West*. San Jose, CA, 2005.

[436] Durduran T. *Diffuse correlation/wave spectroscopy: A tutorial*. In *Biomedical Optics Series*. Physikalisch-Technische Bundesanstalt, Berlin, Germany, 2005.

[437] Durduran T. *Optical measurement of cerebral blood flow, oxygenation and metabolism*. In *Berlin Neuro-Imaging Center Talks*. Charite, Berlin, Germany, 2005.

[438] Durduran T, Choe R, Zhou C, Yu G, Sunar U, and Yodh A G. *Optical measurement of blood flow in cancers*. In *NTROI Retreat*. Irvine, CA, 2005.

[439] Durduran T, Shimazu T, Yu G, Burnett M, Zhou C, Detre J A, Greenberg J H, and Yodh A G. *Characterization of the spatio-temporal behavior of cerebral blood flow using laser speckle flowmetry during electrical and mechanical stimulation of the forepaw and whiskers and during transient forebrain ischemia*. In *SPIE Photonics West*. San Jose, CA, 2005.

[440] Durduran T, Yu G, Burnett M G, Zhou C, Wang J, Detre J A, Greenberg J H, and Yodh A G. *Diffuse optical measurement of cerebral oxygenation, flow and oxygen metabolism in adult human brain*. In *SPIE Photonics West*. San Jose, CA, 2005.

[441] Durduran T, Yu G, Burnett M G, Zhou C, Wang J, Detre J A, Greenberg J H, and Yodh A G. *Diffuse optical measurements of cerebral blood flow, oxygenation and oxygen metabolism in adult brain*. In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2005.

[442] Durduran T, Yu G, Burnett M G, Zhou C, Wang J, Detre J A, Yodh A G, and Greenberg J H. *Diffuse optical measurement of cerebral metabolic rate of oxygen in adult brain*. In *BRAIN 05, International Society of Cerebral Blood Flow and Metabolism*. Amsterdam, NL, 2005.

[443] Durduran T, Yu G, Zhou C, Furuya D, Culver J P, Yodh A G, and Greenberg J H. *Development of diffuse correlation techniques for non-invasive measurement of cerebral blood flow and metabolism in rats*. In *BRAIN 05, International Society of Cerebral Blood Flow and Metabolism*. Amsterdam, NL, 2005.

[444] Durduran T, Yu G, Zhou C, Furuya D, Detre J A, Greenberg J H, and Yodh A G. *Three dimensional imaging of oxygen metabolism in rats during cortical spreading depression*. In *SPIE Photonics West*. San Jose, CA, 2005.

[445] Eucker S, Ichord R, Friess S, Zhou C, Durduran T, Yu G, Yodh A G, and Margulies S. *Direction dependence of rotational accelerational injury on cerebrovascular hemodynamics response depends on direction of angular acceleration*. In *J Neurotrauma*, volume 22:10, page 1254. 2005.

[446] Konecky S D, Choe R, Corlu A, Lee K, Durduran T, and Yodh A G. *Average optical properties of healthy human breast*. In *NTROI Retreat*. Irvine, CA, 2005.

[447] Lee K, Choe R, Corlu A, Konecky S D, T D, and Yodh A G. *Diffuse light propagation in parallel place CW DOT instrument with non-contact detectors.* In *SPIE Photonics West*. San Jose, CA, 2005.

[448] Sunar U, Quan H, Zhang J, Du J, Durduran T, Zhou C, Yu G, Kilger A, Lustig R, Loevner L, Nioka S, Yodh A G, and Chance B. *Monitoring of radiation therapy response of head and neck tumors by non-invasive optical blood flow measurements.* In *European Conferences on Biomedical Optics, OSA*. Munich, Germany, 2005.

[449] Yu G, Durduran T, Lech G, Zhou C, Chance B, Mohler E R, and Yodh A G. *Time-dependent blood flow and oxygenation in human skeletal muscles.* In *SPIE Photonics West*. San Jose, CA, 2005.

[450] Yu G, Durduran T, Zhou C, Lech G, Mohler E R I, and Yodh A G. *Assessment of muscle vascular disease with diffuse light.* In *Workshop on Investigation of Human Muscle Function In Vivo*. Nashville, TN, 2005.

[451] Yu G, Floyd T F, Durduran T, Zhou C, Murphy J M, and Yodh A G. *Concurrent optical-MRI measurement of limb blood flow/perfusion.* In *Workshop on Investigation of Human Muscle Function In Vivo*. Nashville, TN, 2005.

[452] Yu G, Mohler E R I, Durduran T, Zhou C, Lech G, and Yodh A G. *Simultaneous quantification of pulmonary and leg muscle VO2 during maximal exercise in humans.* In *Society For Vascular Medicine and Biology*. Chicago, 2005.

[453] Yu G, Zhou C, Durduran T, Lech G, Mohler E R I, and Yodh A G. *Simultaneous quantification of pulmonary and leg muscle VO2 during maximal exercise in humans.* In *Workshop on Investigation of Human Muscle Function In Vivo*. Nashville, TN, 2005.

[454] Zhou C, Durduran T, Yu G, and Yodh A G. *Optimization of 3D blood flow imaging by diffuse correlation tomography: Signal-to-noise analysis.* In *SPIE Photonics West*. San Jose, CA, 2005.

[455] Burnett M G, Durduran T, Yu G, Zhou C, Detre J A, Greenberg J H, and Yodh A G. *A novel bedside instrument for non-invasive measurement of cerebral hemodynamics: Development and results of human testing during cortical sensorimotor activation.* In *Congress of Neurological Surgeons*. San Francisco, CA, 2004.

[456] Choe R, Corlu A, Lee K, Durduran T, Chance B, and Yodh A G. In Vivo *three-dimensional multi-spectral diffuse optical tomography of breast cancer.* In *OSA Biomedicals Topicals*. Miami, FL, 2004.

[457] Choe R, Corlu A, Lee K, Konecy S D, Durduran T, Chance B, and Yodh A G. *3D multi-spectral cw diffuse optical tomography of breast.* In *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at NIH*. Bethesda, MD, 2004.

[458] Choe R, Durduran T, Yu G, Nijland M J M, Chance B, Yodh A G, and Ramanujam N. *Transabdominal near-infrared fetal brain oximetry.* In *OSA Technical Digest*, page FB4. 2004.

[459] Corlu A, Choe R, Durduran T, Lee K, Konecy S D, and Yodh A G. *Regularization of diffuse optical tomography images by envelope guided conjugate gradients.* In *OSA Biomedicals Topicals*. Miami, FL, 2004.

[460] Corlu A, Durduran T, Choe R, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Optimum wavelengths in continuous-wave multi-spectral diffuse optical tomography.* In *OSA Biomedicals Topicals*. Miami, FL, 2004.

[461] Corlu A, Durduran T, Choe R, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Spectral method and wavelength optimization in continuous-wave diffuse optical tomography.* In *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at NIH*. Bethesda, MD, 2004.

[462] Durduran T. *Non-invasive measurements of tissue hemodynamics with diffuse light.* In *McNair Scholars Program Speaker Series*. University of Alabama, Birmingham, AL, 2004.

[463] Durduran T. *Optical methods for imaging/spectroscopy of cerebral hemodynamics: From small animals to adult brain.* In *Seminar Series at Photon Migration Imaging Laboratory at the MGH/MIT/HMS*. Massachusetts General Hospital, MA, 2004.

[464] Durduran T, Yu G, Burnett M G, Zhou C, Detre J A, Greenberg J H, and Yodh A G. *Hybrid diffuse optical measurements of oxygen metabolism in human brain during sensorimotor stimulus.* In *OSA Tecnical Digest*, page WE4. 2004.

[465] Durduran T, Yu G, Burnett M G, Zhou C, Furuya D, Detre J A, Greenberg J H, and Yodh A G. *Spatio-temporal quantification of cerebral blood flow during forepaw stimulation of the rat using laser speckle flowmetry.* In *OSA Technical Digest*, page FE4. 2004.

[466] Lee K, Choe R, Corlu A, Konecky S D, Durduran T, and Yodh A G. *Artifact reduction in CW transmission diffuse optical tomography.* In *OSA Biomedical Topicals*. 2004.

[467] Shimazu T, Durduran T, Burnett M G, Yu G, Zhou C, Yodh A G, Detre J A, and Greenberg J H. *Acute recovery of functional activation following forebrain ischemia in the rat: A laser speckle study.* In *Society of Neuroscience 34th Annual Meeting*. San Diego, CA, 2004.

[468] Sunar U, Zhang J, Du J, Durduran T, Zhou C, Yu G, Kilger A, Quon H, Lustig R, Loevner L, Nioka S, Pourrezaei K, Yodh A G, and Chance B. *Clinical responses of head and neck tumors to radiation therapy by NIR spectroscopy.* In *OSA Technical Digest*, page FB7. 2004.

[469] Yu G, Durduran T, Lech G, Zhou C, Chance B, Mohler E M, and G Y A. *Noninvasive quantification of oxidative metabolism in human skeletal muscle using hybrid near-infrared diffuse optical spectroscopies.* In *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at NIH*. Bethesda, MD, 2004.

[470] Yu G, Durduran T, Lech G, Zhou C, Chance B, Mohler E R, and Yodh A G. *Noninvasive quantification of oxidative metabolism in human skeletal muscle using hybrid near-infrared diffuse optical spectroscopies.* In *Society of Vascular Medicine and Biology 15th Annual Meeting*. Anaheim, CA, 2004.

[471] Yu G, Durduran T, Lech G, Zhou C, Chance B, and Yodh A G. *Non-invasive measurements of deep tissue hemodynamics in human skeletal muscle.* In *OSA Technical Digest*, page SH1. 2004.

[472] Yu G, Durduran T, Zhou C, Finlay J, Zhu T C, Hahn S M, and Yodh A G. *Real-time diffuse optical measurement of hemodynamic responses to pdt in*

human prostate. In *International Conference on Tumor Progression and Therapeutic Resistance*. Philadelphia, PA, 2004.

[473] Yu G, Durduran T, Zhou C, Putt M, Yodh A G, and Busch T M. *Prediction of treatment efficacy by blood flow responses to PDT in RIF tumors*. In *OSA Technical Digest*, page WC5. 2004.

[474] Yu G, Durduran T, Zhou C, Wang H W, Finlay J, Zhu T C, Hahn S M, Yodh A G, and Busch T M. *Hemodynamic responses to PDT in RIF tumors and human prostate*. In *32nd Annual Meeting of the American Society of Photobiology (ASP*. Seattle, WA, 2004.

[475] Yu G, Durduran T, Zhou C, Wang H W, Putt M, Busch T M, and G Y A. *Prediction of treatment efficacy by hemodynamic responses to PDT in RIF tumors*. In *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at NIH*. Bethesda, MD, 2004.

[476] Yu G, Durduran T, Zhou C, Wang H W, Putt M, Yodh A G, and Busch T M. *Prediction of treatment efficacy by hemodynamic responses to PDT in RIF tumors*. In *32nd Annual Meeting of the American Society of Photobiology (ASP)*. Seattle, WA, 2004.

[477] Zhou C, Durduran T, Yu G, Burnett M G, Detre J A, Greenberg J H, and Yodh A G. *Diffuse optical measurements of oxygen metabolism in human brain during sensorimotor stimulus*. In *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at NIH*. Bethesda, MD, 2004.

[478] Zhou C, Durduran T, Yu G, Furuya D, Burnett M G, Greenberg J H, and Yodh A G. *3D in vivo flow imaging by diffuse correlation tomography*. In *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at NIH*. Bethesda, MD, 2004.

[479] Zhou C, Durduran T, Yu G, and Yodh A G. *Optimization of 3D flow imaging by diffuse correlation tomography*. In *OSA Technical Digest*, page WF29. 2004.

[480] Burnett M G, Durduran T, Yu G, Zhou C, Cardenas A, Yodh A G, Detre J A, and Greenberg J H. *Characterization of the activation-flow coupling response during forepaw stimulation in the rat using laser speckle contrast imaging*. In *BRAIN 03, International Society of Cerebral Blood Flow and Metabolism*. Calgary, Canada, 2003.

[481] Choe R, Corlu A, Culver J P, Durduran T, Chance B, and Yodh A G. *3-Dimensional diffuse optical tomography of in vivo human breasts in parallel plates geometry*. In *SPIE Photonics West*. 2003.

[482] Choe R, Durduran T, Yu G, Nijland M J, Nathanielsz P W, Chance B, Yodh A G, and Ramanujam N. *Non-invasive cerebral hemoglobin oxygenation quantification of fetal sheep under hypoxic stress in utero using frequency-domain diffuse optical two-layer model*. In *Engineering Conferences International*. Banff, Canada, 2003.

[483] Choe R, Durduran T, Yu G, Nijland M J, Nathanielsz P W, Chance B, Yodh A G, and Ramanujam N. *Non-invasive cerebral hemoglobin oxygenation quantification of fetal sheep under hypoxic stress in utero using frequency-domain diffuse optical two-layer model*. In *SPIE Photonics West*, volume 4955, pages 379–87. San Jose, CA, 2003.

[484] Corlu A, Durduran T, Choe R, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Spectral method and wavelength optimization in continuous-wave diffuse optical tomography.* In *United Engineering Foundation Conference*. Banff, Canada, 2003.

[485] Corlu A, Durduran T, Choe R, Schweiger M, Hillman E M C, Arridge S R, and Yodh A G. *Uniqueness and wavelength optimization in continous-wave multi-spectral diffuse optical tomography.* In *SPIE Photonics West*. 2003.

[486] Culver J P, Durduran T, Furuya D, Cheung C, Yodh A G, and Greenberg J H. *Diffuse optical tomography of hemodynamics and metabolism during focal ischemia in the rat.* In *BRAIN 03, International Society of Cerebral Blood Flow and Metabolism*. Calgary, Canada, 2003.

[487] Durduran T, Yu G, Burnett M G, Detre J A, Greenberg J H, and Yodh A G. *Diffuse optical measurements of hemodynamics in human brain.* In *Engineering Conferences International*. Banff, Canada, 2003.

[488] Durduran T, Yu G, Burnett M G, Furuya D, Detre J A, Greenberg J H, and Yodh A G. *Characterization of the activation-flow coupling response during forepaw stimulation in the rat using laser speckle contrast imaging.* In *SPIE Photonics West*. San Jose, CA, 2003.

[489] Durduran T, Yu G, Burnett M G, Furuya D, Detre J A, Greenberg J H, and Yodh A G. *Measuring oxygen metabolism during cortical spreading depression at altered ventilation states.* In *SPIE Photonics West*. San Jose, CA, 2003.

[490] Durduran T, Yu G, Furuya D, Greenberg J H, and Yodh A G. *Oxygen metabolism measured during cortical spreading depression at altered ventilation states.* In *Engineering Conferences International*. Banff, Canada, 2003.

[491] Durduran T, Yu G, Lech G, Zhou C, Chance B, and Yodh A G. *Noninvasive simultaneous measurements of tissue oxygenation and blood flow during exercise and cuff-ischemia in human calf muscle.* In *Proc. SPIE, Photonics West*, volume 4955, pages 447–53. San Jose, CA, 2003.

[492] Lee K, Choe R, Corlu A, Durduran T, Culver J P, Chance B, and Yodh A G. *3D image reconstruction from CW diffuse optical tomography in parallel transmission geometry: phantom studies.* In *SPIE Photonics West*, pages 4955–57. 2003.

[493] Yu G, Durduran T, Busch T M, Wang H W, Zhou C, Saunders H M, Seghal C M, and Yodh A G. *Hemodynamics in RIF tumors during and after PDT.* In *9th World congress of the International Photodynamic Association*. Miyazaki, Japan, 2003.

[494] Yu G, Durduran T, Busch T M, Zhou C, and Yodh A G. *Hemodynamic changes in RIF tumors during and after PDT.* In *Engineering Conferences International*. Banff, Canada, 2003.

[495] Yu G, Durduran T, Furuya D, Lech G, Zhou C, Chance B, Greenberg J H, and Yodh A G. *Hemodynamic measurements in rat brain and human muscle combining diffuse near-infrared absorption and correlation spectroscopies.* In *Proc. SPIE, Photonics West*, volume 4955, pages 164–74. San Jose, CA, 2003.

[496] Yu G, Durduran T, Lech G, Chance B, and Yodh A G. *Noninvasive hemodynamic measurements during exercise and cuff-ischemia in human calf muscle.* In *Engineering Conferences International.* Banff, Canada, 2003.

[497] Yu G, Durduran T, Wang H W, Zhou C, Saunders H M, Sehgal C M, Busch T M, and Yodh A G. *Non-invasive monitoring hemodynamic responses in RIF tumors during and after PDT.* In *Proc. SPIE, Photonics West*, volume 4952, pages 131–9. 2003.

[498] Zhou C, Durduran T, Yu G, and Yodh A G. *Optimizing image reconstruction of tissue blood flow by diffuse correlation tomography.* In *Photonics West, SPIE*, volume 4955-43, pages 287–95. San Jose, CA, 2003.

[499] Choe R, Corlu A, Culver J P, Durduran T, Giammarco J M, Chance B, and Yodh A G. *3D diffuse optical tomography of healthy and tumor breasts in parallel plane geometry.* In *Gordon Research Conferences*, volume Lasers in Medicine and Biology. Meriden, NH, 2002.

[500] Choe R, Corlu A, Durduran T, Giammarco J M, Culver J P, Zubkov L, Lee K, Chance B, and Yodh A G. *Breast tissue optical properties from diffuse optical tomography and spectroscopy.* In *Third Inter-Institute Workshop on Diagnostic Optical Imaging and Spectroscopy: The Clinical Adventure.* 2002.

[501] Choe R, Durduran T, Culver J P, Giammarco J M, Intes X, Chance B, and Yodh A G. *Bulk optical properties of normal breast with endogeneous and exogeneous contrast.* In *OSA Biomedical Topicals.* Miami, FL, 2002.

[502] Choe R, Giammarco J M, Corlu A, Durduran T, Culver J P, Chance B, and Yodh A G. *3D diffuse optical tomography of breast in parallel plane geometry.* In *Asian Symposium on Biomedical Optics and Photomedicine.* Sapporo, Japan, 2002.

[503] Corlu A, Choe R, Giammarco J M, Durduran T, Culver J P, Holboke M, Zubkov L, and Yodh A G. *Parallel, rapid diffuse optical tomography of breast.* In *Era of Hope Breast Cancer Research Meeting*, page Orlando. 2002.

[504] Corlu A, Durduran T, Giammarco J M, Holboke M J, and Yodh A G. *Tumor optical properties determined in curved, short source-detector separation geometries.* In *OSA Biomedical Topicals.* 2002.

[505] Culver J P, Durduran T, Cheung C, Furuya D, Greenberg J H, and Yodh A G. *Diffuse optical tomography of hemoglobin concentrations, and cerebral blood flow in rat brain during focal ischemia.* In *OSA Biomedical Topicals.* 2002.

[506] Durduran T. In Vivo *measurements of brain hemodynamics in rat brain using diffuse optical tomography and diffuse correlation spectroscopy.* In *March Meeting, American Physical Society.* Indianapolis, IN, 2002.

[507] Durduran T. *Optical tomography/spectroscopy of the breast, brain and muscle.* In *The Biomedical Optics Research Laboratory Seminar.* University College London, London, UK, 2002.

[508] Durduran T, Yu G, Culver J P, Cheung C, Furuya D, Greenberg J H, and Yodh A G. *Cerebral hemodynamics during cortical spreading depression at different states of brain oxygenation and ventilation.* In *OSA BIOMEDICAL Topicals*, pages 47–49. 2002.

[509] Durduran T, Yu G, Furuya D, Choe R, Culver J P, Cheung C, Greenberg J H, and Yodh A G. *Effects of duration, hypoxia and hypercapnia on rat*

brain hemodynamics during forepaw stimulation. In *OSA Biomedical Topicals.* Miami, FL, 2002.

[510] Durduran T, Yu G, Furuya D, Choe R, Culver J P, Cheung C, Greenberg J H, and Yodh A G. *In Vivo measurements of cerebral hemodynamics in rats using diffuse optical tomography and diffuse correlation spectroscopy: Instrumentation and results.* In *Gordon Research Conferences*, volume Lasers in Medicine and Biology. Meriden, NH, 2002.

[511] Greenberg J H, Furuya D, Durduran T, Yu G, Detre J A, and Yodh A G. *The effect of carbon dioxide on the hemodynamic and metabolic response to cortical spreading depression.* In *Society of Neuroscience, Annual Meeting*, volume 581.9. Washington, DC, 2002.

[512] Yodh A G, Cheung C, Culver J P, Durduran T, Greenberg J H, Takahashi K, and Furuya D. *In vivo diffuse optical spectroscopy and imaging of blood dynamics in brain.* In Chu S, Vuletic V, Kerman A, and Chin C, editors, *Proceedings of the XV International Conference on Laser Spectroscopy.* World Scientific, Snowbird, Utah, 2002.

[513] Yu G, Durduran T, Furuya D, Choe R, Greenberg J H, and Yodh A G. *Frequency domain diffuse optical multiplexing system for rapid hemodynamics.* In *OSA Biomedical Topicals.* Miami, FL, 2002.

[514] Yu G, Durduran T, Furuya D, Greenberg J H, and Yodh A G. *Diffuse optical multiplexing system in frequency domain for in vivo monitoring of rapid hemodynamics.* In *Twenty-First Southern Biomedical Engineering Conference: Biomedical Engineering: Recent Developments.* Washington, DC, 2002.

[515] Yu G, Durduran T, Furuya D, Greenberg J H, and Yodh A G. *Hemodynamic measurements in rat brain combining diffuse near-infrared absorption and correlation spectroscopies.* In *SPIE Progress in Biomedical Optics and Imaging*, pages 1–8. Shanghai,China, 2002.

[516] Choe R, Culver J P, Giammarco J M, Intes X, Durduran T, Zubkov L, Holboke M J, Nayeem A, Fraker D, Chance B, and Yodh A G. *Three dimensional diffuse optical tomography of breast based on intrinsic contrast using a RF/CW hybrid imaging system.* In *United Engineering Conferences.* Banff, Canada, 2001.

[517] Choe R, Culver J P, Giammarco J M, Nayeem A I, Intes X, Zubkov L, Durduran T, Holboke M J, Fraker D, Chance B, and Yodh A G. *3D hemoglobin concentration and oxygenation image reconstruction of breast based on intrinsic contrast using RF/CW hybrid system.* In *International Society On Oxygen Transport to Tissue.* Philadelphia, PA, 2001.

[518] Culver J P, Holboke M J, Ntziachristos V, Durduran T, Zubkov L, Choe R, Slemp A, Pattanayak D N, Chance B, and Yodh A G. *3D diffuse optical tomography of breast.* In *SPIE, Photonics West.* San Jose, CA, 2001.

[519] Durduran T. *In Vivo measurements of rat brain hemodynamics using diffuse optical tomography and diffuse correlation spectroscopy.* In *Chalk-Talk Series, Institute of Medicine and Engineering.* University of Pennsylvania, Philadelphia, 2001.

[520] Durduran T, Culver J P, Cheung C, Furuya D, Greenberg J H, and Yodh A G. *Diffuse optical mapping of oxygen saturation, blood volume and cerebral blood flow in vivo during ischemic stroke induced by MCA occlusion*

on rat brains. In *International Society On Oxygen Transport to Tissue*. Philadelphia, PA, 2001.

[521] Durduran T, Culver J P, Zubkov L, Choe R, Holboke M J, Chance B, and Yodh A G. *Bulk optical properties of normal female breasts measured with a frequency domain clinical imager*. In *SPIE, Photonics West*. San Jose, CA, 2001.

[522] Durduran T, Giammarco J, Culver J P, Choe R, Zubkov L, Holboke M J, Chance B, and Yodh A G. *Explicit inclusion of chromophore absorption and scattering spectra for diffuse optical imaging and spectroscopy*. In *Photonics West, SPIE*, volume 4250-85. San Jose, CA, 2001.

[523] Durduran T, Giammarco J M, Culver J P, Choe R, Zubkov L, Intes X, Nioka S, Chance B, and Yodh A G. *Utilizing a priori spectral knowledge in diffuse optical tomography*. In *United Engineering Conferences*. Banff, Canada, 2001.

[524] Culver J P, Durduran T, Zubkov L, Choe R, Holboke M, Pattanayak D N, Chance B, and Yodh A G. *3D diffuse optical tomography of breast*. In *Optical Imaging Workshop: From Bench to Bedside at NIH*. Bedhesta, MD, 2000.

[525] Durduran T, Culver J P, Zubkov L, Choe R, Holboke M, Pattanayak D N, Chance B, and Yodh A G. *Bulk optical properties of normal breasts and tissue phantoms obtained with clinical optical imager*. In *OSA Biomedical Topicals Meeting*. Miami, Florida, 2000.

[526] Ripoll J, Nieto-Vesperinas M, Ntziachristos V, Culver J P, Durduran T, Pattanayak D N, and Yodh A G. *Reflection and transmission coefficients for diffuse photon density waves in a diffuse/non-diffuse interface*. In *Advances in Optical Imaging and Photon Migration*, volume 21 of *OSA Trends in Optics and Photonics Series (TOPS)*. Miami, FL, 2000.

[527] Durduran T, Culver J P, Holboke M J, Li X D, Zubkov L, Chance B, Pattanayak D N, and Yodh A G. *Algorithms for 3D localization and imaging using near-field diffraction tomography with diffuse light/initial clinical applications*. In *Advances in Optics for Biotechnology, Medicine and Surgery*, volume United Engineering Foundation Meeting. Hawaii, 1999.

[528] Durduran T, Culver J P, Zubkov L, Choe R, Holboke M, Pattanayak D N, and Yodh A G. *Diffraction tomography in diffuse optical imaging: Filters and noise*. In *SPIE, Photonics West*, volume 3597-01. San Jose, CA, 1999.

[529] Durduran T, Culver J P, Zubkov L, Choe R, Holboke M J, Pattanayak D N, Chance B, and Yodh A G. *Bulk optical properties of normal breasts and tissue phantoms obtained with clinical optical imager*. In Gandjbakche A H, editor, *Proceedings of Inter-Institute Workshop on In Vivo Optical Imaging at the NIH*, pages 130–36. Bethesda, MD, 1999.

[530] Durduran T, Culver J P, Zubkov L, Holboke M J, Choe R, Li X D, Chance B, Pattanayak D N, and Yodh A G. *Diffraction tomographic methods and diffuse optical tomography: Choosing the right filter set*. In *Sinyal Isleme Uygulama Kurultayi (SIU'99), IEEE*. Ankara, Turkey, 1999.

[531] Durduran T, Zhu Q, Holboke M J, Chance B, and Yodh A G. *A novel imager combining diffuse optical tomography and ultrasound*. In *Sinyal Isleme Uygulama Kurultayi (SIU'99), IEEE*. Ankara, Turkey, 1999.

[532] Zhu Q, Durduran T, and Yodh A G. *A novel combined ultrasound and near-infrared diffusive light imaging using a two dimensional hybrid array.* In *SPIE Photonics West*. San Jose, CA, 1999.

[533] Zhu Q, Durduran T, and Yodh A G. *A novel combined ultrasound and near-infrared diffusive light imaging using a two dimensional hybrid array.* In *IEEE Ultrasounds Symp Proc*, pages 1681–84. 1998.

[534] Durduran T, Boas D A, Chance B, and Yodh A G. *Validity of the diffusion equation for small heterogeneities.* In Alfano R R and Fujimoto G, editors, *Advances in Optical Imaging and Photon Migration*, volume 2 of *OSA Trends in Optics and Photonics Series (TOPS)*, pages 60–63. Orlando, FL, 1996.

[535] Gregori-Pla C, Mesquita R C, Favilla C G, Busch D R, Blanco I, Avtzi S, Camps-Renom P, Martí Fàbregas J, Prats-Sànchez L, Martínez-Domeño A, , Delgado-Mederos R, Detre J A, Yodh A G, and Durduran Turgut. *A mild orthostatic challenge shows cerebral autoregulation impairment on the ipsilesional side of ischemic stroke patients.* In *fNIRS 2018*. Society for Functional Near-Infrared Spectroscopy, Tokyo, Japan.

[536] Yaqub M A, Zanoletti M, Cortese L, Karadeniz U, Ghouse A, Fischer J B, and Durduran T. *A miniaturized sensor board for enhanced laser safety and data quality assessment for functional near-infrared and diffuse correlation spectroscopy probes.* In *fNIRS 2022*, volume Poster. Society for functional near-infrared spectroscopy, Boston University, Boston, Massachusetts USA.

[537] Yaqub M A, Zanoletti M, Cortese L, Karadeniz U, Ghouse A, Fischer J B, and Durduran T. *A smart sensor board for improved laser-safety and data quality for diffuse correlation and near-infrared spectroscopy probes.* In *Physics in Biology and Medicine 2022*, volume Poster. Catalan Society of Physics of the Institute of Catalan Studies, Science and Technology Section of the Institute for Minorcan Studies, Institut Menorquí d'Estudis, Menorca, Spain.

[538] Yaqub M A, Zanoletti M, Cortese L, Karadeniz U, Ghouse A, W U M, Fischer J B, and Durduran T. *Integrated multi-sensor board for quality assurance and laser safety in near-infrared spectroscopies.* In *2022 Biophotonics Congress: Biomedical Optics*, volume Oral. OPTICA, Fort Lauderdale, Florida, USA.

[539] Yaqub M A, Zanoletti M, Cortese L, Karadeniz U, Ghouse A, W U M, Fischer J B, and Durduran T. *An integrated sensor platform for improved laser safety and data quality for functional near-infrared and diffuse correlation spectroscopy probes.* In *Society of fNIRS Virtual Conference 2021*, volume Poster. Society for functional near-infrared spectroscopy, Online.

[540] Zanoletti M, Amendola C, Buttafava M, Carteano D T; Contini, Cortese L, Demarteau L, Frabasile L, Guadagno C, Houtbeckers T, Karadeniz U, Lacerenza M, Mesquida J, Parsa S, Garrido Sagarzazu E, KV Sekar S, Tomanik J, Torricelli A, Tosi A, Weigel U, Wagenaar T, and Yaqub M A Durduran T. *Vascovid: hybrid diffuse optical platform combined with a pulse-oximeter and an automatized inflatable tourniquet for the assessment of metabolism and endothelial health in intensive care.* In *Biophotonics Congress: Biomedical optics*, volume Oral.

[541] Zanoletti M, Amendola C, Buttafava M, Carteano D T; Contini, Cortese L, Demarteau L, Frabasile S G D L, Guadagno C N, Houtbeckers T, Karadeniz U, Lacerenza M, Mesquida J, Pagliazzi M, Parsa S, Senciales Sánchez D, KV Sekar S, Tomanik J, Torricelli A, Tosi A, Wageenar T, Weigel U, and Yaqub M A Durduran T. *Vascovid: a hybrid diffuse optical platform for real time assessment of cerebral metabolic rate of oxygen consumption.* In *fNIRS 2022*, volume Poster. Society for functional near-infrared spectroscopy, Boston University, Boston, Massachusetts USA.

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