CURRICULUM VITAE

BEATRIZ PRIETO SIMÓN

Researcher unique identifiers: Researcher ID B-1508-2017, ORCID 0000-0001-8016-1565

ICREA Research Professor
Institute of Chemical Research of Catalonia (ICIQ)
Tarragona, Spain

Adjunct Senior Research Fellow
Drug Delivery, Disposition and Dynamics
Faculty of Pharmacy and Pharmaceutical Sciences
Monash University
Melbourne, Australia

e-mail: bprieto@iciq.cat; beatriz.prieto-simon@icrea.cat; Beatriz.Prieto-Simon@monash.edu; beatriups@gmail.com

URL for web site: www.beatrizprietosimon.com

SUMMARY

■ Research scientist (PhD in Chemistry awarded in 2005) with more than 20 years of active research in the field of biosensors, nanotechnology, materials science, bioengineering and electrochemistry.

■ Broad international research experience in Spain, France, Japan, Greece, Romania, Mexico, New Zealand and Australia.

■ Published 83 peer-reviewed publications since 2004 (55 of them with impact factors greater than 6) that have already generated over 3000 citations, with an h-index of 33 (Scopus).

■ Successful competitive research income as chief investigator on competitive grant applications (ICRAD ERA-NET, Spanish State Research Agency (AEI), Generalitat de Catalunya, Australian Research Council (ARC) Linkage Projects, ARC Discovery Project, ARC Industrial Transformation Research Hub, ARC Industrial Transformation Training Centre).

■ Successful in establishing a broad collaborative network thanks to a comprehensive international experience, supported by awarded competitive fellowships, and to a strategic research planning addressed to provide solutions to real-world needs by means of transdisciplinary scientific research.

■ Effective engagement with industry (collaboration with SeqOmics, Arquimea SL, SA Water, SA Research and Development Institute (SARDI), Australian Wine Research Institute (AWRI), TGR BioSciences, Alcolizer, PregTech, Gliadiagnostics) and Research and Development Corporations (Cotton Research and Development Corporation) allowed by the significant contribution to the fields of biosensors, biomaterials and bionanotechnology and the crossing over into areas such as medical diagnosis, environmental control and food safety.

■ Growing international recognition as demonstrated by the invitation to serve on the editorial board of the top-ranked journal in biosensors “Biosensors & Bioelectronics” (from 2008 to 2012) and “Analytical Biochemistry” (from 2022).

■ Active supervisor of internship and PhD students, and mentor of research associates. Over the past ten years, I have supervised 13 PhD (4 completed as co-supervisor, 5 completed as principal supervisor, and 5 current as principal supervisor, one of those being an industrial doctorate), 4 masters by research (completed), and more than 10 Honours research projects (completed).

■ Lecturer experience at universities in Spain, Australia and France (officially accredited as Professor in France and Spain) with special interest in new education programs (Accreditation Program for Teacher Preparation in Higher Education, Teaching Unit of Innovation in Higher Education of the Autonomous

University of Barcelona, UAB; Postgraduate studies in training Higher Education Teachers: Lecturing, Research and Management, Universitat Rovira i Virgili, URV).

■ Mentored by world-leading and distinguished scientists, including Prof. Isao Karube (pioneer of biosensors and key contributor to the development of biosensor technology), Prof. Nico Voelcker (Monash University), Prof. Jean-Louis Marty (Université de Perpignan Via Domitia, UPVD, France), Prof. Arben Merkoçi (ICREA Research Professor and head of the Nanobioelectronics & Biosensors Group at Catalan Institute of Nanotechnology, CSIC, Spain), Prof. Salvador Alegret (UAB, Spain), Prof. Miltiades Karayannis and Prof. Mamantos Prodromidis (University of Ioannina, Greece) and Prof. Josep Samitier (University of Barcelona, UB, Spain).

■ Strong interpersonal, negotiating, organisational and project management skills. Able to engage the industry and end-users and to coordinate research from the inception of a project to its fruition, leading a multidisciplinary research team. Dynamic, flexible and integrity-driven in response to changing research environments.

PROFESSIONAL EXPERIENCE

■ **ICREA Research Professor** at the Institut Català d'Investigació Química — Since October 2023

■ **Adjunct Senior Research Fellow** at Monash Institute of Pharmaceutical Sciences (MIPS), Monash University — Since June 2020

PREVIOUS POSITIONS HELD

■ **ICREA Research Professor** at the Department of Electronic Engineering, Universitat Rovira i Virgili (URV)

July 2020–September 2023

■ **Ramón y Cajal Research Fellow** at the URV — September 2018–June 2020

■ **Senior Research Fellow** at MIPS, Monash University — November 2017–May 2020

■ **Visiting researcher** at CSIRO (Manufacturing Business Unit) — September 2017–May 2020

■ **Adjunct Senior Research Fellow** at the University of South Australia (UniSA)

November 2017–December 2019

■ **Senior Research Fellow** — October 2013–October 2017

Mawson Institute/Future Industries Institute, UniSA

Established a new research line on electrochemical biosensors based on nanostructured porous materials

■ **Research Fellow/Lecturer** — March 2013–September 2013

Sensors and Biosensors Group, Autonomous University of Barcelona (UAB), Spain

■ **Research Associate** — March 2012–March 2013

Mawson Institute, UniSA

Conducted research on nanochannel-based electrochemical biosensors

■ **Research Associate** (Juan de la Cierva Fellow) — July 2009–March 2012

Nanobioengineering Group, Institute for Bioengineering of Catalonia (IBEC), Barcelona, Spain

Introduced a new approach to developing electrochemical aptamer-based sensors, and contributed to the development of others

■ **Visiting researcher** / **Lecturer** (ATER) — February 2009–June 2009

UPVD / University Institute of Technology (IUT) of Perpignan, France

■ **Post-doctoral researcher** (JSPS Fellow) — November 2007–January 2009

Tokyo University of Technology, Japan

Performed first studies on DNA aptamers for small molecules and selected new aptamers for toxins

■ **Post-doctoral researcher** / **Lecturer** (ATER) September 2006–October 2007

UPVD / IUT of Perpignan, France

Established a new research line on biosensors for the detection of mycotoxins

■ Invited **post-doctoral researcher** April 2007

International Centre of Biodynamics, Bucharest, Romania

■ Invited **post-doctoral researcher** September–December 2006

LISE laboratories (Interfaces et Systèmes Electrochimiques), CNRS,

Université Marie et Pierre Curie, France

■ **Post-doctoral researcher** April–August 2006

GTP Technology S.A., Toulouse, France

■ **Lecturer** (Vacataire) September 2005–June 2006

IUT of Perpignan, France

■ **Post-doctoral researcher** April 2005–March 2006

UPVD, France

■ **Teacher** December 2004–April 2005

Technical School “Narcís Monturiol”, Barcelona, Spain

Degrees of “Analysis and control” and “Manufacture of pharmaceutical products”

■ **Teacher** March 2004

High school “Ramar 2”, Sabadell, Spain

■ Assistant **teacher** February–June 2002

UAB, Spain

■ Assistant **teacher** October 2000–January 2001

UAB, Spain

■ **Teacher** January–May 1998

High school "Preparatoria Eugenio Garza Lagüera, Campus Eugenio Garza Sada", Monterrey, Mexico

FELLOWSHIPS AND AWARDS:

■ 1997, one-year Fellowship (UAB) to study at the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Mexico.

■ 2000, Doctoral Fellowship (Spanish Ministry of Education, Culture and Sports).

■ Between 2001 and 2003, two Doctoral Fellowships to conduct PhD research in foreign institutions (Spanish Ministry of Education, Culture and Sports).

■ 2007, Postdoctoral Fellowship for foreign researchers (JSPS, the peak scientific body) to conduct research at the Tokyo University of Technology.

■ 2007, Grant-in-Aid for Scientific Research, KAKENHI (JSPS), to develop, to develop the research project “Novel approaches for okadaic acid assessment based on surface plasmon resonance biosensing system”.

■ 2009, Juan de la Cierva Fellowship (Spanish Ministry of Science and Innovation) to conduct postdoctoral research at the Nanobioengineering Group, IBEC.

■ 2012, Early Career and New Appointee Researcher Development Award. ITEE Division, UniSA. Project: “Early alert screening tools as indicators of faecal pollution and potential carcinogenic disinfection by-products in drinking water”.

■ 2014, French advanced accreditation to supervise research (Habilitation à diriger des recherches) awarded by the University of Perpignan Via Domitia, France.

■ 2017, Ramón y Cajal Fellowship (Spanish Ministry of Science, Innovation and Universities) to conduct research at the URV.

■ 2019, ICREA Sènior.

■ 2022, Premi Consell Social URV a l'Impacte Social de la Recerca, Convocatòria 2022. Modalitat *ex ante* en l'àmbit de Ciències experimentals, enginyeria i arquitectura. Projecte: Detecció ràpida de carbapenemases en microorganismes multiresistents per guiar la teràpia i controlar la propagació de la resistència als antibiòtics

ACADEMIC BACKGROUND:

EDUCATION:

■ 1999–05: 'European' PhD in Chemistry (UAB). The thesis "Development of oxidoreductase based-biosensors using chemically modified amperometric transducers" provides a new method to reliably prepare electron mediator-modified sensors to build enzymatic sensors.

■ 1998–99: Certificate of pedagogical aptitude (UAB).

■ 1992–97: Chemistry degree (UAB).

STAGES IN FOREIGN LABORATORIES:

■ In 2002–03, undertook seven months of research in Ioannina, Greece, at the Analytical and Inorganic Chemistry Laboratory, University of Ioannina, Greece, under the supervision of Prof. Mamantos Prodromidis. Development of new catalytic materials based on metal-modified sol-gel matrixes for the immobilisation of different oxidase enzymes. PhD fellowship of the Spanish Ministry of Education, Culture and Sports.

■ In 2001–02, conducted doctoral research for seven months in Palmerston North, New Zealand, at the publicly run AgResearch research institute under the supervision of Dr Alan Hart. Development of lactate biosensors based on sol-gel matrixes. PhD fellowship of the Spanish Ministry of Education, Culture and Sports.

■ In 1997, conducted predoctoral research for 6 months at the Environmental Quality Centre of the ITESM, Mexico. Analysis of polyaromatic hydrocarbons in air PM_{10} particles and organic acid samples using HPLC. (Mobility fellowship of the UAB).

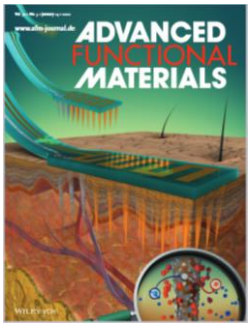
PUBLICATIONS:

PEER-REVIEWED JOURNAL ARTICLES:

(a) Refereed Journal Articles (83)

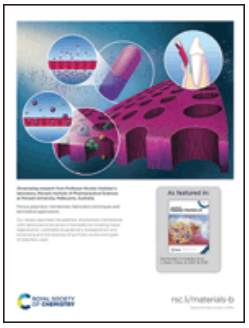
1) G.P. Chin, K. Guo, R. Vasani, N.H. Voelcker*, **B. Prieto-Simón***. Carbon-Stabilized Porous Silicon Biosensor for the Ultrasensitive Label-free Electrochemical Detection of Bacterial RNA gene fragments. *Biosensors and Bioelectronics X,* 100438. In press*. 10.1016/j.biosx.2024.100438*
2) A.A. Rajendran, K. Guo, A. Alvarez-Fernandez, T.R. Gengenbach, M.B. Velasco, M.J. Fornerod, K. Shafique, M. Füredi, P. Formentín, H. Haji-Hashemi, S. Guldin, N.H. Voelcker, X. Cetó, **B. Prieto-Simón***. A new class of porous silicon electrochemical transducers built from pyrolyzed polyfurfuryl alcohol. *Mater. Today Adv.,* 21 (2024) 100464. *10.1016/j.mtadv.2024.100464*
3) X. Cetó, J.M. McRae, A. Mierczynska-Vasilev, N.H. Voelcker, **B. Prieto-Simón***. Towards the rapid detection of haze-forming proteins. *Talanta,* 268 (2024) 125305. *10.1016/j.talanta.2023.125305*
4) L. Gontar, M. Kochański, A. Drutowska, M. Pilmane, K. Šerstnova, G. Maróti, A.A. Rajendran, H. Haji-Hashemi, **B. Prieto-Simón***. Channel-based biosensors to support improved bovine mastitis management. International Coordination of Research on Infectious Animal Diseases (ICRAD) First Call. *GMPC Thesis & Opinions Platform,* 3(2) (2023) 6. *10.51585/gtop.2023.2.0034*

5) A. Lazaro*, R. Villarino, M. Lazaro, N. Canellas, **B. Prieto-Simón**, D. Girbau. Recent Advances in Batteryless NFC Sensors for Chemical Sensing and Biosensing. *Biosensors,* 13 (2023) 775. *10.3390/bios13080775*
6) A. Junga, M. Pilmane, K. Šerstnova*, E. Lohova, I. Melderis, Ł. Gontar, M. Kochanski, A. Drutowska, G. Maróti, **B. Prieto-Simón**. Composition of mastitis causing microorganisms and cytokines in healthy cow's milk: Pilot study. *Proceedings of the Latvian Academy of Sciences, Section B: Natural, Exact and Applied Sciences*, 77 (2023) 169–177. *10.2478/prolas-2023-0024*
7) A. Shiohara, M. Wojnilowicz, Y. Pei, Q. Lyu, C.D. Easton, Y. Chen, J.F. White, A. McAuley, **B. Prieto-Simón**, H. Thissen, N.H. Voelcker*. SARS-CoV-2 virus detection via a polymeric nanochannel-based electrochemical biosensor. *Small* (2022) 2205281. *10.1002/smll.202205281*
8) M. Jara Fornerod, A. Alvarez-Fernandez, E. Williams, M. Skoda, B. Prieto-Simón, N. Voelcker, M. Stefik, M.-O. Coppens, S. Guldin*. Enhanced structural control of soft-templated mesoporous inorganic thin films by inert processing conditions. *ACS Appl. Mater. Interfaces*, 14 (2022) 56143−56155. *10.1021/acsami.2c18090*
9) C. Roca, Y. Avalos-Padilla, **B. Prieto-Simón**, V. Iglesias, M. Ramírez, S. Imperial, X. Fernàndez-Busquets*. Selection of an aptamer against the enzyme1-deoxy-D-xylulose-5-phosphate reductoisomerase from *Plasmodium falciparum*. *Pharmaceutics*, 14 (2022) 2515. *10.3390/pharmaceutics14112515*
10) K. Šerstnova*, M. Pilmane, Z. Vitenberga-Verza, I. Melderis, Ł. Gontar, M. Kochanski, A. Drutowska, G. Maróti, **B. Prieto-Simón**. Expression of anti-inflammatory markers IL-2, IL-10, TGF-β1, βDEF-2, βDEF-3 and Cathelicidin LL37 in dairy cattle milk with different health status of the udder. *Polish Journal of Veterinary Sciences*, 25 (2022) 237–248. *10.24425/pjvs.2022.141808*
11) A. Lazaro*, R. Villarino, M. Lazaro, N. Canellas, **B. Prieto-Simón**, D. Girbau. Battery-less NFC Potentiostat for Electrochemical Point-of-Care Sensors Based on COST Components. *Sensors*, 22 (2022) 7213*. 10.3390/s22197213*
12) X. Cetó*, S. Pérez, **B. Prieto-Simón**. Fundamentals and application of voltammetric electronic tongues in quantitative analysis. *TrAC,* 157 (2022) 116765. *10.1016/j.trac.2022.116765*
13) A. Shiohara, C.D. Easton, **B. Prieto-Simón***, N.H. Voelcker*. Electrochemical Biosensors Based on Convectively Assembled Colloidal Crystals. *Biosensors*, 12 (2022), 480. *10.3390/bios12070480*
14) M. Ben Jaballah, A.A. Rajendran, **B. Prieto-Simón***, C. Dridi*. Development of a sustainable nanosensor using green Cu nanoparticles for simultaneous determination of antibiotics in drinking water. *Analytical Methods*, 14 (2022) 2014–2025. *10.1039/D2AY00419D*
15) M. Pilmane*, K. Šerstnova, I. Melderis, Ł. Gontar, M. Kochanski, A. Drutowska, G. Maróti, **B. Prieto-Simón**. Identification of Inflammatory and Regulatory Cytokines IL-1α-, IL-4-, IL-6-, IL-12-, IL-13-, IL-17A-, TNF-α-, and IFN-γ-Producing Cells in the Milk of Dairy Cows with Subclinical and Clinical Mastitis. *Pathogens*, 11 (2022) 372. *10.3390/pathogens11030372*
16) K. Guo, M. Alba, G.P. Chin, Z. Tong, B. Guan, M.J. Sailor, N.H. Voelcker*, **B. Prieto-Simón***. Designing Electrochemical Biosensing Platforms Using Layered Carbon-Stabilized Porous Silicon Nanostructures. *ACS Appl. Mater. Interfaces.*, 14 (2022), 15565–15575. *10.1021/acsami.2c02113*
17) J. Suthar, **B. Prieto-Simón**, G. Williams, S. Guldin*. Dual-Mode and Label-Free Detection of Exosomes from Plasma using an Electrochemical Quartz Crystal Microbalance with Dissipation Monitoring. *Anal. Chem.*, 94 (2022), 2465–2475. *10.1021/acs.analchem.1c04282*
18) M. Dervisevic, M. Alba, L. Esser, N. Tabassum, **B. Prieto-Simón**, N.H. Voelcker*. Silicon Micropillar Array-Based Wearable Sweat Glucose Sensor. *ACS Appl. Mater. Interfaces*, 14 (2022), 2401–2410. *10.1021/acsami.1c22383*
19) M. Dervisevic, M. Alba, L. Yan, M. Senel, T.R. Gengenbach, **B. Prieto-Simón**, N.H. Voelcker*. Transdermal electrochemical monitoring of glucose via high-density silicon microneedle array patch. *Adv. Funct. Mater.,* 32 (2022) 2009850. *10.1002/adfm.202009850*

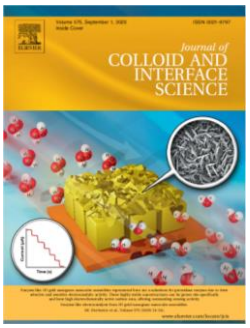


20) M. Dervisevic, M. Alba, T.E. Adams, **B. Prieto-Simón**, N.H. Voelcker*. Electrochemical immunosensor for breast cancer biomarker detection using high-density silicon microneedle array. *Biosens. Bioelectron.*, 192 (2021), 113496. *10.1016/j.bios.2021.113496*
21) C. Pérez-Ràfols, K. Guo, M. Alba, R.J. Toh, N. Serrano, N.H. Voelcker, **B. Prieto-Simón***. Carbon-stabilized porous silicon as novel voltammetric sensor platforms. *Electrochim. Acta*, 377 (2021) 138077. *10.1016/j.electacta.2021.138077*
22) E. Kerr*, R. Farr, E.H. Doeven, Y.H. Nai, R. Alexander, R. Guijt, **B. Prieto-Simón**, P.S. Francis, M. Dearnley, D.J. Hayne, L.C. Henderson, N.H. Voelcker. Amplification-free electrochemiluminescence

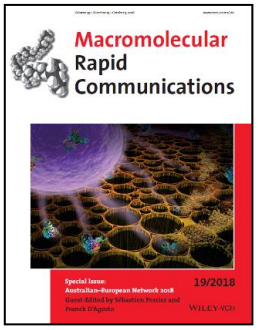
molecular beacon-based microRNA sensing using a mobile phone for detection. *Sens. Actuators B,* 330 (2021) 129261. *10.1016/j.snb.2020.129261*



23) A. Shiohara, **B. Prieto-Simón**, N.H. Voelcker*. Porous polymeric membranes: fabrication techniques and biomedical applications. *Journal of Materials Chemistry B*, 9 (2021) 2129. *10.1039/d0tb01727b*
24) B. Guan*, K. Guo, **B. Prieto-Simón**, N.H. Voelcker*. Formation and biofunctionalisation of polymer photonic crystals by replica moulding from porous silicon. *Materials Letters*, 284 (2021) 128907. *10.1016/j.matlet.2020.128907*
25) M. Dervisevic, Q. Shi, M. Alba, **B. Prieto-Simón**, W. Cheng, N.H. Voelcker*. Enzyme-like Electrocatalysis from 2D Janus Gold Nanograss-Nanocube Assemblies. *J. Colloid Interface Sci.*, 575 (2020) 24–34. *10.1016/j.jcis.2020.04.081*
26) G. Rajeev, E. Melville, A. Cowin, **B. Prieto-Simón***, N.H. Voelcker*. Porous alumina membrane-based electrochemical biosensor for flightless detection in chronic wounds. *Frontiers in Chemistry,* 8 (2020) 155. *10.3389/fchem.2020.00155*

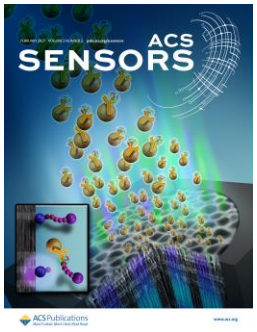


27) M. Dervisevic, M. Alba*, **B. Prieto-Simón**, N.H. Voelcker*. Skin in the Diagnostics Game: Wearable Biosensor Nano- and Microsystems for Medical Diagnostics. *Nano Today*, 30 (2020) 100828. *10.1016/j.nantod.2019.100828*
28) Y. Ling, K. Guo, B. Zhu, **B. Prieto-Simón**, N. Voelcker, W. Cheng*. High-adhesion vertically aligned gold nanowire stretchable electrodes via a thin-layer soft nailing strategy. *Nanoscale Horizons*, 4 (2019) 1380–1387. *10.1039/c9nh00336c*
29) M. Alba, M. Robin, D. Menzies, T.R. Gengenbach, **B. Prieto-Simón***, N.H. Voelcker*. Differential functionalisation of the internal and external surfaces of carbon-stabilised nanoporous silicon. *Chemical Communications,* 55 (2019) 8001–8004. *10.1039/c9cc03755a*
30) G. Rajeev, A. Cowin, N.H. Voelcker*, **B. Prieto-Simón***. Magnetic nanoparticles enhance pore blockage-based electrochemical detection of a wound biomarker. *Frontiers in Chemistry,* 7 (2019) 438. *10.3389/fchem.2019.00438*
31) N. Reta, A. Michelmore, C. Saint, **B. Prieto-Simón***, N.H. Voelcker*. Label-free bacterial toxins detection in water supplies using porous silicon nanochannel sensors. *ACS Sensors,* 4 (2019) 1515–1523. *10.1021/acssensors.8b01670*
32) K. Guo, A. Sharma, R. Toh, E. Alvárez de Eulate, T.R. Gengenbach, X. Cetó, N.H. Voelcker*, **B. Prieto-Simón***. Porous silicon nanostructures as effective Faradaic electrochemical sensing platforms. *Adv. Funct. Mater.,* 29 (2019) 1809206. *10.1002/adfm.201809206*
33) R. Chhasatia, M.J. Sweetman, **B. Prieto-Simón***, N.H. Voelcker*. Performance optimisation of porous silicon rugate filter biosensor for the detection of insulin. *Sens. Actuators B*, 273 (2018), 1313–1322. *10.1016/j.snb.2018.07.021*
34) K.-S. Tücking, R.B. Vasani, A.A. Cavallaro, N.H. Voelcker, H. Schönherr, **B. Prieto-Simón***. Hyaluronic Acid-Modified Porous Silicon Films for the Electrochemical Sensing of Bacterial Hyaluronidase. *Macromol. Rapid Commun.,* (2018) p 1800178. *10.1002/marc.201800178*



35) N. Reta, C.P. Saint, A. Michelmore, **B. Prieto-Simón***, N.H. Voelcker*. Nanostructured electrochemical biosensors for label-free detection of water- and food-borne pathogens. *ACS Appl. Mater. Interfaces,* 10 (2018), 6055–6072. *10.1021/acsami.7b13943*
36) G. Rajeev, **B. Prieto-Simón***, L.F. Marsal*, N.H. Voelcker*. Advances in nanoporous anodic alumina-based biosensors to detect biomarkers of clinical significance: a review. *Adv. Health. Mat.*, 7 (2018), 1700904. *10.1002/adhm.201700904*
37) G. Rajeev, E. Xifre-Perez, **B. Prieto-Simón**, A. Cowin, L.F. Marsal*, N.H. Voelcker*. A label-free optical biosensor based on nanoporous anodic alumina for tumour necrosis factor-alpha detection in chronic wounds. *Sens. Actuators B*, 257 (2018), 116–123. *10.1016/j.snb.2017.10.156*
38) S. Dhawan, S. Sadanandan, V. Haridas*, N.H. Voelcker*, **B. Prieto-Simón***. Novel peptidylated surfaces for interference-free electrochemical detection of cardiac troponin I. *Biosens. Bioelectron.*, 99 (2018), 486–492. *10.1016/j.bios.2017.08.024*
39) X. Cetó, C. Saint, C.W.K Chow, N.H. Voelcker, **B. Prieto-Simon***. Electrochemical fingerprints of brominated trihaloacetic acids mixtures in water. *Sens. Actuators B*, 247 (2017), 70–77. *10.1016/j.snb.2017.02.179*

40) F.S.H. Krismastuti, M.R. Dewi, **B. Prieto-Simón**, T. Nann, N.H. Voelcker*. Disperse-and-Collect Approach for the Type-Selective Detection of Matrix Metalloproteinases in Porous Silicon Resonant Microcavities. *ACS Sensors*, 2 (2017), 203–209. *10.1021/acssensors.6b00442*



41) X. Cetó, C. Saint, C.W.K Chow, N.H. Voelcker, **B. Prieto-Simón***. Electrochemical detection of *N*-nitrosodimethylamine using a molecular imprinted polymer. *Sens. Actuators B*, 237 (2016), 613–620. *10.1016/j.snb.2016.06.136*

42) F.S.H. Krismastuti, A. Cavallaro, **B. Prieto-Simón**, N.H. Voelcker*. Toward Multiplexing Detection of Wound Healing Biomarkers on Porous Silicon Resonant Microcavities. *Adv. Sci.*, 1500383 (2016), 1–8. *10.1002/advs.201500383*

43) S. Leonardo, **B. Prieto-Simón**, M. Campàs*. Past, present and future of diatoms in biosensing. *TrAC*, 79 (2016), 276–285. *10.1016/j.trac.2015.11.022*

44) N. Reta, A. Michelmore, C. Saint, **B. Prieto-Simón***, N.H. Voelcker*. Porous silicon membrane-modified electrodes for label-free voltammetric detection of MS2 bacteriophage. *Biosens. Bioelectron.*, 80 (2016), 47–53. *10.1016/j.bios.2016.01.038*

45) L. Reverté, **B. Prieto-Simón**, M. Campàs*. New advances in electrochemical biosensors for the detection of toxins: nanomaterials, magnetic beads and microfluidics systems. A review. *Anal. Chim. Acta*, 908 (2016), 8–21. *10.1016/j.aca.2015.11.050*

46) X. Cetó, N.H. Voelcker, **B. Prieto-Simón***. Bioelectronic tongues: New trends and applications in water and food analysis. *Biosens. Bioelectron.*, 79 (2016), 608–626. *10.1016/j.bios.2015.12.075*

47) R.B. Vasani, N. Janardanan, **B. Prieto-Simón**, A. Cifuentes-Rius, S.J. Bradley, E. Moore, T. Kraus, N.H. Voelcker*. Microwave Heating of Poly(N-isopropylacrylamide)-Conjugated Gold Nanoparticles for Temperature-Controlled Display of Concanavalin A. *ACS Appl. Mater. Interfaces*, 7 (2015), 27755–27764. *10.1021/acsami.5b08765*

48) S.N.A. Jenie, **B. Prieto-Simón**, N.H. Voelcker*. Development of L-lactate dehydrogenase biosensor based on porous silicon resonant microcavities as fluorescence enhancers. *Biosens. Bioelectron.*, 74 (2015), 637–643. *10.1016/j.bios.2015.07.025*

49) T. Galán, **B. Prieto-Simón**, M. Alvira, R. Eritja, G. Götz, P. Bäuerle, J. Samitier*. Label-free electrochemical DNA sensor using “click”-functionalized PEDOT electrodes. Application to “Hepatitis C” virus detection. *Biosens. Bioelectron.*, 74 (2015), 751–756. *10.1016/j.bios.2015.07.037*

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51) D. Brodoceanu, R. Elnathan, **B. Prieto-Simón**, B. Delalat, T. Guinan, E. Kroner, N. Voelcker, T. Kraus*. Dense Arrays of uniform submicron pores in silicon and their applications. *ACS Appl. Mater. Interfaces,* 7 (2015), 1160–1169. *10.1021/am506891d*

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53) D. Garibo, C. Flores, X. Cetó, **B. Prieto-Simón**, M. del Valle, J. Caixach, J. Diogène, M. Campàs*. Inhibition equivalency factors for microcystin variants in recombinant and wild-type protein phosphatase 1 and 2A assays. *Environ. Sci. Pollut. Res.,* 21 (2014) 10652–10660. *10.1007/s11356-014-3065-7*

54) N. Serrano, **B. Prieto-Simón**, X. Cetó, M. del Valle*. Array of peptide modified electrodes for the simultaneous determination of Pb(II), Cd(II) and Zn(II). *Talanta*, 125 (2014), 159–166. *10.1016/j.talanta.2014.02.052*

55) **B. Prieto-Simón***, C. Saint, N.H. Voelcker. Electrochemical Biosensors Featuring Oriented Antibody Immobilisation via Electrografted and Self-assembled Hydrazide Chemistry. *Anal. Chem.*, 86 (2014), 1422–1429. *10.1021/ac401747j*

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65) **B. Prieto-Simón***, H. Miyachi, I. Karube, H. Saiki. High-sensitive flow-based kinetic exclusion assays for okadaic acid assessment in shellfish samples. *Biosens. Bioelectron.*, 25 (2010), 1395–1401. *10.1016/j.bios.2009.10.039*

66) **B. Prieto-Simón***, M. Campàs. Immunochemical tools for mycotoxin detection in food. *Chem. Monthly*, 140 (2009), 915–920. *10.1007/s00706-009-0133-7*

67) M. Campàs, **B. Prieto-Simón**, J.-L. Marty*. A review of the use of genetically engineered enzymes in electrochemical biosensors. *Semin. Cell Dev. Biol.*, 20 (2009), 3–9. *10.1016/j.semcdb.2009.01.009*

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70) **B. Prieto-Simón***, M. Campàs, J.-L. Marty. Biomolecule immobilisation in biosensor development: tailored strategies based on affinity interactions. *Protein and Peptide Letters*, 15 (2008), 757–763. *10.2174/092986608785203791*

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80) **B. Prieto-Simón***, E. Fàbregas. New redox mediator-modified polysulfone composite films for the development of dehydrogenase-based biosensors. *Biosens. Bioelectron.*, 22 (2006), 131–137. *10.1016/j.bios.2005.12.014*

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82) **B. Prieto-Simón***, G. S. Armatas, P. J. Pomonis, C. G. Nanos, M. I. Prodromidis. Metal-dispersed xerogel-based composite films for the development of interference free oxidase-based biosensors. *Chem. Mater.*, 16 (2004), 1026–1034. *10.1021/cm035110u*

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(b) Scholarly Book Chapters (4)

84) **B. Prieto-Simón**, T. Noguer, M. Campàs. Biosensors for the assessment of natural toxins in food, In: Biosensors in Food Processing, Safety, and Quality Control, CRC Press, Taylor & Francis Group, Boca Raton, FL, USA, 2011, pp. 135–144.

85) M. Cortina, **B. Prieto-Simón**, M. Campàs, C. Calas-Blanchard, J.-L. Marty. Determination of the antioxidants' ability to scavenge free radicals using biosensors, In: Bio-Farms for Nutraceuticals Functional Food and Safety Control by Biosensors, Landes BioScience Publishers, Springer, USA, 2010, pp. 222–233.

86) M. Campàs, **B. Prieto-Simón**, R. Rouillon. Biosensors for secondary metabolites. Two case studies ochratoxin A and microcystins, In: Photosynthetic Organisms as Biological Farm for Production of Nutraceutics, Landes BioScience Publishers, Springer, USA, 2010, pp. 282–292.

87) **B. Prieto-Simón**, M. Campàs, J.-L. Marty. Biosensores: Fundamentos y aplicaciones. In: Métodos de procesamiento avanzado e inteligencia artificial en sistemas sensores y biosensores. Alfa-BioSenIntg, Ed. Reverté, Spain, 2009, pp. 205–233.

(c) Refereed Conference Papers (5)

88) E. Kerr, L.C. Henderson, **B. Prieto-Simon**, N.H. Voelcker. Amplification-Free Point-of-Care microRNA Detection in Urine Using Molecular Beacon Based Electrochemiluminescence. 237th ECS Meeting with the 18th International Meeting on Chemical Sensors (IMCS 2020) (Montreal, Canada, May 2020) Meet. Abstr. MA2020-01 2366. DOI: 10.1149/MA2020-01332366mtgabs

89) D. Zecca, A. Qualtieri, G. Magno, M. Grande, V. Petruzzelli, **B. Prieto-Simon**, A. D'Orazio, M. De Vittorio, N.H. Voelcker, T. Stomeo. Label-free Si_3N_4 photonic crystal based immunosensors for diagnostic applications. Special issue in IEEE Photonics Journal devoted to the Third Mediterranean Photonics Conference (Trani, Italy, May 2014) (conference proceedings), (2014) DOI: 10.1109/JPHOT.2014.2352625.

90) D. Zecca, A. Qualtieri, M. De Vittorio, T. Stomeo, G. Magno, M. Grande, V. Petruzzelli, A. D'Orazio, **B. Prieto-Simon**, N.H. Voelcker. 2D photonic crystal membranes for optical biosensors. Special issue in IEEE Xplore journal devoted to *Fotonica 2014: Convegno Italiano delle Tecnologie Fotoniche* (conference proceedings), (2014) DOI: 10.1109/Fotonica.2014.6843901.

91) J. Punter-Villagrasa, J. Colomer-Farrarons, P. Miribel-Catala, J. Cid, I. Rodriguez-Villareal, **B. Prieto-Simón**. Towards a portable point-of-use blood analysis with EIS technique device. *11th International Multi-Conference on Systems, Signals & Devices (SSD)* (conference proceedings), (2014) DOI 10.1109/SSD.2014.6808825.

92) E. Moles, P. Urbán, J. Marques, J.J. Valle-Delgado, C. Díez, **B. Prieto**, X. Fernàndez-Busquets. Towards a Magic Bullet against Malaria: Paul Ehrlich Revisited. *Proceedings of the 3rd International Conference on Nanotechnology: Fundamentals and Applications*, (2012) Paper No. 56.

PATENTS:

■ "Bioanalyte detection and monitoring" Australian Provisional Patent number AU2020901627, filing date 20 May 2020 (Inventors: Prof. N.H. Voelcker, B. Prieto-Simon, M. Alba, M. Dervisevic, T. Yan).

■ “Optical Biosensor” Australian Provisional Patent number 2014900641 (Inventors: Prof. N.H. Voelcker, F.S.H. Krismastuti and B. Prieto-Simon). Applied for Patent Cooperation Treaty (PCT) International, Application number PCT/AU2015/000118.

■ “Ligand and method for detection of okadaic acid” full EU patent owned by the Université de Perpignan (Inventors: Prof. J.-L. Marty and B. Prieto Simón) (Patent number: 13305214.2-1401).

FUNDED PROJECTS:

■ Contract with Arquimea (2023): Desarrollo de un parche multielectrodo basado en microagujas para monitorización continua (March to December 2023, 40,002.60 €)

■ “Bioinspired nanotechnologies” Emerging Research Group distinguished by the Generalitat de Catalunya (2021 SGR 00223) (36,000 €) PI

■ Spanish Government (Proyectos de transición ecológica y transición digital 2021) TED2021-130307B-I00: Advanced wireless biosensors for the next generation of point-of-care testing for telemedicine (2022–23, 285,430 €) Research team

■ Spanish Government (Proyectos de generación de conocimiento 2021, Proyectos investigación orientada) PID2021-124867OB-I00: Next generation of diagnostics to fight the emergence of antimicrobial resistance DIAG4AMR (2022–25, 214,170 €) PI

■ Contract with Arquimea (2022): Desarrollo de un aptasensor electroquímico para la detección de cortisol (May to December 2022, 59,532.42 €)

■ Contract with Arquimea (2021): Desarrollo de un aptasensor electroquímico para la detección de cortisol, prueba de concepto (August to December 2021, 30,000 €)

■ Era-Net ICRAD (International coordination of research on infectious diseases): Channel-based biosensors to support a precision agriculture approach for improved bovine mastitis management (Biosens4PrecisionMastitis) (PCI2020-120693-2) (2021–24, 688,000 €) Coordinator

■ Australian Government, Defence Industry & Innovation Defence Innovation Hub 2019: Traumatic Brain Injury (TBI) diagnostic test to optimise military personnel health and performance (2019–21, A$925,000)

■ ARC Training Centre for Cell and Tissue Engineering Technologies (IC190100026) (2019–23, A$4,969,663) CI

■ DMTC Medical countermeasures program: Next generation influenza detection for integration into lab-on-chip devices (2019–21, A$781,001)

■ 2019 Monash Institute of Medical Engineering (MIME) Seed Fund: Early detection of carbapenem resistance (2019-13) CI Anton Peleg (2019–20, A$50,000)

■ Monash University – Penn State University 2019 Collaboration Development Fund (2019–20, A$50,000)

■ Spanish Government (National plan Research + Development + Innovation) RTI2018-094040-B-I00: Micro and nanoporous structures for sensing devices and polymer solar cells MINASENSOL (2020–22, 110,110 €) Partner

■ CSIRO Research+ Postdoctoral Fellowship (2018): Fighting the emergence of antimicrobial resistance through early pathogen identification (2018–23)

■ Contract with the Cotton Research and Development Corporation (2018): Biosensors for key herbicides (CRDC1829) (2018, A$5,000)

■ CSIRO Future Science Platforms (2017): Next Generation Virus Biosensors & Wearable Nanoneedle Array Biosensors (2017–20, A$516,142)

■ Innovation Connection Grant (2017): Sensing devices for illicit drug detection (March to November 2017, A$61,187)

■ ARC Industrial Transformation Research Hub 2016: “ARC Research Hub for Integrated Device for End-user Analysis at Low-levels” (IH150100028) (2016–21, A$3,708,510) CI

■ ARC Linkage Project 2016: “Novel nanosensors for monitoring of water filtration membrane integrity” (LP160101050) (2016–19, A$321,000) Lead CI

■ ARC Discovery Project 2016: “Building bio-inspired smart nanochannels for virus detection” (DP160104362) (2016–19, A$466,543) CI

■ Contract UniSA–SARDI (2016): Electrochemical biosensors for norovirus detection (July to September 2016, A$19,500)

■ Contract with SA Water (2016): Electronic tongue to provide fingerprints of trihalomethanes in water (April to December 2016, A$20,000)

■ Contract UniSA–SARDI (2015): Electrochemical biosensors for norovirus detection (January to June 2015, A$10,000)

■ ARC Linkage Project 2013: “Electrochemical Sensors as Early Alert Screening Tools for Water Quality Assessment” (LP130100032) (2013–16, A$310,000) CI

■ Catalyst funding from the SA Government in collaboration with AWRI and TGR BioSciences (2015): Dual optical/electrochemical biosensor for the rapid detection of haze-forming proteins in wine (A$30,000)

■ National project 2011 (Non-oriented basic research, Spanish Ministry of Science and Innovation): “Exploration of new efficient targeting molecules for nanovector-mediated antimalarial drug delivery” (2012–14, 125,000 €) Partner

■ National project 2011 (Non-oriented basic research, Spanish Ministry of Science and Innovation): “DIANA: DIAtoms as Nanostructures in assays and biosensors” (2012–14, 60,000 €) Partner

■ ITT-CTP (Working Community of the Pyrenees, Agency of university grants and research management, Generalitat de Catalunya (Spain)): “Innovative tools for ochratoxin risk assessment” (2010 CTP 00032) (2011–12, 25,000 €) Lead CI

■ Grant-in-Aid for Scientific Research (KAKENHI) 2008 (JSPS): “Novel approaches for okadaic acid assessment based on Surface Plasmon Resonance biosensing system”.

SUPERVISION OF RESEARCH ACTIVITIES/DEVELOPMENT:

POST-DOCS:

■ 06/2023– (URV): Supervision of Dr Menyar Ben Jaballah. Project title: Multielectrode patch based on microneedles for continuous monitoring.

■ 06/2023–10/2023 (URV): Supervision of Dr Alberto Álvarez Fernández. Project title: Electrochemical biosensors based on block-co-polymers.

■ 06/2023–09/2023 (URV): Supervision of Dr Clara Pérez Ràfols (visiting researcher, lecturer at UB). Project title: Aptasensors based on electrochemical capacitance spectroscopy measurements.

■ 01/2023–08/2023 (URV): Supervision of Dr Mercè Pacios Pujado (working on the Biosens4PrecisionMastitis ICRAD project). Project title: Channel-based biosensors to support a precision agriculture approach for improved bovine mastitis management.

■ 06/2022–10/2022 (URV): Supervision of Dr Clara Pérez Ràfols (visiting researcher, lecturer at UB). Project title: Novel sensors based on electrochemical capacitance spectroscopy measurements for the detection of analytes of clinical interest.

■ 02/2022– (URV): Supervision of Dr Saeed Bahadhorikhalili (María Zambrano Fellow since 03/2022). Project title: Novel stimuli-responsive polymer-modified nanostructures for the prompt detection of antimicrobial resistance.

■ 09/2021– (URV): Supervision of Dr Hedieh Hajihashemi (Juan de la Cierva Fellow since 10/2022). Project title: Early diagnosis of infectious diseases through the detection of novel host immune-derived biomarkers.

■ 2020 (CSIRO): Supervision of Dr Cheney Chen. Project title: Traumatic Brain Injury (TBI) diagnostic test to optimise military personnel health and performance.

■ 2019 (URV): Supervision of Dr Xavier Cetó (visiting researcher, Beatriu de Pinós Fellow at UB). Project title: Nanostructured biosensors for multiplexed detection.

■ 2019 (Monash University): Supervision of Dr Keying Guo. Project title: Carbon-stabilised porous structures for biosensing.

■ 2018–2021 (Monash University): Supervision of Dr Mark Richardson. Project title: Fighting the emergence of antimicrobial resistance through early pathogen identification.

■ 2018–2021 (Monash University): Supervision of Dr Amane Shiohara. Project title: Next generation virus biosensors.

■ 2018–2020 (Monash University): Supervision of Dr Roshan Vasani. Project title: Nanostructured electrochemical DNA sensors based on polymeric signal enhancement.

■ 2017–2018 (Monash University): Supervision of Dr Emily Kerr. Project title: Next generation virus biosensors.

■ 2017 (FII/UniSA): Supervision of Dr Roshan Vasani. Project title: Responsive polymer-based electrochemical biosensors.

■ 2016–2017 (FII/UniSA): Supervision of Dr Eva Álvarez de Eulate. Project title: Building bio-inspired smart nanochannels for virus detection.

■ 2016–2017 (FII/UniSA): Supervision of Dr Sandra Pérez. Project title: Biosensors for cardiovascular biomarkers.

■ 2014–2017 (FII/UniSA): Supervision of Dr Xavier Cetó. Project title: Electrochemical Sensors as Early Alert Screening Tools for Water Quality Assessment.

■ 2014–2016 (FII/UniSA): Supervision of Dr María Alba Martín. Project title: Nanoneeddles as electrochemical biosensors.

PhD STUDENTS:

■ 2023– (ICIQ/URV): Supervision of Lucía Morillo Victorero (industrial doctorate). Project title: Nanostructured biosensing platforms with tuneable morphologies towards the detection, monitoring and analysis of biofilm growth and diagnosis of antimicrobial resistance.

■ 2023– (ICIQ/URV): Supervision of Fearghal O'Connor (FPU fellow). Project title: Nanostructured biosensing platforms with tuneable morphologies towards the detection, monitoring and analysis of biofilm growth and diagnosis of antimicrobial resistance.

■ 2021– (URV): Supervision of Kandeel Shafique (MSCA Cofund fellow). Project title: Rapid and cost-effective diagnostic tools to fight infectious diseases.

■ 2020– (URV): Supervision of Deepanshu Verma (Martí i Franquès fellow). Project title: Nanochannel-based biosensing platforms for infection diagnosis.

■ 2019– (URV): Supervision of A. R. Anandapadmanabhan (MSCA Cofund fellow). Project title: Electrochemical biosensing to fight antimicrobial resistance.

■ 2019–2023 (Monash University): Supervision of Grace Chin (co-supervisors: Dr R. Lee and Dr R. Vasani). Project title: Electrochemical biosensing to unveil the role of exosomes as cancer biomarkers.

■ 2018–2022 (Monash University): Supervision of Muhammad Zikri Budiman Abdul Halim (co-supervisors: Dr R. Vasani and Dr V. Torok). Project title: Porous alumina nanostructures for electrochemical sensing.

■ 2017–2021 (Monash University): Co-supervision of Muamer Dervisevic with Prof. N.H. Voelcker and Dr M. Alba. Project title: Microarray-based sensors for epidermal and transdermal diagnostics.

■ 2014–2019 (Monash University): Supervision of Keying Guo (co-supervisor: Prof. N.H. Voelcker). Project title: Porous silicon nanochannel-based electrochemical biosensors.

■ 2015–2019 (FII/UniSA): Supervision of Rinku Chhasatia (co-supervisors: Prof. N.H. Voelcker and Dr M. Sweetman). Project title: Smart petri dish sensor: an optical biosensor for the detection of insulin concentration in islet cell cultures.

■ 2014–2017 (FII/UniSA): Co-supervision of Gayathri Rajeev with Prof. N.H. Voelcker and Prof. A. Cowin. Project title: Biosensors based on porous substrates to detect flightless protein in chronic wound fluid.

■ 2012–2016 (FII/UniSA): Co-supervision of Nekane Reta Murua with Prof. N.H. Voelcker and Prof. C. Saint. Project title: Porous silicon-based immunosensors for electrochemical detection of microbiological contamination in water.

■ 2011–2017 (IBEC/UB): Supervision of José-Luis Sebastián Ávila. Project title: Aptamer-based sensors for pathogenic bacteria.

■ 2012–2015 (MI/UniSA): Co-supervision of Fransiska Krismastuti with Prof. N.H. Voelcker. Project title: Optical biosensors based on nanoporous materials to detect specific biomakers in chronic wound fluid. Awarded with the Norton Jackson Material Science and Engineering Medal.

MASTER STUDENTS:

■ 2023 (URV): Supervision of Vahideh Rashedi, Master student from MSc in Nanoscience, Materials and Processes: Chemical Technology at the Frontier. Project title (TFM): New sensing platforms to control bacterial biofilm growth.

■ 2022 (URV): Supervision of Fearghal O'Connor, Master student from MSc in Nanoscience, Materials and Processes: Chemical Technology at the Frontier. Project title (TFM): Porous silicon-based sensor to detect biofilm growth.

■ 2021 (URV): Supervision of Marina Bujaldón, Master student from MSc in Nanoscience, Materials and Processes: Chemical Technology at the Frontier. Project title (TFM): Porous structures for electrochemical 16SrRNA detection.

■ 2021 (URV): Supervision of Karolina Kukralova, Erasmus Master student. Project title: Sensors to assess bacterial biofilm growth.

■ 2008–2009 (UPVD): Co-supervision of Justyna Jońca with Prof. J.L. Marty. Project title: Different strategies to develop an aptamer-based sensor per for the detection of ochratoxin A in wines.

VISITING STUDENTS/RESEARCHERS & UNDERGRADUATE STUDENTS:

■ 2022–2023 (URV): Supervision of Sònia Ahmed Peralta. Project title (TFG): Wearable biosensors for the continuous monitoring of biomarkers.

■ 2022–2023 (URV): Supervision of Marta Álvarez Puig. Project title (TFG): Porous alumina-based electrochemical biosensor to support the early diagnosis of lung cancer.

■ 2022–2023 (URV): Supervision of Júlia Martínez Roig. Project title (TFG): Electrochemical sensors for therapeutic drug monitoring of antibiotics.

■ 2022–2023 (URV): Supervision of Anna Bevià i Brey. Project title (TFG): Early diagnosis of infections through the detection of host immune-derived biomarkers.

■ 2022 (URV): Supervision of Esteban Maeso. Visiting student from Université de Perpignan Via Domitia, France. Project title (TFG): Nanosensors for daptomycin monitoring.

■ 2021–2022 (URV): Supervision of Federica Reboledo Scocozza. Project title (TFG): Nanosensors for antibiotics monitoring.

■ 2021–2022 (URV): Supervision of Antonio Montoro Marín. Project title (TFG): Nanotechnology-based wearable devices.

■ 2021–2022 (URV): Supervision of Andrea de los Ángeles Erazo Hidalgo. Project title (TFG): Nanochannel-based biosensing platforms to deal with infection outbreaks.

■ 2021–2022 (URV): Supervision of Patricia Morillas Varela. Project title (TFG): Fabrication of a biosensor for the detection of acute lymphoblastic leukemia.

■ 2021 (URV): Supervision of Menyar Ben Jaballah (visiting PhD student awarded with an Erasmus KA107 grant). Project title: Electronic tongue for the detection of antibiotics.

■ 2021 (URV): Supervision of Mariem Ben Haj Hamida (visiting PhD student awarded with an Erasmus KA107 grant). Project title: Nanostructured biosensors for the detection of antibiotics.

■ 2021 (URV): Supervision of Pere Oller. Project title (TFG): Antibiotics detection via novel porous silicon voltammetric sensors.

■ 2020 (URV): Supervision of Menyar Ben Jaballah (visiting PhD student awarded with an Erasmus KA107 grant). Project title: Copper nanoparticles-modified nanostructured biosensors for the detection of antibiotics.

■ 2020 (URV): Supervision of Mariem Ben Haj Hamida (visiting PhD student awarded with an Erasmus KA107 grant). Project title: Nanostructured biosensors for the detection of antibiotics.

■ 2019 (URV): Supervision of Rebecca Mathias (visiting student). Project title: Nanostructured biosensors for the detection of a breast cancer biomarker.

■ 2018– (Monash University): Supervision of Grace Chin (Honours student). Project title: Electrochemical biosensing to unveil the role of exosomes as cancer biomarkers.

■ 2018– (Monash University): Supervision of Clara Pérez Ràfols (visiting PhD student from the University of Barcelona). Project title: Nanowire-based silicon platforms for detection of heavy metals.

■ 2017– (Monash University): Supervision of Hedieh Hajihashemi (visiting PhD student from the University of Tehran, Iran). Project title: Nanoporous membranes to build magnetosensors for the electrochemical detection of cardiac biomarkers.

■ 2017 (FII/UniSA): Supervision of Augustin Manel (visiting student from the European School of Chemistry Polymers and Materials Sciences, University of Strasbourg, France). Project title: Electrochemical detection of bacterial enzymes via bioresponsive polymeric coatings on porous silicon.

■ 2017 (FII/UniSA): Supervision of Anusree Anil (visiting student from the Amity University, Noida, India). Project title: Towards the development of electrochemical biosensors for bacteria detection and assessment of antibiotic sensitivity.

■ 2016 (FII/UniSA): Supervision of A. R. Anandapadmanabhan (visiting student from the Indian Institute of Science Education Research, Pune, India). Project title: Microfluidics sensing devices for illicit drug detection.

■ 2016 (FII/UniSA): Supervision of Sandra Leonardo-Benet (PhD student from the Universitat Rovira i Virgili). Project title: Nanoporous structures for electrochemical biosensing of azaspiracids.

■ 2016 (FII/UniSA): Supervision of Deepanshu Verma (visiting student from the Amity University, Noida, India). Project title: Integration of porous nanostructured materials into lab-on-a-chip biosensing platforms.

■ 2016 (FII/UniSA): Supervision of Morgane Robin (visiting student from the “Institut Universitaire de Technologie Chimie“, University of Rouen, France). Project title: Differential functionalisation of pSi substrates.

■ 2015–2017 (FII/UniSA): Supervision of Muhammad Zikri Budiman Abdul Halim (visiting student from the MARA University of Technology, Arau Campus, Perlis, Malaysia). Project title: Nanoporous anodic aluminium oxide structures for electrochemical biosensing based on conformational switching of DNA aptamers.

■ 2015–2016 (FII/UniSA): Supervision of Md. Mahbubur Rahman (visiting student from the University Kebangsaan, Malaysia). Project title: Nanoporous silicon for electrochemical biosensing based on conformational switching of DNA aptamers.

■ 2015–2016 (FII/UniSA): Supervision of Simone Kwiedor (visiting student from the Reutlingen University, Germany). Project title: Multi-layered structures of porous silicon as biosensing platforms for cardiac biomarkers detection.

■ 2015 (MI/UniSA): Supervision of Zeynep Adali-Kaya. Project title: Electrochemical sensors as early alert screening tools for water quality assessment.

■ 2015 (MI/UniSA): Supervision of Celine Riess (visiting student from the Reutlingen University, Germany). Project title: Aptamer-based assays for the detection of cardiac biomarkers.

■ 2015 (MI/UniSA): Supervision of Jeanne Hordel. (visiting student from the “Institut Universitaire de Technologie Chimie“, University of Rouen, France). Project title: Point-of-care biosensing platforms for cardiac biomarkers detection.

■ 2014–2016 (MI/UniSA): Supervision of Apoorva Sharma (visiting student from the Amity University, Uttar Pradesh, India). Project title: Porous silicon based detection of water contamination.

■ 2014 (MI/UniSA): Supervision of Scott McCormick. Project title: Fabrication of gold electrodes.

■ 2014 (MI/UniSA): Supervision of Eike Ulrich Brockmann (visiting student from the Westfalische Wilhelms-Universitaet Muenster, Germany). Project title: Optical biosensors for troponin I based on porous silicon resonant microcavities.

■ 2014 (MI/UniSA): Supervision of Mickaël Spagnol (visiting student from the “Institut Universitaire de Technologie Chimie“, University of Rouen, France). Project title: Porous silicon in electrochemical biosensing.

■ 2011 (IBEC/UB): Supervision of Mark Fields (visiting student from UK) in the frame of the Program “Summer in the Park” organised by the Scientific Park of Barcelona. Project title: Development of innovative tools based on aptamers to assess OTA and OTHQ.

■ 2008–2009 (UPVD): Supervision of Torsten Schreiber (visiting student from Purdue University, USA) in the frame of the IRES Program (US-France International Research Experience for Students in Toxicity Biosensors: Towards Novel Sensor Architectures, Detection Schemes and Applications). Project title: Development of a flow system for the detection of aflatoxin M_1 in milk based on a magnetic beads-modified immunosensor.

■ 2006–2007 (UPVD): Co-supervision of Xavier Muñoz Berbel (visiting PhD student from the National Centre of Microelectronics) with Prof. J.L. Marty. Project title: Detection of ochratoxin A based on impedimetric and gravimetric measurements.

■ 2006 (UPVD): Supervision of Célia Regina Sousa da Silva (visiting researcher from the LISE laboratories (Interfaces et Systèmes Electrochimiques) of the CNRS, Université Marie et Pierre Curie, France). Project title: Detection of ochratoxin A based on quartz crystal microbalance.

■ 2005–2006 (UPVD): Supervision of Céline Castellà (Biochemistry BTS student from the Institute Mermoz de Montpellier, France). Project title: Modification and immobilisation of antibodies onto screen-printed electrodes.

LECTURES:

■ 2019–2023 (URV): Subjects: Biomaterials for tissue engineering and Nanotechnologies for biomedical applications (3rd and 4th year of Biomedical Engineering degree).

■ September 2016 (UniSA): Lecture on Biosensors for environmental analysis. Subject: Materials for the Future (1st year of Advanced Materials course).

■ August 2016 (UniSA): Lecture on Biosensors for disease diagnostics. Subject: Materials for the Future (1st year of Advanced Materials course).

■ August 2016 (UniSA): Lecture on Biochemistry. Subject: Water Chemistry (2nd semester, 2nd year). Bachelor of Engineering (Honours) (Civil).

TEACHING OR PEDAGOGIC PUBLICATIONS:

HANDBOOKS:

■ B. Prieto-Simón. Lab work in Biochemistry "Dosage d'un anticorps avec un essai ELISA (Enzyme-Linked Immunosorbent Assay) competitive", 2009, UPVD, France

■ B. Prieto-Simón, M. Campàs. Lab work in Biochemistry "Cinétique et inhibition enzymatique: détection en plaques de type ELISA", 2006, UPVD, France

■ M. Campàs, B. Prieto-Simón. Lab work in Biochemistry "Inhibition enzymatique: détection par biocapteur", 2006, UPVD, France

CONFERENCES:

ORAL PRESENTATIONS:

■ "Silicon-based nanotechnologies to build the next generation of diagnostic tools" **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023) (Keynote lecture invited)

■ "Hybrid porous nanostructures-based biosensing platforms for early-stage infection diagnosis" D. Verma, H. Haji-Hashemi, **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023)

■ "A calibration-free aptasensing approach for rapid detection of vancomycin in sweat- a route toward improving therapeutic drug monitoring" H. Haji-Hashemi, S. Bahadorikhalili, **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023)

■ "Voltammetric electronic tongue for the selective detection of antibiotics in water" M. Ben Jaballah, X. Cetó, C. Dridi, **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023)

■ "Electrochemical sensing platforms based on layered carbon-stabilised porous silicon nanostructures" **B. Prieto-Simón**. 2nd Annual Conference on Global Nanotechnology (Madrid, Spain, 19-21 June 2023) (Invited)

■ "Advanced materials to build the next generation of diagnostics" **B. Prieto-Simón**. Chemical Department, University of Ioannina (Ioannina, Greece, 12 January 2023) (Invited)

■ "Channel-based biosensors to support a precision agriculture approach for improved bovine mastitis management" **B. Prieto-Simón**. International coordination of research on infectious animal diseases (ICRAD) mid-term grant holders' meeting (Thessaloniki, Greece 10-11 January 2023) (Invited)

■ “Layered carbon-stabilised porous silicon nanostructures to build electrochemical biosensors” **B. Prieto-Simón**. NanoBio&Med (Barcelona, November 2022) (Keynote)

■ “Carbon-stabilised porous silicon for proof-of-concept label-free electrochemical exosomal miRNA detection” G. Pei Chin, R. Vasani, N.H. Voelcker, **B. Prieto-Simón**. Australian & New Zealand Society for Extracellular Vesicles 2022 Conference (Surfers Paradise, Australia 9-11 November 2022)

■ “Carbon-stabilised porous silicon nanostructures to build the next generation of diagnostic tools” **B. Prieto-Simón**. Trends in NanoTechnology 2022 (Tirana, Albania 3-7 October 2022) (Keynote)

■ “Porous alumina-based biosensing platform to quantify exosomes as biomarkers for early diagnosis of infectious diseases" H. Haji Hashemi, D. Verma, **B. Prieto-Simón.** XXVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2022)

■ “Poly(acrylic acid)-modified mesoporous silicon as a pH-responsive tool for antibiotic resistant bacteria detection" S. Bahadorikhalili, **B. Prieto-Simón.** XXVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2022)

■ “Development of a novel carbonized porous silicon electrochemical sensing platform by pyrolysis of furfuryl alcohol” A.A. Rajendran, **B. Prieto-Simón**. XXVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2022)

■ “Development of a novel carbonized porous silicon electrochemical sensing platform by pyrolysis of furfuryl alcohol” A.A. Rajendran, **B. Prieto-Simón**. The International Nanotech & Nanoscience Conference & Exhibition, Nanotech France 2022 (Paris, France 15-17 June 2022)

■ “Towards the next generation of diagnostics based on advanced functional materials” **B. Prieto-Simón**. Chemistry Seminar Series, Maynooth University (Webinar, 3rd December 2021) (Invited)

■ “Channel-based biosensors to support a precision agriculture approach for improved bovine mastitis management” **B. Prieto-Simón**. International coordination of research on infectious animal diseases (ICRAD) initial grant holders’ meeting (Webinar, 27th May 2021) (Invited)

■ “Nanoneedles and nanochannels: versatile building blocks for the next generation of diagnostic tools” **B. Prieto-Simón**. Chemical Engineering Departmental Seminar Series, University College London (Webinar, 3rd February 2021) (Invited)

■ “Microneedle and nanochannel arrays to build the next generation of diagnostic tools” **B. Prieto-Simón**. ICMAB Periodical Lecture, Institut de Ciència de Materials de Barcelona (Bellaterra, March 2020) (Invited)

■ “Next generation of diagnostic tools: from microneedles to nanochannel arrays” **B. Prieto-Simón**. Multidisciplinary seminars organized by the School of Chemical Engineering, Universitat Rovira i Virgili (Tarragona, November 2019) (Invited)

■ “Nanomedicine with silicon nanostructures” **B. Prieto-Simón**, N.H. Voelcker. 45th International Conference on Micro & Nano Engineering (Rhodes, Greece, September 2019) (Invited)

■ “Next generation of diagnostic tools: from microneedles to nanochannel arrays” **B. Prieto-Simón**. Graduate Students Meeting on Electronic Engineering 2019, Universitat Rovira i Virgili (Tarragona, July 2019) (Invited)

■ “Layering Carbon-Stabilized Porous Silicon Nanostructures to Design the Next Generation of Diagnostic Tools” **B. Prieto-Simón**. 6th Nano Today Conference, organised by Elsevier (Lisbon, Portugal, June 2019)

■ “Next Generation of Diagnostic Tools: From Microneedles to Nanochannel Arrays” **B. Prieto-Simón**. 4th Annual Sensors Summit 2018, organised by CHI (San Diego, US, December 2018) (Invited)

■ “Nanostructured electrochemical biosensors as fit-for-purpose analytical devices” **B. Prieto-Simón**. NanoBio&Med (Barcelona, November 2018)

■ “Nanostructured electrochemical biosensors as fit-for-purpose analytical devices” **B. Prieto-Simón**. Cutting-edge Symposium on Molecular Sensing of Biological Environments, organised by CSIRO (Hobart, Australia, October 2018) (Invited)

■ “Nanostructured biosensing platforms as fit-for-purpose analytical devices” **B. Prieto-Simón**. MIPS Meet the Fellows seminar, Faculty of Pharmacy and Pharmaceutical Sciences at Monash University (Melbourne, Australia, July 2018) (Invited)

■ “Differential functionalization of the internal and external surfaces of carbonized nanoporous silicon” M. Alba, **B. Prieto-Simón**, N.H. Voelcker. Porous Semiconductors – Science and Technology PSST 2018 (Montpellier, France, March 2018)

■ “Nanostructured biosensing platforms as fit-for-purpose analytical devices” **B. Prieto-Simón**. Active Integrated Matter Annual Conference 2018, organised by CSIRO (Melbourne, Australia, February 2018) (Invited)

■ “Proof-of-concept biosensor for the detection of Norovirus in oysters” Valeria Torok, Nekane Reta Murua, Kate Hodgson, Nicolas H. Voelcker, **B. Prieto-Simón**. Australasian Virology Society Meeting 2017 (Glenelg, Adelaide, Australia, December 2017)

■ “Porous nanostructures as electrochemical biosensing platforms for medical diagnosis” **B. Prieto-Simón**, N. Reta, A. Sharma, K. Tücking, M. Alba, N.H. Voelcker. 7th International Nanomedicine Conference (Coogee, Sydney, Australia, June 2016) (Invited)

■ “Porous silicon nanostructures as versatile electrochemical biosensing platforms” **B. Prieto-Simón**, N. Reta, A. Sharma, K. Tücking, M. Alba, N.H. Voelcker. World Congress on Biosensors (Gothemburg, Sweden, May 2016)

■ “Porous silicon nanostructures as versatile electrochemical biosensing platforms” **B. Prieto-Simón**, N. Reta, A. Sharma, K. Tücking, M. Alba, N.H. Voelcker. Porous Semiconductors – Science and Technology PSST 2016 (Tarragona, March 2016)

■ “Towards cardiac marker point-of-care testing devices” **B. Prieto-Simón**, D.P. Chew, N.H. Voelcker. 5th International Symposium of Surface and Interface of Biomaterials & 24th Annual conference of the Australasian Society for Biomaterials and Tissue Engineering (Sydney, Australia, April 2015)

■ “Dense arrays of vertical nanopores in silicon” D. Brodoceanu, R. Elnathan, **B. Prieto-Simón**, B. Delalat, T. Guinan, E. Kroner, N.H. Voelcker, T. Kraus. 2014 Materials Research Society Fall Meeting (Boston, USA, December 2014)

■ “Array of peptide modified electrodes for the simultaneous determination of Pb(II), Cd(II) and Zn(II)” N. Serrano, **B. Prieto-Simón**, X. Cetó, M. del Valle. ESEAC 2014 (Malmö, Sweden, June 2014)

■ “Photonic crystal based immunosensor for clinical diagnosis” D. Zecca, A. Qualtieri, G. Magno, M. Grande, V. Petruzzelli, **B. Prieto-Simon**, A. D’Orazio, M. De Vittorio, N.H. Voelcker, T. Stomeo. Third Mediterranean Photonics Conference (Trani, Italy, May 2014)

■ “Electrochemical biosensors as early alert screening tools for water quality assessment” **B. Prieto-Simon**. Invited talk at the IRTA- Torre Marimon, in the frame of the Workshop: Biosensors for a better environment (Caldes de Montbui, September 2013)

■ “Immobilising nanostructured marine diatoms” D. Garibo, **B. Prieto-Simón**, M. Fernández-Tejedor, J. Diogène, M. Campàs. VI Workshop on Analytical Nanoscience and Nanotechnology (VINyNA) (Alcalá de Henares, July 2013) (Flash communication)

■ “Tailored three-dimensional bioplatforms to tune analytical devices” **B. Prieto-Simon**. Invited talk at the University Rovira i Virgili, in the frame of the Summer University Course: Nanomaterials and nanotechnology: from solar cells to the new medicine (Tarragona, July 2013)

■ “Aptamer-based electrochemical assay fordetection of *Salmonella typhimurium*” A. Turner, J.-L. Sebastián-Ávila, V. Beni, J. Samitier, **B. Prieto-Simon**. 3rd International Conference on Bio-Sensing Technology (Sitges, May 2013)

■ “Various approaches for the development of biosensors for the detection of okadaic acid” A. Hayat, G. Catanante, A. Sassolas, M. Campàs, **B. Prieto-Simon**, J.-L. Marty. The Second North and East European Congress on Food (NEEFood-2013) (Kiev, Ukraine, May 2013)

■ “Fabrication of a multi sensor for electrochemical detection of pathogenic bacteria” M. Barreiros dos Santos, J.P. Agusil, S. Martinez-Rodriguez, **B. Prieto-Simón**, C. Sporer, V. Teixeira, J. Samitier. 4th IBEC Symposium (Barcelona, October 2011)

■ “Immuno- and aptamer-based biosensors for Ochratoxin A detection” C. Yang, **B. Prieto-Simón**, X. Yang, J.-L. Marty. International Conference on Healthy Nutrition and Public Health IC-HNPH–2011 (Brasov, Romania, May 2011)

■ “Detection of pathogenic bacteria using an electrochemical multi sensor platform” M. Barreiros dos Santos, **B. Prieto-Simón**, J.P. Agusil, V. Teixeira, J. Samitier, C. Sporer. XV Rencontre Transfrontalière, Capteurs et Biocapteurs (Sant Carles de la Ràpita, September 2010)

■ “Other biosensors for marine toxins” **B. Prieto-Simón**. Open-door session within the Alarmtox project (Sant Carles de la Ràpita, September 2010)

■ “Fabrication of a multi sensor for electrochemical detection of pathogenic bacteria” M. Barreiros dos Santos, C. Sporer, **B. Prieto-Simón**, V. Teixeira, J. Samitier. 4t International MPA (Braga, Portugal, July 2010)

■ “Alarmtox: an early detection of biotoxins using biosensors” A. Sassolas, A. Hayat, G.Catanante, L. Barthemebs, **B. Prieto-Simón**, J.-L. Marty. International Conference on Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences (Brasov, Romania, June 2010)

■ “Mise au point de biocapteurs pour la detection de l’acide okadaïque” A. Hayat, A Sassolas, G. Catanante, L. Barthelmebs, **B. Prieto-Simón**, J.-L. Marty. XIIème colloque du Groupe Français de Bioélectrochimie (Lacanau, France, May 2010)

■ “Aptamer selection against Ochratoxin A for the development of an electrochemical aptasensor” L. Barthelmebs, J. Jonca, A. Hayat, **B. Prieto-Simón**, T. Noguer. XIV Rencontre Transfrontalière, Capteurs et Biocapteurs (Banyuls sur Mer, France, September 2009)

■ “Different affinity-approaches with applications in toxins detection” **B. Prieto-Simón**, T. Noguer, J.-L. Marty, I. Karube. 5th France-China Workshop. (Changsha, China, May 2008)

■ “Towards highly-performing immunosensor-based strategies for toxins assessment” **B. Prieto-Simón**, T. Noguer, I. Karube, J.-L. Marty. 10th World Congress on Biosensors (Shanghai, China, May 2008)

■ “Development of different detection strategies for Ochratoxin A, a ubiquitous mycotoxin in foodstuffs” **B. Prieto-Simón**, M. Campàs, T. Noguer, J.-L. Marty. XI Rencontre Transfrontalière, Capteurs et Biocapteurs (Girona, September 2006)

■ “Towards the development of an amperometric immunosensor for the determination of Ochratoxin A” **B. Prieto-Simón**, T. Noguer, J.-L. Marty. “International Conference. Biosensing and Biodynamics: From Basics to Applications” (Bucharest, Romania, May 2006)

■ “Towards the development of an amperometric immunosensor for the determination of Ochratoxin A” **B. Prieto-Simón**, M. Campàs, T. Noguer, J.-L. Marty. Xème colloque du Groupe Français de Bioélectrochimie (Céret, France, April 2006)

■ “Novel electrochemical immunosensor for the determination of Ochratoxin A” **B. Prieto-Simón**, M. Campàs, T. Noguer, J.-L. Marty. “Training session of the NOVTECH project” (Lujbljana, Slovenia, March 2006)

■ “Strategies for the development of malate sensors devoted to winemaking monitoring” T. Noguer, A.-M. Gurban, B. Bucur, E. Mallat, **B. Prieto**, J.-L. Marty. “The Tenth International Seminar on Electroanalytical Chemistry (10th ISEC)” and “The Third Sino-France Workshop on Surface Electrochemistry of Molecules of Biological Interest and Biosensor Application (3rd S-FWSE)” (Changchun, China, October 2005)

■ “Different strategies for developing L-malate biosensors” **B. Prieto-Simón**, A.-M. Gurban, B. Bucur, E. Mallat, T. Noguer, J.-L. Marty. X Rencontre Transfrontalière, Capteurs et Biocapteurs (Albi, France, September 2005)

■ “Strategies for developing the L-malic acid sensors” A.M. Gurban, **B. Prieto Simón**, T. Noguer, C. Bala, V. Magearu, J.-L. Marty. EnvEdu 2005- Trends in Environmental Education (Brasov, Romania, September 2005)

■ “Development of composite films based on metal-modified xerogels for the electrocatalysis of hydrogen peroxide and its application as interference free oxidase-based biosensors” **B. Prieto-Simón**, G. S. Armatas, P. J. Pomonis, C. G. Nanos, M. I. Prodromidis. VIII Rencontre Transfrontalière, Capteurs et Biocapteurs (Ceret, France, September 2003)

POSTERS:

■ “Electrochemical detection of *E. coli* using a microporous silicon-based immunosensor” K. Shafique, A.A. Rajendran, X. Ceto, **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023)

■ “Advancing biosensing technologies: fabrication and characterization of micropillars with tunable size for advanced sensing performance” S. Bahadorikhalili, H. Haji-Hashemi, S. Ahmed Peralta, **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023)

■ “Porous silicon-based sensor to detect and monitor biofilm growth” F. O’Connor, K. Shafique, S. Bahadorikhalili, V. Rashedi, **B. Prieto-Simón**. XXVII Transfrontier Meeting on Sensors and Biosensors (Banyuls de la Marenda, France, 28-29 September 2023)

■ “Biosensors to support bovine mastitis management" **B. Prieto-Simón**, A.A. Rajendran, H. Haji-Hashemi, D. Verma, K. Shafique, Ł. Gontar, M. Kochański, A. Drutowska, M. Pilmane, K. Šerstņova, G. Maróti**.** XXVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2022)

■ “Porous silicon-based sensor to detect and monitor bacterial growth" F. O’Connor, K. Shafique1 A.A. Rajendran, S. Bahadorikhalili, **B. Prieto-Simón.** XXVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2022)

■ “Biosens4precisionMastitis: Non-invasive biosensor to support a precision agriculture approach for improved bovine mastitis management" K. Shafique, A.A. Rajendran, H. Haji-Hashemi, M. Bujaldón Velasco, S. Bahadorikhalili, **B. Prieto-Simón.** EuroScience Open Forum 2022 Marie Skłodowska-Curie Actions Satellite Event, organised by the European Commision (Marie Skłodowska-Curie Actions Unit, Directorate-General for Education, Youth, Sport and Culture) (Leiden, Netherlands, 12-13 July 2022)

■ “Novel carbonized mesoporous silicon-based biosensor for the label-free electrochemical detection of infectious agents” A.A. Rajendran, M. Bujaldon Velasco, K. Shafique, P. Formentín, L.F. Marsal, H. Haji-Hashemi, X. Cetó, **B. Prieto-Simón**. 7th International Conference on Bio-sensing Technology, organised by Elsevier (Sitges, Spain, 22-25 May 2022)

■ “Different strategies for the rapid detection of haze-forming proteins” X. Cetó, J.M. McRae, N.H. Voelcker, **B. Prieto-Simón**. Oeno 2019/IVAS2019, organised by Institut de sciences de la vigne et du vin (Bordeaux, France, June 2019)

■ “Nanostructured electrochemical biosensors as fit-for-purpose diagnostic devices” **B. Prieto-Simón,** K. Guo, G. Chin, K. Tücking, R. Vasani, N. Reta, M. Alba, N.H. Voelcker. 4th Annual Sensors Summit 2018, organised by CHI (San Diego, US, December 2018)

■ “Microneedle Arrays for Transdermal Diagnostics” M. Alba, M. Dervisevic, A. Tran, **B. Prieto-Simón**, N.H. Voelcker. 4th Annual Sensors Summit 2018, organised by CHI (San Diego, US, December 2018)

■ “DNA aptamers as potential antimalarial drugs: Isolation of DNA aptamers against enzymes of the methylerythritol phosphate pathway” C. Roca, C. Agrafojo, J. Romero, L. Llinàs, S. Currás, E. Lantero, A. Belavilas, **B. Prieto-Simon**, A. Saura, X. Fernandez-Busquets, S. Imperial. 1st Malaria World Congress (Melbourne, Australia, July 2018)

■ “Developing aptamers against *Plasmodium falciparum*: Different approaches to overcome the challenge” E. Lantero, E. Moles, A. Belavilas, M. Ramírez, **B. Prieto-Simon**, S. Imperial, X. Fernandez-Busquets. EMBL conference: BioMalPar XIII, Biology and Pathology of the Malaria Parasite (EMBL Advanced Training Centre, Heidelberg, Germany, May 2017)

■ “Search for new inhibitors of the methylerythritol phosphate pathway of isoprenoid biosynthesis from *Plasmodium falciparum*: Isolation of DNA aptamers against the enzyme DXP reductoisomerase” L. Llinas,

S. Curras, C. Roca, E. Lantero, **B. Prieto-Simon**, A. Paya, A. Serra, A. Saura, X. Fernandez-Busquets, S. Imperial. Aptamers 2017, 4th International Symposium of the International Society on Aptamers (Oxford, United Kingdom, April 2017)

■ "The challenge of using the intraerythrocytic parasite *Plasmodium falciparum* as aptamer-selecting target" E., E. Moles, A. Belavilas, M. Ramirez, **B. Prieto-Simon**, S. Imperial, X. Fernandez-Busquets. Aptamers 2017, 4th International Symposium of the International Society on Aptamers (Oxford, United Kingdom, April 2017)

■ "Porous silicon electrode for bacterial toxin detection in water" N. Reta, C.P. Saint, A. Michelmore, **B. Prieto-Simón**, N.H. Voelcker. International Water Association Regional Conference on Diffuse Pollution and Catchment Management (Dublin, Ireland, October 2016). Best poster award.

■ "Towards cardiac marker point-of-care testing devices" **B. Prieto-Simón**, D.P. Chew, N.H. Voelcker. World Congress on Biosensors (Gothemburg, Sweden, May 2016)

■ "Immunosensore in tecnologia a cristallo fotonico bidimensionale per diagnostica clinica" M. Grande, G. Magno, B. Ferrara, V. Petruzzelli, A. D'Orazio, D. Zecca, A. Qualtieri, M. De Vittorio, T. Stomeo, **B. Prieto-Simón**, N.H. Voelcker. XVI Convegno Nazionale AIIC (Bari, Italy, April 2016)

■ "Infection signaling with temperature- and enzyme-responsive polymers in nanoporous membranes" K.-S. Tücking, S. Müller, A. Cavallaro, K. Vasilev, **B. Prieto-Simón**, N.H. Voelcker, H. Schönherr. Macromolecular colloquium (Freiburg, Germany, February 2016)

■ "Array of peptide modified electrodes for the simultaneous determination of Pb(II), Cd(II) and Zn(II)" N. Serrano, **B. Prieto-Simón**, X. Cetó, M. del Valle. XIX Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2014)

■ "Porous silicon nanowells for detection of microbiological contamination in water" N. Reta, G. Cai, L. Acqueroli, **B. Prieto-Simón**, C. Saint, N.H. Voelcker. World Congress on Biosensors (Melbourne, Australia, May 2014)

■ "Tuning the electrochemical response of immunosensors based on diazonium salt-modified carbon nanotubes and oriented antibody immobilisation" **B. Prieto-Simón**, N.M. Bandaru, N. Reta, C. Saint, N.H. Voelcker. World Congress on Biosensors (Melbourne, Australia, May 2014)

■ "2D photonic crystal membranes for optical biosensors" D. Zecca, A. Qualtieri, M. De Vittorio, T. Stomeo, G. Magno, M. Grande, V. Petruzzelli, A. D'Orazio, **B. Prieto-Simon**, N.H. Voelcker. Fotonica 2014: Convegno Italiano delle Tecnologie Fotoniche (Napoli, Italy, May 2014)

■ "Aptamer-based electrochemical assay for detection of *Salmonella typhimurium*" J.L. Sebastián-Avila, V. Beni, A.P.F. Turner, J. Samitier, **B. Prieto-Simón**. 3rd International Conference on Bio-Sensing Technology (Sitges, May 2013)

■ "Highly sensitive and selective ITO-based impedimetric immunosensors for the detection of very low concentrations of *E.coli*" M. Barreiros dos Santos, S. Azevedo, J.P. Agusil, **B. Prieto-Simón**, C. Sporer, E. Torrents, A. Juárez, V. Teixeira, J. Samitier. Nanotech2013 (Washington, USA, May 2013)

■ "Electrochemical immunosensor for the detection of *E. coli* O157:H7 in human plasma" M. Barreiros dos Santos, J.P. Agusil, **B. Prieto-Simón**, C. Sporer, V. Teixeira, J. Samitier. IBEC Symposium (Barcelona, May 2012)

■ "Novel aptamer-based assay for detection of *Salmonella Thyphimurium*" J.L. Sebastián-Ávila, M. Barreiros dos Santos, J.P. Agusil, A. Juárez, J. Samitier, **B. Prieto-Simón**. World Congress on Biosensors (Cancún, Mexico, May 2012)

■ "Aptamer-based electrochemical "signal off" sensor for detection of okadaic acid in shellfish" **B. Prieto-Simón**, J. Samitier. World Congress on Biosensors (Cancún, Mexico, May 2012)

■ "Electrochemical immunosensor for the detection of E. coli O157:H7 in human plasma" M. Barreiros dos Santos, J.P. Agusil, **B. Prieto-Simón**, C. Sporer, V. Teixeira, J. Samitier. World Congress on Biosensors (Cancún, Mexico, May 2012)

■ “Multi-analyte device for the electrochemical detection of pathogenic bacteria” M. Barreiros dos Santos, J.P. Agusil, **B. Prieto-Simón**, S. Martínez, C. Sporer, V. Teixeira, J. Samitier. World Congress on Biosensors (Cancún, Mexico, May 2012)

■ “Is the edge from a selected aptamer to its practical biosensing application a straightforward step?” **B. Prieto-Simón**, J. Samitier. 2nd International Conference on Bio-Sensing Technology (Amsterdam, The Netherlands, October 2011)

■ “Optimising the aptamer-based assay for the detection of the marine toxin okadaic acid” M. Campàs, L. Reverté, G. Freixes, P. de la Iglesia, J. Diogène, **B. Prieto-Simón**. 2nd International Conference on Bio-Sensing Technology (Amsterdam, The Netherlands, October 2011)

■ “Novel PEDOT-based platforms for DNA sensor development” T. Galán, J. Samitier, P. Bäuerle, G. Gotz, **B. Prieto-Simón**, E. Martínez. 2nd International Conference on Bio-Sensing Technology (Amsterdam, The Netherlands, October 2011)

■ “Development of innovative tools for Ochratoxin A risk assessment” **B. Prieto-Simón**, M. Campàs, M. Castellari, E. Jubete, A. Leszkowicz, J.-L. Marty. XVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Toulouse, France, September 2011)

■ “An innovative colorimetric competitive aptamer-based assay for OA detection” L. Reverté, M. Campàs, J. Diogène, **B. Prieto-Simón**. XVI Rencontre Transfrontalière, Capteurs et Biocapteurs (Toulouse, France, September 2011)

■ “Ensayos aptaméricos para la determinación de ácido okadaico” M. Campàs, L. Reverté, G. Freixes, P. de la Iglesia, J. Diogène, **B. Prieto-Simón**. XI Reunión Ibérica sobre Microalgas nocivas y Biotoxinas (Bilbao, Spain, May–June 2011)

■ “Towards aptamer-based assays for okadaic acid detection” M. Campàs, **B. Prieto-Simón**, G. Freixes, P. de la Iglesia, J. Diogène. Marine and Freshwater Toxins Analysis. Second Joint Symposium and AOAC Task Force Meeting (Baiona, May 2011)

■ “Detection of pathogenic bacteria using an electrochemical multi sensor platform” M. Barreiros dos Santos, C. Sporer, J.P. Agusil, **B. Prieto**, V. Teixeira, J. Samitier. VI International Materials Symposium MATERIAIS 2011, XV meeting of SPM - Sociedade Portuguesa de Materiais (Guimarães, Portugal, April 2011)

■ “Strategies for the development of an aptamer-based assay for okadaic acid detection” G. Freixes, **B. Prieto-Simón**, J. Diogène, M. Campàs. XV Rencontre Transfrontalière, Capteurs et Biocapteurs (Sant Carles de la Ràpita, September 2010)

■ “Towards the development of an aptamer-based biosensor for label-free impedance detection of okadaic acid” **B. Prieto-Simón**, T. Kato, I. Karube, C. Sporer, J. Samitier. ESEAC 2010 (Gijón, June 2010)

■ “Fabrication of electrodes and multiprotein arrays with an automatized microcontact printing tool” J.P. Agusil, M. Barreiros dos Santos, **B. Prieto-Simón**, E. Álvarez de Eulate, C. Sporer, J. Samitier. 3rd IBEC Symposium (Barcelona, June 2010)

■ “Through the development of an aptamer-based sensor for okadaic acid assessment” **B. Prieto-Simón**, I. Karube, H. Saiki, T. Kato. World Congress on Biosensors (Glasgow, UK, May 2010)

■ “Development of an electrochemical multi sensor platform for the rapid and sensitive detection of pathogenic bacteria” M. Barreiros dos Santos, **B. Prieto**, E. Álvarez, V. Teixeira, J. Samitier, C. Sporer. World Congress on Biosensors (Glasgow, UK, May 2010)

■ “Electrochemical biosensors for medical diagnostics” M. Barreiros dos Santos, E. Álvarez, E. Rodríguez, **B. Prieto**, C. Sporer, J. Samitier. Nanotechnologies in the Field of Cancer: Clinical applications (Montpellier, France, January 2010)

■ “High-sensitive flow-immunosensing system for okadaic acid assessment” **B. Prieto-Simón**, J.-L. Marty, I. Karube, H. Saiki. XIV Rencontre Transfrontalière, Capteurs et Biocapteurs (Banyuls sur Mer, France, September 2009)

■ “Evaluation of different redox mediators immobilised onto screen-printed electrodes” **B. Prieto-Simón**, E. Fàbregas. IX Rencontre Transfrontalière, Capteurs et Biocapteurs (Tarragona, September 2004)

■ “New graphite-immuno material-polysulfone membrane for the development of immunosensors” S. Sánchez, **B. Prieto-Simón**, M. Muñóz, E. Fàbregas. IX Rencontre Transfrontalière, Capteurs et Biocapteurs (Tarragona, September 2004)

■ “New matrix for the incorporation of redox mediators and enzymes in the development of dehydrogenase-based biosensors” **B. Prieto-Simón**, J. Macanás, M Muñóz, E. Fàbregas, Euroanalysis XIII (Salamanca, September 2004)

■ “An amperometric biosensor for the detection of ammonium based on a polysulfone membrane” **B. Prieto-Simón**, E. Fàbregas. VII Rencontre Transfrontalière, Capteurs et Biocapteurs (Barcelona, September 2002)

■ “Development of a selective and reproducible NADH sensor based on modified surfaces with electropolymerized mediators, in order to apply in the analysis of heavy metal general toxicity” **B. Prieto-Simón**, E. Fábregas. VI Rencontre Transfrontalière, Capteurs et Biocapteurs (Toulouse, France, September 2001)

■ “Analytical characterisation of some mediators used to modifiy amperometric biosensors with interest in heavy metal toxicity analysis” **B. Prieto-Simón**, A. Merkoçi, S. Alegret, E. Fábregas. V Rencontre Transfrontalière, Capteurs et Biocapteurs (Vic, September 2000)

■ “Flow injection system for the detection of heavy metal toxicity based on the urease inhibition” **B. Prieto-Simón**, S. Solé, A. Merkoçi, S. Alegret, E. Fábregas. IV Rencontre Transfrontalière, Capteurs et Biocapteurs (Montpellier, France, September 1999)

PARTICIPATION IN RESEARCH, DEVELOPMENT OR INNOVATION GROUP/TEAMS:

■ 2010: Bio-Inspired Technologies: from concepts to applications (COST). European cooperative network aimed to bring together researchers of different disciplines sharing the same analysis considering the importance and the urgency of “bio-inspired technologies” and construct a European network on “bio-inspired technologies’ with strong roots at the national level. Built activities in perspectives of education, research and development projects and promote the concepts and developments within all the dynamical parts of sciences and industries.

PROFESSIONAL DEVELOPMENT:

■ January 2022: “Pla DANG. How to teach in English”. URV.

■ February 2021: “Dades de recerca. Principis FAIR. Elaboració del pla de gestió de dades”. URV.

■ November 2020: “Bones pràctiques en la supervisió doctoral”. URV.

■ January 2019–21: “Training Teachers in Higher Education: Lecturing, Research and Management”. Postgraduate studies, URV.

■ March-April 2018: “Biosafety modules 1 & 2”. Workshop for Monash University staff.

■ March 2018: “GRS: Introduction to Graduate Research Supervision at Monash”. Workshop for Monash University staff.

■ December 2017: “Evaluate and demonstrate your research impact”. Workshop for Monash University staff given by Madeleine Bruwer, Cassandra Freeman and Mario Sos.

■ May-September 2017: “2017 Women’s Development Program: Strategic Thinkers 20:20”. Workshop for UniSA staff given by Tracy Maxted from The Missing Think.

■ August 2016: “Positioning yourself for non-traditional funding”. Training course for UniSA staff given by Maria Gardiner from ThinkWell.

■ July 2015: “Writing your research track record”. Training course for UniSA staff given by Shaun McNicholas.

■ July 2015: “Plan your research career”. Training course for UniSA staff given by Maria Gardiner from ThinkWell.

■ July 2015: “Supervising@UniSA”. Training course for UniSA academic staff given by Alistair McCulloch.

■ June 2015: “Powerful presence”. Training course for UniSA staff given by Tricia Karp.

■ June 2015: “Successful mentoring: An introduction”. Training course for UniSA staff given by Kathryn McEwen.

■ April 2015: “Biosafety training session”. Training course for UniSA staff.

■ November 2014: “Writing well: Clarity, brevity, simplicity”, “Principles of effective writing” and “Proofreading and editing”. Training courses for UniSA staff given by Shaun McNicholas.

■ November 2014: “The imposter syndrome”. Training course for UniSA staff given by Hugh Kearns from ThinkWell.

■ October 2014: “SA Water Centre for Water Management and Reuse Research Workshop: Understanding Scarce Resources”. Workshop at UniSA’s City West Campus.

■ September 2014: “Fourth National Cyanobacterial Workshop”. Workshop organised by Water Research Australia.

■ September 2014: “The strategic researcher”. Training course for UniSA staff given by Maria Gardiner from ThinkWell.

■ July 2014: “Presenting your research with confidence”. Training course for UniSA staff given by Hugh Kearns.

■ July 2014: “Turbocharge your writing”. Training course for UniSA staff given by Maria Gardiner.

■ May 2014: “Two real hours”. Training course for UniSA staff given by Hugh Kearns.

■ December 2013–March 2013: “Industry engagement program”. Workshop at UniSA’s Mawson Lakes Campus, organised by MI.

■ October 2013: “SA Water Centre for Water Management and Reuse Research Workshop: Water Futures”. Workshop at UniSA’s City West Campus.

■ June–September 2013: “Innovative experiences and creativity in teaching”, “Practice the oral discourse”, “Planning the teaching process, from the outline to the detailed program” and “Assessment of Higher Education learning”. Courses of the Accreditation Program for Teacher Preparation in Higher Education (FDES) offered by the Teaching Unit of Innovation in Higher Education of the UAB.

■ April 2013: “Transmission electronic microscopy in materials science and biology”. Training course offered by the Microscopy service at UAB.

■ April/ 2013: “Ionophore-based sensors”. Course given by Dr Aleksandar Radu from Keele University (UK).

■ April 2013: “Confocal microscopy for materials”. Course for users of the Microscopy service at the UAB.

■ July 2012: “SA Water Centre for Water Management and Reuse Research Showcase”. Workshop at UniSA’s Mawson Lakes Campus.

■ July 2012: “Creative tools you can use every day”. Training course for UniSA staff given by Hugh Kearns.

■ May 2012: “Database searching for your research: Chemistry”. Training course for UniSA researchers.

■ May 2012: “Microfabrication training course”. Training course for UniSA researchers given by Simon Doe at the Ian Wark Research Institute.

■ November 2011: “Writing style workshop: Writing Competitive Proposals”. Training course for IBEC researchers given by Carolyn Newey.

■ May 2010: “Summer School on Nanobiosensors”. Short course jointly organised by University of Glasgow, the Institute of Nanotechnology and Cranfield University.

■ November–December 2010: “Laboratory safety”. Training course for IBEC researchers jointly organised by UB and Scientific Park of Barcelona.

■ April 2010: “Prevention of occupational risks”. Training course for IBEC researchers given by technicians of Unipresalud.

■ July 2002: “Introduction to the prevention of occupational risks”. Training course given by technicians of the INSHT (Spain).

■ February–March 1998: "Basic microeducation" and "Education during adolescent development". Training courses for teachers (ITESM, Mexico).

LANGUAGES:

■ CATALAN AND SPANISH: Native tongues

■ FRENCH: Intermediate level

■ ENGLISH: High level

DISSEMINATION:

■ Twitch chat with Cèlia Ventura about “Antimicrobial resistance and the role of diagnostics” in the frame of the “A la gola del llop”, project supported by the Fundació Catalana per a la Recerca i la Innovació (Twich) (12/06/2023).

■ TV program “30 minuts” on TV3 “Torna el talent” (video) (21/05/2023).

■ Article in Latvian medical magazine: “Imbalance of remodelling factors in the milk of healthy and mastitis-infected cows – norm or abnormality?”. Pilmane M., I. Melderis, E. Lohova, L.Gontar, M.Kochanski, A. Drutovska, B.Prieto-Simón. Medicus Bonus, 66, May-June 2023.

■ Article in Spanish magazine on livestock: “The importance of the early diagnosis of bovine mastitis”. B.Prieto-Simón. Mundo ganadero, 311, 2023, 22-24.

■ 4th Issue of the ICRAD Newsletter: “The role of high-throughput analysis techniques in precision livestock farming” (4th ICRAD newsletter) (08/2022).

■ Article in Latvian medical magazine: “Stable cytokines in in the milk of healthy and cows with mastitis and their correlation with seasonality and microbes”. Pilmane M., K.Šerstņova, E. Lohova, L.Gontar, M.Kochanski, B.Prieto-Simón, A. Drutovska, H. Haji-Hashemi, G.Maroti. Medicus Bonus, 60, May-June 2022.

■ Taula Rodona: La participació de les dones en Projectes Europeus de Recerca i Innovació (21/03/2022) – Participació com a ponent. Organitzat per la URV.

■ 2nd Issue of the ICRAD Newsletter: “Biosens4PrecisionMastitis project” (2nd ICRAD newsletter) (07/2021).

■ Article in Latvian medical magazine: “Cytokines, antimicrobial proteins, milk and mammary gland inflammation”. Pilmane M., Z.Vitenberga-Verza, K.Šerstņova, L.Gontar, M.Kochanski, B.Prieto-Simón, G.Maroti. Medicus Bonus, 53, March-April 2021.

■ Biosens4PrecisionMastitis video uploaded on You Tube (video) (29/09/2021).

■ Martí i Franquès COFUND Programme. URV’institutional video (video).

■ Ones de ciència (05/05/2021) – “Capítol 28: Nanotecnologia aplicada”

■ Diari de Tarragona (16/07/2020) – “La URV gana un proyecto de la UE que le permitirá contratar a 50 investigadores”

OTHER MERITS:

■ European Doctorate Mention, July 2005.

■ Member of the Safety Commission at the Chemistry Department, UAB, 2001–2003.

■ I accept around 12 of an average of more than 20 invitations a year to peer-review journal manuscripts for international journals such as *Nature Communications, Biosensors & Bioelectronics, Electroanalysis, Talanta, Analytical and Bioanalytical Chemistry*, *Analytica Chimica Acta, ACS Applied Materials & Interfaces, ACS Measurement Science Au, Sensors, Trends in Biotechnology, Analytical Chemistry, Analytical Biochemistry, Sensors and Actuators B, Biofueling, Langmuir, Australian Journal of Chemistry* and *Bioelectrochemistry*.

■ I served on the editorial board of Biosensors & Bioelectronics (2008–2012).

■ Executive editor of Analytical Biochemistry (2022–).

■ Editorial board member of Biosensors (2020–).

■ Editor of Special Issue in TrAC, Biosensors.

■ Grant reviewer for the ARC (since 2014), the French National Research Agency (2009), the Executive Agency for Higher Education, Research, Development and Innovation Funding of the Romanian Ministry of Education and Scientific Research (2015, 2020, 2021, 2023), the Executive Government Agency of National Science Centre, Poland (2018), the Estonian Research Council (2019), and the Spanish State Research Agency (2023).

■ Member of the Scientific and Editorial Board of the International Symposium on Applied Chemistry 2018, Indonesia.

■ Invited member of the committee of external experts of a European Regional Development Fund project (ALARMTOX).

■ Accreditation as university professor (Professeur des Universités) (2015) awarded by the Conseil National des Universités (relevant office of the French Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche).

■ Accreditation as university teacher (Professor Lector) (2009) awarded by the Agència per la Qualitat del Sistema Universitari de Catalunya (Spain).

■ Research accreditation (Professor Agregat) (2019) awarded by the Agència per la Qualitat del Sistema Universitari de Catalunya (Spain).

■ Accreditation as university teacher (Maître de Conférences) (2008) awarded by the Conseil National des Universités (relevant office of the French Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche).

■ Accreditation DANG, awarded by the University Rovira i Virgili, to teach in English (2022).

■ Thesis examination: I have served on eight PhD defense panels in Spain (3 UAB, 2 UPV, 2 UB, 1 URV), two in Australia (Macquaire University, University of Adelaide), three in France (UPVD) and one in Tunisia (University of Sousse).

■ Member of AusBiotech.

■ Mentor of Inspira STEAM Tarragona (2019–2021).

ORCID ID:

■ http://orcid.org/0000-0001-8016-1565