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Curriculum Vitae

EDUCATION

2014 Habilitation to direct research (HDR), Université Jean Monnet, FR.
1998-2002 Ph.D. in Biochemistry, Department of Biochemistry and Molecular Biology. Advisor:
 Professor C. D. O'Connor, University of Southampton, U.K.
1994-1998 B.A. in Biochemistry, Trinity College Dublin, IE.
1996-1997 Erasmus student at the Université Joseph Fourier, Grenoble, FR.

PROFESSIONAL EXPERIENCE

2016 - Present Head of Department of Bioelectronics, Ecole des Mines de St. Etienne, FR.
2010 - Present Associate Professor, Department of Bioelectronics, Ecole des Mines de St. Etienne, FR.
May 2016 Visiting Professor, Electrical Engineering, University of Cagliari, IT.
Spring 2014 Sabbatical, Physics Department, Aristotle University of Thessaloniki, GR.
2009 - 2010 Assistant Professor, Department of Bioelectronics, Ecole des Mines de St. Etienne, FR.
2007 - 2009 Research Associate, Biomedical Engineering, Group of Prof. Moonsoo Jin, Cornell
 University, USA.
2005 - 2007 Staff Scientist, Agave BioSystems, Ithaca, NY, USA.
2004 - 2005 Research Associate, Group of Prof. David Russell, Department of Microbiology and
 Immunology, Cornell University, USA.
2002 - 2004 Postdoctoral Associate, Group of Prof. David Russell, Department of Microbiology
 and Immunology, Cornell University, USA.
2000 EMBO Fellow, Max Planck Institute for Molecular Genetics, DE.
Summer 1998 Intern, Charkit Chemical Corp. Connecticut, USA.
Summer 1997 Lab technician, Arran Chemical Co., Athlone, IE.
Summer 1995 Lab technician, Henkel kGaA, Düsseldorf, DE.

DISTINCTIONS

2016 Visiting Professor Fellowship from University of Cagliari.
2015 Exceptional Performance Award, Ecole des Mines de St. Etienne.
2015 Best Paper Award (2nd prize), Biosensors.
2015 Prize for Science-as-Art competition at Fall MRS Meeting.
2014 Highlighted as Emerging Investigator, *Journal of Materials Chemistry B*.
2011 European Research Council (ERC) Starting Grant.
2011 Exceptional Performance Award, Ecole des Mines de St. Etienne.
2010 Marie Curie Reintegration Fellowship.
2005 Pfizer Education Scholarship.
2002 European Molecular Biology Organisation (EMBO) Short-Term Fellowship.
2001 Fisher Scientific Prize for an outstanding talk.

PROFESSIONAL ACTIVITIES

2016	Member of Audit Committee, School of Life Science & Bioengineering, EPFL, CH.
2015 - Present	Member of Scientific Advisory Board, Centre for Functional Materials, Abo Academy, Turku, FI.
2015 - 2016	Member of Scientific Advisory Board, GenesInk, Meyreuil, FR.
2014 - 2015	Associate Director, Bioflex, Dublin, IE.
2014 - Present	Principle Editor for Biomaterials, Materials Research Communications, Cambridge.
2014 - Present	Member of the Advisory Board, Journal of Applied Polymer Science, Wiley.
2013 - Present	Editorial Board Member, Materials Research Society News.
2013 - 2016	Member of International Advisory Panel, Materials Research Express, IOP.

RESEARCH

My research program has so far centered on harnessing the power of engineering for developing *in vitro* models. By developing both the biological model and the adapted monitoring system in parallel, both may be iteratively improved resulting in more predictive models for diagnostics and therapeutics development. I define the latter combination as ***in vitro* systems**: an integrated system to monitor human biology *in vitro*. Specifically, I have focused on the use of organic electronic materials and devices which bridge a gap between hard, rigid materials used for physical transducers and soft, compliant biological tissues, allowing a new understanding of how to probe biological systems in the least invasive and thus most biomimetic fashion possible.

The three major strands of my research portfolio are:

1. *Basic understanding of the interface of biological materials with transducers*
2. *Development of 3D models with integrated fluidics and electronics*
3. *Use of 3D in vitro systems to answer specific questions related to human pathology*

PhD thesis supervision

- Magali Ferro, “Development of a 3D model of the blood brain barrier with adapted monitoring”, 2018 (est.).
- Anna Maria Pappa, “Metabolite sensing from live cells using organic electrochemical transistors”, 2017 (est.).
- Gaëtan Scheiblin*, “Development of lactate sensors and transfer to printed electronics”, 2016.
- Xenofon Strakosas, “Integration of proteins with organic electrochemical transistors for sensing applications”, 2014.
- Manuelle Bongo, “Integration of an in vitro blood brain barrier model with organic electrochemical transistors”, 2014.
- Scherrine Tria, “Novel in vitro models for pathogen detection based on organic transistors integrated with living cells”, 2013.
- Dion Khodagholy*, “Conducting polymer devices for bioelectronics”, 2012.

[* co-advisor]

Postdoctoral researcher supervision

Charalambos Pitsalidis, Donata Iandolo*, Kirsty Roy, Sahika Inal, Pierre Leleux, Vincenzo Curto*, X. Strakosas, Yi Zhang, Jonathan Rivnay, Miriam Huerta, Marc Ramuz, Leslie Jimision.

[*Marie Skłodowska-Curie Fellow].

Research funding

Project Title	Funding source	Amount €	Period	Role
IONOSENSE: Proof of concept	ERC - POC	149,673	2015-2016	Coordinator
In Time: <i>In vitro</i> tissue model	Marie Curie - IEF	194,046	2015-2017	Supervisor

with integrated fluidics and electronics				
ORGBIO: Organic electronics international training network	Marie Curie - ITN	881,286	2014-2018	Co-PI
3Bs: 3D in line blood brain barrier pharmacology testing platform	Agence Nationale de la Recherche	243,066	2015-2018	Coordinator
Polymed: novel polymeric materials for use in biomedical applications	Marie Curie – IRSES	29,400	2013-2016	Co-PI
Development of co-culture model of BBB	EMSE PhD Fellowship	108,000	2015-2018	PhD supervisor
Smart Bone: Smart electroactive 3D models of osteoregeneration	Marie Curie - IF	173,076	2016-2018	Supervisor
IONOSENSE: Exploitation of OECTs for use in biological ion sensing	ERC - STG	1,496,539	2011-2016	Coordinator
Nephrotox: Smart platform for nephrotoxicity	NC3Rs (UK)	150,000	2014	PI
SMART: Organic electronics for biofilm control	Partenariat Hubert Curien	5,000	2013	PI
INTERCOM: The interface between conducting polymers and the cancer matrix environment	CNRS	40,000	2012	PI
Biofunctionalisation methods for OECTs	ANRT CIFRE	120,000	2012-2015	PhD Supervisor
Interfacing biology with electronics	Partner University Fund (USA/ FR)	170,000	2010-2013	Co-PI
MUSIC: Multisensing neural probes	Agence Nationale de la Recherche	450,000	2010-2013	Co-PI
Developing ICAM-1 for rhinovirus therapeutics	NIH (USA)	\$221,000	2008-2010	Co-PI

TEACHING

I have developed and taught a variety of courses for Engineering students at EMSE.

- Cell Biology for Engineers (since 2012).
- Introduction to Diagnostics (since 2012).
- Introduction to Biosensors (since 2012).
- Engineers without Borders (since 2014).
- Biosensors (practical, since 2013).
- Study Project (non lab-based, since 2013).

In addition, I have developed and taught the following courses outside EMSE

- Introduction to Novel Concepts for Biosensors, University of Cagliari, IT (2016).
- Introduction to SPR (practical), Cornell University, USA (2008-2009).

SERVICE

2016 - Present	Head of Department of Bioelectronics (from Sept 1 st).
2016 - Present	Member of committee for redevelopment of curriculum for Gardanne campus.
2010 - Present	Head of Biosafety, EMSE, FR.
2015 - Present	Organiser of module on analogue electronics, EMSE, FR.
2011 - 2015	Member of the committee for international relations, EMSE, FR.
2009 - 2015	Representative of EMSE for Eurobiomed competitiveness cluster, FR.

ORGANISATION OF SCIENTIFIC MEETINGS

Mar. 2017	Extracellular matrix and 3D biology (Co-chair), SFBMEC, Marseille, FR.
Oct. 2016	One day symposium on BBB (Co-chair), Marseille, FR.
May 2016	Bioelectronics (Co-chair), WBC, Montreal, CA.
Mar. 2016	BioEl winter school (Organising committee), BioEl, Kirchberg, AU.
Dec. 2014	Organic Bioelectronics (Lead organiser), MRS, Boston, USA.
Apr. 2014	Bioelectronics, materials, devices and applications (Co-org), MRS, San Francisco, USA.
Dec. 2013	Integration of Biomaterials with Organic Electronics (Co-org), MRS, Boston, USA.
June 2014	Workshop on Bioelectronics (Lead), Porquerolles, FR.
May 2012	Biological applications for organic electronic devices (Lead), E-MRS, Strasbourg, FR.
2008-2012	Organic Semiconductors in Sensors and Bioelectronics (OC), SPIE, San Diego, USA.

REVIEWER

Reviewer for: Austrian Research Council, Canadian Research Council (NSERC), Danish Research Council, Greek Research Council (Thalis), Swedish Research Agency; Reviewer for *Journal of Materials Chemistry*, *Advanced Materials*, *Advanced Healthcare Materials*; Occasional reviewer for *Journal of the American Chemical Society*, *Applied Physics Letters*, *MRS Communications*, *Trends in Biotechnology*, *Scientific Reports*, *Science Advances*, *Analytical and Bioanalytical Chemistry*, *Electroanalysis*, *Biomacromolecules*, *Synthetic Metals*, *American Chemical Society Journals*.

MEMBERSHIP IN SCIENTIFIC SOCIETIES

2016 - Present	Member, French Society for extracellular matrix biology (SFBMEC).
2009 - Present	Member, Materials Research Society (MRS).
2015 - Present	Member, European Society for Alternatives to Animal Testing (EUSAAT).
2002 - 2009	Member, American Society for Microbiology (ASM).

PUBLICATIONS

PAPERS *Google scholar H-index: 19, i10-index: 30. Total citations 1318 citations.*

1. V. Curto, A. Hama, B. Marchiori, A-M. Pappa, M. Braendlein, and **R. M. Owens**. Integrated microfluidic device with organic electrochemical transistor sensors for in vitro barrier tissue testing. *In preparation*.
2. M. Braendlein, A-M. Pappa, C. Acquaviva, E. Mamessier, G. G. Malliaras, **R.M. Owens**. Reference based sensor circuit using organic electrochemical transistor for in vitro lactate detection. *In preparation*.
3. A.M. Pappa, S. Inal, K. Roy, Y. Zhang and **R. M. Owens**. Polyelectrolyte Assemblies on top of Organic Electrochemical Transistors. *In preparation*.

4. X. Strakosas, M. Huerta, M.J. Donahue, A. Hama, A.M. Pappa, M. Ferro, M. Ramuz, J. Rivnay and **R. M. Owens**. Catalytically enhanced organic transistors for *in vitro* toxicology monitoring through hydrogel entrapment of enzymes. *Applied Polymer Science in revision*.
5. Y. Zhang, S. Inal, C-Y. Hsia, M. Ferro, M. Ferro, S. Daniel and **R. M. Owens**. Supported lipid bilayer assembly on PEDOT:PSS films and transistors. *Advanced Functional Materials* DOI: 10.1002/adfm.201602123, (2016).
6. A-M. Pappa, V. F. Curto, M. Braendlein, X. Strakosas, M. J. Donahue, M. Flocchi, G.G. Malliaras, **R.M. Owens**. Organic Transistor Arrays Integrated with Finger-Powered Microfluidics for Multianalyte Saliva Testing. *Advanced Healthcare Materials*, 5 (17); 2295–2302 (2016).
7. X. Strakosas, B. Wei, D.C. Martin, R. M. Owens. Biofunctionalization of polydioxothiophene derivatives for biomedical applications. *Journal of Materials Chemistry B*, 4; 4952 – 4968 (2016).
8. M. Huerta, J. Rivnay, M. Ramuz, A. Hama, and R.M. **Owens**. “Early detection of nephrotoxicity *in vitro* using a transparent conducting polymer device”. *Applied Toxicology In Vitro*, 2(1); 17-25 (2016)
9. E. Moyen, A. Hama, E. Ismailova, L. Assaud, G. Malliaras, M. Hanbücken, and **R. M. Owens** “Nanostructured conducting polymers for stiffness controlled cell adhesion”. *Nanotechnology*, 27; 074001 (2016).
10. M. Ramuz, A. Hama, J. Rivnay, P. Leleux, and **R.M. Owens**. “Monitoring of cell layer coverage and differentiation with the organic electrochemical transistor” *Journal of Materials Chemistry B* 3 (29); 5971-5977 (2015).
11. M.E. Brennan-Fournet, M. Huerta, Y. Zhang, G. Malliaras, and **R.M. Owens**. “Detection of fibronectin conformational changes in the extracellular matrix of live cells using plasmonic nanoplates”. *Journal of Materials Chemistry B* 3 (47); 9140-9147 (2015).
12. G. Scheiblin, A. Aliane, X. Strakosas, V.F. Curto, R. Coppard, G. Marchand, **R. M. Owens**, P. Mailley, and G.G Malliaras. “Screen-printed organic electrochemical transistors for metabolite sensing”. *MRS Communications*, 5 (3); 507-511 (2015).
13. J. Rivnay, M. Ramuz, P. leleux, A. Hama, M. Huerta and **R.M. Owens**. "Using white noise to gate organic transistors for dynamic monitoring of cultured cell layers". *Scientific Reports* 5; 11613 (2015).
14. M. Huerta, J. Rivnay, M. Ramuz, A. Hama, and **R.M. Owens**. “Electrical monitoring of cysts using organic electrochemical transistors”. *APL Materials* 3 (3); 030701 (2015).
15. J. Rivnay, P. Leleux, M. Ferro, M. Sessolo, A. Williamson, D.A. Koutsouras , D. Khodagholy, M. Ramuz, X. Strakosas, **R.M. Owens**, C. Benar, J-M. Badier, C. Bernard, G.G. Malliaras. “High-performance transistors for bioelectronics through tuning of channel thickness”. *Science Advances* 1 (4); e1400251 (2015).
16. M. Ramuz, K. Margita, J. Rivnay, P. Leleux, A. Hama and **R.M. Owens**. “Optimization of a planar all-polymer transistor for characterization of barrier tissue”. *ChemPhysChem* 16 (6); 1210-1216 (2015).
17. J. Rivnay, M. Ramuz, P. leleux, A. Hama, M. Huerta and **R.M. Owens**. "Organic electrochemical transistors for cell-based impedance sensing". *Applied Physics Letters*, 106 (4); 043301 (2015).
18. G.C. Faria, D.T. Duong, A. Salleo, C. A Polyzoidis, S. Logothetidis, J. Rivnay, **R.M. Owens**, and G. G Malliaras. “Organic electrochemical transistors as impedance biosensors”. *MRS Communications* 4 (4); 189-194 (2015).
19. L. Sandeau, C. Vuillaume, S. Contié, E. Grinival, F. Belloni, H. Rigneault, **R.M. Owens** and M. Brennan Fournet. “Large area CMOS bio-pixel array for compact high sensitive multiplex biosensing”. *Lab on a Chip*, 15; 877-881 (2015).
20. X. Strakosas, M. Bongo, and **R.M. Owens**. “The organic electrochemical transistor for biological applications”. *Journal of Applied Polymer Science*, 132 (15) (2015).
21. M. Ramuz, A. Hama, M. Huerta, J. Rivnay, P. Leleux, and **R.M. Owens**. “Combined optical/electronic monitoring of epithelial cells *in vitro*”. *Journal of Materials Chemistry B* 26 (41); 7083-90 (2014).
22. S. Tria, M. Ramuz, M. Huerta, P. Leleux, J. Rivnay, L. Jimison, A. Hama, G. G. Malliaras, and **R.M. Owens**. “Dynamic detection of *Salmonella typhimurium* infection of polarized epithelia using organic transistors”. *Advanced Healthcare Materials*, 3 (7); 1053-60 (2014). *Highlighted in Materials views* <http://www.materialsviews.com/integrating-electronics-with-cells-to-detect-bacteria/>
23. S.A. Tria, M. Ramuz, L.H. Jimison, A. Hama, and **R. M. Owens**. “Sensing of Barrier Tissue Disruption, with an Organic Electrochemical Transistor”. *Journal of Visualised Experiments*, e51102 (2014).

24. V.F. Curto, S. Scheuermann, **R. M. Owens**, V. Ranganathan, D. R. MacFarlane, F. Benito-Lopez and D. Diamond. "Probing the specific ion effects of biocompatible hydrated choline ionic liquids on lactate oxidase biofunctionality in sensor applications". *Phys. Chem. Chem. Phys.*, 16 (5); 1841-1849 (2014).
25. P. Leleux, C. Johnson, X. Strakosas, J. Rivnay, T. Hervé, R.M. Owens and G.G. Malliaras. "Ionic liquid gel-assisted electrodes for long-term cutaneous recordings". *Advanced Materials*, 3 (9); 1377–1380 (2014).
26. X. Strakosas, M. Sessolo, A. Hama, J. Rivnay, E. Stavrinidou, G.G. Malliaras, and **R.M. Owens**. "A facile biofunctionalisation route for solution processable conducting polymer devices". *Journal of Materials Chemistry B*, 2 (17); 2537-2545 (2014).
27. J. Rivnay, **R.M. Owens**, and G.G. Malliaras. "The Rise of Organic Bioelectronics". *Chemistry of Materials*, 26 (1); 679-685 (2014).
28. **R.M. Owens**. "Organic electronics at the interface with biology: a biologist's perspective". *La Chimica & L'industria*. 5 (2013).
29. D. Khodagholy, J. Rivnay, M. Sessolo, M. Gurfinkel, P. Leleux, L.H. Jimison, E. Stavrinidou, T. Herve, S. Sanaur, **R.M. Owens**, and G.G. Malliaras, "High Transconductance Organic Electrochemical Transistors", *Nature Communications*, 4; 2133 (2013).
30. M. Bongo, O. Winther-Jensen, S. Himmelberger, X. Strakosas, M. Ramuz, A. Hama, E. Stavrinidou, G.G. Malliaras, A. Salleo, B. Winther-Jensen, **R.M. Owens**. "PEDOT: Gelatin composites mediate brain endothelial cell adhesion". *Journal of Materials Chemistry B*, 1(31); 3860-3867 (2013).
31. **R.M. Owens**, P. Kjall, A. Richter-Dahlfors and F. Cicoira. "Organic electronics- novel applications in biomedicine". *Biochimica et Biophysica Acta*, 1830; 4283–4285 (2013).
32. S.A. Tria, L.H. Jimison, A. Hama, M. Bongo, and **R.M. Owens**. "Validation of the organic electrochemical transistor for *in vitro* toxicology". *Biochimica et Biophysica Acta*. 1830 (9); 4381-4390 (2013).
33. S.A. Tria, L.H. Jimison, A. Hama, M. Bongo, and **R.M. Owens**. "Sensing of EGTA Mediated Barrier Tissue Disruption with an Organic Transistor". *Biosensors* 3 (1); 44-57 (2013).
34. L.H. Jimison, S. A. Tria, D. Khodagholy, M. Gurfinkel, E. Lanzarini, A. Hama, G. G. Malliaras, and **R. M. Owens**. "Measurement of Barrier Tissue Integrity with an Organic Electrochemical Transistor". *Advanced Materials*, 24 (44); 5919-5923 (2012).
35. S. Kang, Chae Un Kim, X. Gu, **R.M. Owens**, S.J. van Rijn, V. Boonyaleepun, Y. Mao, T.A. Springer, and M.M. Jin. "Complex Structure of Engineered Modular Domains: Defining Molecular Interaction between ICAM-1 and Integrin LFA-1". *PLOS ONE* , 7 (8) ; e44124 (2012).
36. L.H. Jimison, A. Hama, X. Strakosas, V. Armel, D. Khodagholy, E. Ismailova, G.G. Malliaras, B. Winther-Jensen, and **R.M. Owens**. "PEDOT:TOS with PEG : A biofunctional surface with improved electronic characteristics". *Journal of Materials Chemistry B*, 22 (37); 19498–19505 (2012).
37. D. Khodagholy, V.F. Curto, K. J. Fraser, M. Gurfinkel, R. Byrne, D. Diamond, G. G. Malliaras, F. Benito-Lopez, **R. M. Owens**. "Organic electrochemical transistor incorporating an ionogel as solid state electrolyte for lactate sensing". *Journal of Materials Chemistry B*, 22 (10); 4440-4443 (2012).
38. S.Y. Yang, F. Cicoira, R. Byrne, F. Benito-Lopez, D. Diamond, **R.M. Owens**, and G.G. Malliaras. "Electrochemical transistors with ionic liquids for enzymatic sensing". *Chemical Communications*, 46; 7972 (2010).
39. **R.M. Owens** and G.G. Malliaras. "Organic Electronics at the Interface with Biology". *MRS Bulletin*, 35 (6) 449-456 (2010).
40. **R.M. Owens**, X. Gu, M. Shin, T.A. Springer, and M.M. Jin. "Engineering of single Ig superfamily domain of ICAM-1 for native fold and function". *Journal of Biological Chemistry*, 285 (21) 15906-15 (2010).
41. N.Y. Shim, D.A. Bernards, D.J. Macaya, J.A. DeFranco, M. Nikolou, **R.M. Owens**, and G.G. Malliaras. "All-plastic electrochemical transistor for glucose sensing using a ferrocene mediator". *Sensors*, 9 (12); 9896-9902 (2009).
42. A.R. Parks, Z. Li, Q. Shi, **R.M. Owens**, M.M. Jin, and J.E. Peters. "Transposition into replicating DNA occurs through interaction with the processivity factor". *Cell*, 138 (4); 685-95 (2009)
43. **R.M. Owens**, C. Wang, J.A. You, J. Jiambutr, A.S.L. Xu, R.B. Marala, and M.M. Jin. "Real-time quantitation of viral replication and inhibitor potency using a label-free optical biosensor". *Journal of Receptors and Signal Transduction Research*, 29(3-4); 195-201 (2009).

44. S.Y. Yang, J.A. DeFranco, Y.A. Sylvester, T.J. Gobert, D.J. Macaya, **R.M. Owens**, and G.G. Malliaras. "Integration of a surface-directed microfluidic system with an organic electrochemical transistor array". *Lab on a Chip*, 9 (5); 704-8 (2009).
45. D.J. Macaya, M. Nikolou, S. Takamatsu, J.T. Mabeck, **R.M. Owens**, and G.G. Malliaras. "Simple Glucose sensors with micromolar sensitivity based on organic electrochemical transistors". *Sensors and Actuators B*, 123 (1); 374-378 (2007).
46. F.F. Hsu, J. Turk, **R.M. Owens**, E.R. Rhoades, and D.G. Russell. "Structural Characterization of Phosphatidyl-myo-inositol Mannosides from *Mycobacterium bovis* Bacillus Calmette Guerin by Multiple-Stage Quadrupole Ion-Trap Mass Spectrometry with Electrospray Ionization. I. PIMs and Lyso-PIMs". *Journal of the American Society for Mass Spectrometry*, 18(3); 466-78 (2006).
47. F.F. Hsu, J. Turk, **R.M. Owens**, E.R. Rhoades, and D.G. Russell. "Structural Characterization of Phosphatidylinositol Mannosides from *Mycobacterium bovis* Bacillus Calmette Guerin by Multiple-Stage Quadrupole Ion-Trap Mass Spectrometry with Electrospray Ionization. II. triacyl- and tetraacyl-PIMs". *Journal of the American Society for Mass Spectrometry*. 18(3); 479-92 (2006).
48. **R.M. Owens**, F.F. Hsu, E. Hesteande, P. Giannakas, J.C. Sacchettini, J.D. McKinney, P.J. Hill, J.T. Belisle, B.A. Butcher, K. Pethe, and D.G. Russell. "*M. tuberculosis* Rv2252 encodes a lipid kinase involved in the biosynthesis of phosphatidylinositol mannosides (PIMs)". *Molecular Microbiology*, 60 (5); 1152-63 (2006).
49. D.G. Russell, G.E. Purdy, **R.M. Owens**, K.H. Rohde, and R.M. Yates. "*Mycobacterium tuberculosis* and the concept of the "4 minute phagosome". *ASM news* 71 (10); 559-563 (2005).
50. G.E. Purdy, **R.M. Owens**, L. Bennett, D.G. Russell, and B.A. Butcher. "Kinetics of phosphatidylinositol 3-phosphate acquisition differ between IgG bead-containing phagosomes and *Mycobacteria tuberculosis* containing phagosomes". *Cellular Microbiology* 7 (11); 1627-34 (2005).
51. **R.M. Owens**, G. Pritchard, P. Skipp, M. Hodey, S.R. Connell, K.H. Nierhaus, and C.D. O'Connor. "A dedicated translation factor controls the synthesis of the global regulator Fis". *The EMBO Journal* 23; 3375-3385 (2004).*
52. **R.M. Owens**, A. Grant, N. Davies and C.D. O'Connor. "Purification of the Lac Repressor With Polyhistidine-tagged Proteins in Immobilized Metal Affinity Chromatography". *Protein Expression and Purification*, 21; 352-360 (2001). *Most downloaded paper in 2001.*

*This publication has been retracted due to the irreproducibility of data produced by the second author. The remainder of the data is considered to be sound and the paper is, according to the executive editor of EMBO, still citable

BOOK CHAPTERS

1. M. Sessolo, M. Ramuz, G.G. Malliaras and **R.M. Owens**. "Electronic methods for *in vitro* monitoring of cell-arrays". Edited by Kris Iniewski and Sandro Carrara (2015).
2. L.H. Jimison, J. Rivnay, and **R.M. Owens**. "Conducting polymers to control and monitor cells" In: "Organic Electronics: Emerging Concepts and Technologies". pp 27-67. Edited by Fabio Cicoira and Clara Santato (2013).
3. D. Khodagholy, G.G. Malliaras, and **R.M. Owens**. "Polymer-Based Sensors" In: Matyjaszewski K and Möller M (eds.) *Polymer Science: A Comprehensive Reference*, vol. 8, pp. 101-128. Amsterdam: Elsevier BV. (2012)

RESEARCH MONOGRAPHS AND TRANSLATIONS THEREOF

1. Guest editor for *Biochimica Biophysica Acta* General Subjects. Special issue on biological applications for conducting polymer devices (2013)
2. "Organic Semiconductors in Sensor Applications". Eds. D.A. Bernards, **R.M. Owens**, and G.G. Malliaras, Springer (2008). (also translated into Chinese)

PRESENTATIONS

Invited presentations to peer-reviewed international conferences

1. Oct. 2016: Organic bioelectronics: zooming in on the interface; Orbitaly, Santa Cesarea, IT.
2. July 2016: Organic electronics for toxicology *in vitro*; NN16, Thessaloniki, GR.
3. June 2016: Organic bioelectronics; Gordon research conference, Lucca, IT.
4. June 2016: Keynote talk at Nanotech France; Paris, FR (cancelled due to train strike).
5. May 2016: Organic bioelectronics; CMOSETR; Montreal, CA.
6. Dec. 2015: Organic electronics for toxicology *in vitro*; MRS, Boston, USA.
7. Nov. 2015: Organic electronics for toxicology *in vitro*; IEEE Nanomed, Hawaii, USA.
8. Sept. 2015: Organic electronics for toxicology *in vitro*; ECME, Strasbourg, FR.
9. July 2015: Organic electronics for toxicology *in vitro*; FPI12, Seattle, USA.
10. July 2015: Organic electronics for toxicology *in vitro*; NN15, Thessaloniki, GR.
11. June 2015: Organic electronics for toxicology *in vitro*; IEEE Galipoli, IT.
12. April 2015: Electronic methods for monitoring cells *in vitro*; MRS, San Francisco, USA.
13. Mar. 2015: Electronic methods for monitoring cells *in vitro*; BioMim, Grenoble, AU.
14. June 2014: Electronic methods for monitoring cells *in vitro*; ICOE, Modena, IT.
15. April 2014: Improving the biotic/abiotic interface; MRS Spring Meeting, San Francisco, USA.
16. Sept. 2013: Electronic methods for monitoring cells *in vitro*; at ECME, London, UK.
17. July 2013: Electronic methods for monitoring cells *in vitro*; NN13, Thessaloniki, GR.
18. July 2013: Electronic methods for monitoring cells *in vitro*; CMOSSET, Whistler, CA.
19. Jan. 2013: Applications of the Organic Electrochemical Transistor; RME, Amsterdam, NL.
20. Oct. 2012: Organic electronics at the interface with biology; Quaderni Avogadro, Bologna, IT.
21. Sep. 2012: Applications of the Organic Electrochemical Transistor; ISFN2, Dublin, IE.
22. Aug. 2012: Applications of the Organic Electrochemical Transistor; SPIE, San Diego, USA.
23. Jul. 2012: Applications of the Organic Electrochemical Transistor; ISFOE, Thessaloniki, GR.
24. May 2012: Applications of the Organic Electrochemical Transistor; OBOE Spring Meeting, SE.
25. Mar. 2012: Applications of the Organic Electrochemical Transistor; Biosensors, Edinburgh, UK.
26. Mar. 2012: Organic BioElectronics ; 2e rencontres electronique imprimé, Paris, FR.

International advanced schools

1. Jul. 2016: Organic electronics for toxicology *in vitro*; ISSON, Thessaloniki, GR
2. Apr 2016: Organic electronics for toxicology *in vitro*; TEI Chania, GR
3. Jun. 2015: Organic electronics for toxicology *in vitro*; Obelix Workshop, Milan
4. May 2015: Introduction to toxicology; Bio4phys summerschool, Porquerolles, France
5. May 2015: Workshop on flexible electronics, Grenoble, France
6. Mar. 2015: Electronic methods for monitoring cells *in vitro*; BioEl, Kirchberg, Austria
7. Feb. 2015: Electronic methods for monitoring cells *in vitro*; FunMAT, Turku, Finland
8. Jun. 2013: Organic bioelectronics; ICOE short course, Grenoble, France
9. May 2013: Organic bioelectronics; IKSS summerschool, Krutyn, Poland

Invited seminars

1. Oct. 2016: Invited seminar at Abo University, Turku, FI.
2. May 2016: Invited seminar at Ecole Polytechnique de Montreal, CA.
3. May 2016: Invited seminar at dept. of Electronic Engineering, University of Cagliari, IT.
4. Sep. 2015: Invited seminar at JKU linz, AT.
5. Jun. 2014: Invited seminar and classes for Masters students; University of Bari, IT.
6. Apr. 2014: Invited seminar; Aristotle University of Thessaloniki, GR.
7. Jan. 2014: Invited seminar, University of Nice, FR.
8. Sep. 2013: Invited seminar, University of Washington, USA.
9. Mar. 2012: Invited seminar; University of Parma, Parma, IT.
10. Feb. 2012: Invited seminar; Monash University, Melbourne, AU.
11. Dec. 2012: Invited seminar; Stanford University, USA.

12. Apr. 2011: Invited seminar; Karolinska Institute seminar series, Stockholm, SE.
13. Feb. 2011: Invited seminar at Acreo, University of Linköping, SE.

Contributed oral presentations

1. Oct. 2016: PEDOT:PSS scaffolds for 3D biology; EACR, Berlin, DE.
2. Aug 2016: Impedance analysis of cells using organic electronics. IBCA, Regensburg, DE.
3. Dec 2015: Organic bioelectronics for 3D cancer diagnostics". MRS Boston, USA.
4. Oct. 2015: Organic electronics for in vitro toxicology". EUSAAT, Linz, AT.
5. Nov. 2013: Electronic methods for monitoring cells *in vitro*" MRS, Boston, USA.
6. Apr. 2013: Organic electronics for control and monitor of cells" ERC Biomim, Grenoble, FR.
7. Sept. 2001: The BipA global regulator associates with ribosomes". School of Biological Sciences Symposium, University of Southampton, UK.

Poster presentations

1. May 2016: **R.M. Owens.**" Organic Electronics for in vitro toxicology". World Biomaterials Congress, Montreal, CA.
2. Dec. 2014: R. Serougne, X. Strakosas, V. Curto, M. Huerta, M. Ramuz, J. Rivnay and **R.M. Owens.** "Electronic monitoring of a 3D in vitro model of the renal tubule with integrated microfluidics". MRS, Boston, USA.
3. Nov. 2014: V. Curto, M. Huerta, M. Ramuz, J. Rivnay, R. Serougne, X. Strakosas and **R. M. Owens.**"Electronic monitoring of a 3D *in vitro* model of the renal tubule with integrated microfluidics". Animal Replacement Science Conference, London, UK.
4. Dec. 2012: E. Moyen, E. Ismailova, A. Hama, I. Ozerov, M. Hanbücken, G. Malliaras, **R. M. Owens.** "Nanostructured conducting polymer devices for tissue engineering". American Society for Cell Biology Annual Meeting, San Francisco.
5. Nov. 2012: S.A.Tria, L.H Jimison, A. Hama, M. Bongo, G.G. Malliaras, **R.M. Owens.** "A novel, low cost method for measurement of barrier tissue integrity using conducting polymers". Molecular Structure and Function of the Apical Junctional Complex in Epithelia and Endothelia, Merida, MX.
6. Jul. 2008: **R. M. Owens,** X. Gu, C. Wang, J. Jiambutr, M. Shin, C. Bator-Kelly, A. Xu, R. Marala, and M. Jin. "Rhinovirus: Defining Molecular Interactions with an Engineered Host Receptor". American Society for Virology Annual Meeting, Ithaca, NY, USA.
7. Sept. 2006: D. Bednarski, W. Laratta, **R.M. Owens,** and J. Tabb. "Microsphere-based assays for Multiplexed Detection of Viral and Bacterial Antibodies". Luminex xMap Meeting ,Dallas, USA.
8. Feb. 2005: **R.M. Owens,** B.A. Butcher, and D.G. Russell. "Phosphorylation of sphingolipids by *M. tuberculosis* protein Rv2252". Keystone Meeting: Tuberculosis: Integrating Host and Pathogen Biology, Whistler, CA.
9. Sept. 2004: G.E.Purdy, **R.M.Owens,** and D.G. Russell. "Characterization of phosphorylated lipids in *M. tuberculosis*-containing phagosomes". Euresco Meeting: Spatial and temporal dynamics of the endomembrane system. San Feliu de Guixols, ES.
10. May 2004: **R.M. Owens,** B.A. Butcher, K. Pethe, and D.G. Russell. "Phosphorylation of Macrophage lipids by *Mycobacterium tuberculosis*". American Society for Microbiology General Meeting, New Orleans, LA, USA.
11. Dec. 2003: S.W. Clark, , B.-R. Hyun, **R.M. Owens,** and F.W. Wise. "Semiconductor quantum dots for studies of sphingolipid metabolism". MRS Boston, USA.
12. May 2000: **R.M. Owens,** S. Connell, K.H. Nierhaus, and C.D. O'Connor. "The BipA global regulator associates with ribosomes". International Union of Biochemistry and Molecular Biology, Birmingham, UK.