

CURRICULUM VITAE

CONTACT INFORMATION

Dr. Salvador Pané i Vidal
Institute of Robotics and Intelligent Systems
Dept. of Mechanical and Process Engineering
ETH Zürich
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CH-8092 Zurich, Switzerland
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CURRENT POSITION

Senior Research Scientist
Institute of Robotics and Intelligent Systems
ETH – Zürich, Switzerland
Dates: **Jan. 2012 – Present**

BIOGRAPHY

Dr. Salvador Pané i Vidal (Barcelona, 1980) is currently a Senior Research Scientist at the **Institute of Robotics and Intelligent Systems (IRIS)** at **ETH Zürich**. He received a B.S. (2003), M.S (2004) and a PhD in Chemistry (2008) from the Universitat de Barcelona (UB) in the field of the electrodeposition of magnetic composites and magnetorresistive alloys. He became a postdoctoral researcher at IRIS in August 2008 and Senior Research Scientist in 2012. He has authored or co-authored more than 100 articles in international peer-reviewed journals and books for education in science. Dr. Pané is currently working on bridging chemistry and electrochemistry with robotics at small scales. In the field of micro- and nanorobotics, his major focus has been the miniaturization of magnetic materials and conductive polymers and hydrogels for targeted drug delivery. He is the head of the IRIS electrochemistry laboratory at ETH, which he established in 2010. At present, he teaches a course on nanorobotics and supervises several on-going PhD theses. He has established successful international collaborations with several research groups (Autonomous University of Barcelona, University of Barcelona, University of Würzburg, Boğaziçi University, University of Orléans, Michigan State University, University of Hamburg) and companies and institutions (Hirtenberger AG, IGS Research, EMPA, Steiger AG). Dr. Pané has been also the coordinator for the **FET Open project** (Magnetic Nanoactuators for Quantitative Analysis), funded by the EU commission under the Seventh Framework Programme (FP7/2007-2013). In June 2013, Dr. Pané was awarded the highly competitive **Starting Grant** from the **European Research Council (ERC)**. The grant provides 1.5 million euros over five years to investigate composite nanomaterials with magnetoelectric properties for chemical and biomedical applications. Since 2015, he is the **Chair** of the **COST Action** “e-MINDS: Electrochemical processing methodologies and corrosion protection for device and systems miniaturization” which brings together more than 40 European academic and industrial participants related to the areas of electrochemical manufacturing and corrosion science. Since 2016, he serves in the board of editors in the journal *Applied Materials Today* (Elsevier). He represents Switzerland in the European Academy of Surface Technology. He is also co-founder of the startup **Magnes AG**. In November 2017 was awarded a **Consolidator Grant** (ERC). The Grant provides 2.0 million euros over five years to develop gated porous nanorobots that can be remotely instructed to produce electrical fields. In future, these nanorobots could be used in the spinal cord or the optical nerve.

EDUCATION

PhD in Chemistry Electrodep University of Barcelona, Spain Title: “Modification of the cobalt-nickel system properties by electrodeposition with third-components” Advisor: Dr. Elisa Vallés Giménez	Sept. 2004 – Apr. 2008
M.S. in Chemistry Electrodep University of Barcelona, Spain Title: “Electrodeposition of ternary Co-Ni-Cu alloys” Advisor: Dr. Elisa Vallés Giménez	Sept. 2003 – June 2004

B.S. in Chemistry
University of Barcelona, Spain

Sept. 1998 – June 2003

**OTHER
EDUCATION
PROGRAMMES**

2nd, 3rd and 4th Edition of MINDE Courses (Micro and Nanodeposition). Organized by the European Academy of Surface Technology (EAST). Marie Curie Actions

**MEMBERSHIPS
/WORKING
GROUPS**

European Academy of Surface Technology (EAST) / Swiss Representative and Member
American Chemical Society (ACS) Member
Materials Research Symposia (MRS) Member
Chair of the COST Action “e-MINDS: Electrochemical processing methodologies and corrosion protection for device and systems miniaturization”
Management Committee Member (Switzerland) of the COST Action “Biomaterials and advanced physical techniques for regenerative cardiology and neurology”

**REFEREE
/EDITORIAL
SERVICES**

International Journals

American Chemical Society: ACS Nano, Applied Materials & Interfaces
CellPress: Chem

Electrochemical Society: Journal of the Electrochemical Society

Elsevier: Electrochimica Acta, Journal of Magnetism and Magnetic Materials, Materials Chemistry and Physics, Sensors & Actuators: A. Physical, Surface & Coatings Technology,

Institute of Physics: Science and Technology of Advanced Materials

Nature: Scientific Reports, Nature Communications

Royal Society of Chemistry: Journal of Materials Chemistry B, Journal of Materials Chemistry C, Physical Chemistry – Chemical Physics, RSC Advances, Soft Matter

Wiley: Advanced Functional Materials, Advanced Healthcare Materials, Advanced Materials, ChemNanoMat, Chemistry – A European Journal, Small

Conferences

IEEE International Conference on Robotics and Automation

IEEE/RSJ International Conference on Intelligent Robots and Systems

Research Programs

European Research Council (Remote evaluator)

Opening Sphere UAB-CEI to Postdoctoral Fellows, Spain (Evaluator)

Fondation pour la Recherche en Chimie, France, (Evaluator)

Ministry of Scienc, Technology and Space, Israel (Evaluator)

Editorial Services

Editorial Board Member of Applied Materials Today (Elsevier)

FUNDING

Title: HINBOTS: Highly Integrated Nanoscale Robots for Targeted Delivery to the Central Nervous System

Horizons 2020

ERC Consolidator Grant

Financed by: EU Commission

Project coordinator: Salvador Pané

Period: 1/09/2018 – 31/08/2018

Grant: 1 998'720.00 EUR

Title: mcBEES: Advanced integrative solutions to Corrosion problems beyond micro-scale: towards long-term durability of miniaturized Biomedical, Electronic and Energy systems

Marie Skłodowska-Curie Innovative Training Network

Project coordinator: Dr. Maria Lekka (Università degli Studi Udine)

Co-writer, Project Partner, Dissemination Coordinator: Salvador Pané representing ETH Zürich

Financed by: EU Commission

Period: 01/10/2017 – 31/10/2021

Total grant: 3'726'379.44 EUR (EU Commission)

Title: Bioactive gas delivery by microrobots equipped with porous materials
SPIRITS 2018 Crossword of Knowledge" integrated research team research program – Kyoto University International Collaboration Grant
Financed by: Kyoto University
Project coordinator: Prof. Shuhei Furukawa (Kyoto University)
Project participants: Prof. Paolo Falcaro (University of Graz), Dr. Josep Puigmarti-Luis (ETH Zurich), Dr. Salvador Pané (ETH Zurich)
Grant: ~20'000 EUR/year

Title: CONTAXENSE: A Passive Sensor Embedded in Contact Lens for Glaucoma Monitoring
EUROSTARS
Financed by: State Secretariat for Education, Research and Innovation
Project coordinator: Prof. Dr. Hamdi Torun (Glakolens Biyomedikal Biyoteknoloji, TR)
Project Partner: Salvador Pané representing ETH Zürich
Participants: Dr. Olgaç Ergeneman (Magnes AG, CH)
Period: 01/10/2017 – 30/09/2019
Total Grant: 585'589.5 EUR

Title: "MOFBOTS: Supramolecular-based highly integrated soft robots"
ETH Research Grants
Financed by: ETH Zürich
Principal investigator: Salvador Pané
Co-PI: Dr. Josep Puigmarti-Luis
Period: Nov. 2017 / 36 months)
Grant: 225'300 CHF

Title: e-MINDS: Electrochemical processing methodologies and corrosion protection for device and systems miniaturization
COST Action: European Cooperation in Science and Technology
Financed by: COST Association
COST Management Committee Chair and Main Proponent: Dr. Salvador Pané
Period: 23/04/2015 – 22/04/2019
Grant: ≈134'000 EUR per year (networking activities)

Title: Fluorescence lifetime encoding for anti-counterfeiting (FlusiSafe)
Nano-Tera.ch
Financed by: Nano-Tera.ch
Main Applicant: Prof. Bradley J. Nelson (ETH Zürich)
Participants: Dr. Stefano Cattaneo (CSEM, CH), Mr. Jonas Reinhardt (U-NICA, CH)
Co-writer: Dr. Salvador Pané
Period: 01/11/2016 – 31/10/2016
Grant: 180'000 CHF

Title: Electroless metallization of three-dimensionally printed polymer microstructures for microrobotic applications
COST Research Projects
Financed by: State Secretariat for Education Research and Innovation SERI
Main Applicant: Bradley J. Nelson / Co-writer: Salvador Pané
Participants: Prof. Peter Leisner (SP Technical Research institute of Sweden, SE), Prof. Luca Magagnin (Politecnico di Milano, IT)
Period: 01/10/2016 – 30/09/2018
Grant: 200'000 CHF

Title: 3D-printed magnetic microfluidics for applications in life sciences
Marie Skłodowska-Curie Individual Fellowships
Financed by: EU Commission
Applicant: Dr. Carmela de Marco
Coordinator: Dr. Salvador Pané
Period: 01/06/2016 – 31/05/2018
Grant: 187'419.60 EUR

Title: Vibrating Sample Magnetometer for Characterization of Micro- and Nanoagents
R'Equip – Grant for Equipment Acquisition

Financed by: Swiss National Science Foundation (SERI) + ETH Zürich
Main applicant: Dr. Salvador Pané
Co-applicant: Prof. Bradley J. Nelson
Grant: 120'000 CHF

Title: Smart Magnetic Identification Technology

EUROSTARS

Financed by: State Secretariat for Education, Research and Innovation
Project coordinator: Dr Olgaç Ergeneman (Magnes AG)
Project Partner, co-applicant and deputy coordinator: Salvador Pané representing ETH Zürich
Participants: Mr. Şerafettin ŞENTÜRK (Kuweyt Türk Bank, TR)
Period: 01/11/2015 – 30/04/2018
Grant: 597'193.5 EUR

Title: SELECTA: Smart ELECTrodeposited Alloys for environmentally sustainable applications: from advanced protective coatings to micro/nano-robotic platforms
Horizons 2020

Marie Skłodowska-Curie Innovative Training Network

Project coordinator: Prof. Jordi Sort (Autonomous University of Barcelona)
Project Partner: Salvador Pané representing ETH Zürich
Participants: Prof. Jordi Sort (Autonomous University of Barcelona, ES), Prof. Alan Lindsay Greer (University of Cambridge, UK), Prof. Christina Lekka (University of Ionannina, GR), Prof. Uta Klement (Chalmers University of Technology, SE), Dr. Anett Gebert (Leibniz Institute for Solid State and Materials Research, DE), Prof. Henrikas Cesiulis (Vilnius University, LT), Dr. Fatima Zivic (Faculty of Engineering, Kragujevac, RS), Prof. Paola Tiberto (National Institute for Metrological Research, IT), Dr. Wolfgang Hansal (Hirtenberger Group, Engineered Surfaces, AT), Dr. Laetitia Philippe (EMPA, CH), Dr. Norbert Babcsan (Aluivent, HU), Dr. Eva Garcia (Centre for Electrochemical Technologies (CIDETEC), ES).
Financed by: EU Commission + State Secretariat for Education, Research and Innovation (Swiss partners)
Period: 01/01/2015 – 31/12/2017
Grant: 3 274 969,68 EUR (EU Commission) + 530 454 EUR (SERI)

Title: ELECTROCHEMBOTS: Magnetolectric Chemonanorobotics for Chemical and Biomedical Applications

Seventh Framework Programme (FP7/2007-2013)

ERC Starting Grant

Financed by: EU Commission
Project coordinator: Salvador Pané
Period: 1/09/2013 – 31/08/2018
Grant: 1 491'701.00 EUR

Title: MANAQA: Magnetic Nanoactuators for Quantitative Analysis
Seventh Framework Programme (FP7/2007-2013)

FET Open

Financed by: EU Commission
Project Coordinator: Salvador Pané
Participants: Prof. Hamdi Torun (Boğaziçi University, TR), Prof. Jordi Sort (Autonomous University of Barcelona, ES), Prof. Tessa Lüthmann (University of Würzburg, DE), Dr. Dominic Bell (AEON Scientific, CH), Dr. Wolfgang Hansal (Hirtenberger Group, Engineered Surfaces, AT)
Period: 1/08/2012 - 31/07/2012
Grant: 2 775 307,39 EUR

Title: Design and fabrication of wireless biomedical microrobots for targeted drug delivery

Postdoctoral Fellowship for Spanish Researchers at European Universities

Financed by: Ministerio de Ciencia e Innovación (Spain)
Period: 1/12/2008 – 31/11/2010
Host Institution: Institute of Robotics and Intelligent Systems (IRIS), Die Eidgenössische Technische Hochschule Zürich (ETH)
Grant: 48 552,00 EUR

Title: Fabrication of biomedical nanocoils for their implementation in wireless devices
Fellowship for Catalan Researchers at European Universities

Financed by: Generalitat de Catalunya (Spain)
Period: 1/02/2008 – 31/07/2008
Host Institution: Institute of Robotics and Intelligent Systems (IRIS), Die Eidgenössische Technische Hochschule Zürich (ETH)
Grant: 11 230,00 EUR

Title: Implementation of electrodeposited magnetic films in biomedical microrobotic prototypes
Fellowship for Catalan Researchers at European Universities

Financed by: Generalitat de Catalunya (Spain)
Period: 1/05/2007 – 30/11/2007
Host Institution: Institute of Robotics and Intelligent Systems (IRIS), Die Eidgenössische Technische Hochschule Zürich (ETH)
Grant: 11 230,00 EUR

TEACHING EXPERIENCE

Nanorobotics (Spring Semester 2012 – present)

Institute of Robotics and Intelligent Systems
ETH – Zürich
Duties: Coordination and lecturing

Bachelor (39), Master (22) and Semester Thesis (12) (since 2009) Studies on Mechatronics

Introduction to Micro- and Nanosystems
Manufacturing Approaches in Micro- and Nanosystems
Miniaturized Magnetic Systems – Basics on Magnetism and Magnetic Materials,
Miniaturized Magnetic Systems – Magnetic Micro- and Nanomachines
Self-propelled Micro- and Nanomachines
1st Training School COST Action MP1407 (April 11-15, 2016, Brno, Czech Republic)
Central European Institute of Technology (CEITEC) Brno, Czech Republic
Duties: Lecturing

Fundamentals on Electrodeposition

Initial Training Network SELECTA, 1st Workshop (3-7 November 2015, Vrnjacka Banja, Serbia)
Duties: Lecturing

Electrochemical Fabrication Techniques (9th – 31st July 2012)

Official Doctoral Program in Materials Science with Mention of Excellence
Autonomous University of Barcelona (UAB)
Duties: Lecturing

Microrobotics (Winter Semester 2009)

Institute of Robotics and Intelligent Systems
ETH – Zürich
Duties: Coordination and lecturing

Experimental Physical Chemistry (2nd semester 2006, 1st semester 2007)

Physical Chemistry Department
University of Barcelona
Duties: Lecturing and supervision

PHD THESIS SUPERVISION

Completed PhD Thesis

K. Sivaraman, “Materials and Fabrication Methods for Magnetic Intraocular Microrobots”, ETH Zürich (2013)
Role: Co-supervisor and co-examiner

M. A. Zeeshan, “Template-assisted synthesis of magnetic wireless micro- and nanoagents”, ETH Zürich (2013)
Role: Co-supervisor and co-examiner

S. Fusco, “Smart soft materials for microrobotics”, ETH Zürich (2014)

Role: Co-supervisor and co-examiner

C. Peters, “Biodegradable Superparamagnetic Polymer Composites. From Material Identification to Device Application”, ETH Zürich (2016)

Role: Partial co-supervision and co-examiner

J. Pokki, “Mobility and Biocompatibility of Ophthalmic Microdevices”, ETH Zürich (2016)

Role: Co-supervisor and co-examiner

B. Özkale, “An electrochemical approach to the development of complex materials for nanorobotic applications”, ETH Zürich (2016)

Role: Co-supervisor and co-examiner

A. Lindo, “Wirelessly Controlled Micro- and Nanostructures for Bioapplications” University of Porto (2016)

Role: Co-supervisor and co-examiner

M. Hoop, “Magnetically Driven Multifunctional Nanorobots for Biomedical Applications”, ETH Zürich (2017)

Role: Co-supervisor and co-examiner

B. Jang, “Nanobot propulsion methods: Theory and experiments”, ETH Zürich (2018)

Role: Co-supervisor and co-examiner

On going supervision of PhD Doctoral Students

Ms. Anastasia Terzopoulou, Mr. George Chatzipirpiridis, Ms. Fajer Mushtaq, Mr. Carlos Alcantara, Ms. Xiaopu Wang, Mr. Simone Gervasoni, Mr. Siyu Deng, Mr. Donghoon Kim

PATENTS AND PUBLICATIONS

Patents

1. H. Torun, O. Ergeneman, S. Pané, B. J. Nelson, “An atomic force microscope integrated with a multiple degrees-of-freedom magnetic actuator”, WO2016024931 A1

International Peer Reviewed Journal Papers

In the publications in which my name is underlined, I was leading and supervising totally or part of the research. If marked with a star, I am also corresponding author.

1. X. Wang, X. Hua Qin, C. Hu, A. Terzopoulou, X. Chen, T. Huang, K. Maniura-Weber, S. Pané*, B. J. Nelson “3D Printed Enzymatically Biodegradable Soft Helical Microswimmers” *Advanced Functional Materials*, *Accepted 2018*.
2. M. Hoop, A. S. Ribeiro, D. Rösch, P. Weinand, N. Mendes, F. Mushtaq, X. Z. Chen, Y. Shen, C. Franco Pujante, J. Puigmarti-Luis, J. Paredes, B. J. Nelson, A. P. Pêgo, S. Pané* “Mobile Magnetic Nanocatalysts for Bioorthogonal Targeted Cancer Therapy”, *Advanced Functional Materials*, Vol. 28, 2018, 1705920
3. G. Chatzipirpiridis, C. de Marco, E. Pellicer, O. Ergeneman, J. Sort, B. J. Nelson, S. Pané*, “Template-assisted electroforming of fully semi-hard-magnetic helical microactuators”, *Advanced Engineering Materials*, pp. 1800179. **Highlighted in Advanced Science News**
4. F. Mushtaq, X. Chen, M. Hoop, H. Torlakcik, E. Pellicer, J. Sort, C. Gattinoni, B. J. Nelson, and S. Pané, “Piezoelectrically Enhanced Photocatalysis with BiFeO₃ Nanostructures for Efficient Water Remediation”, *iScience (Cell Press)*, Vol. 4, 2018, pp. 236-246.
5. M. Lee, B. Jang, J. Yoon, M. Chandra, Y. Lee, C. Kim, S. Pané, B. J. Nelson, D. Lee, “Magnetic

- imaging of a single ferromagnetic nanowire using diamond atomic sensors", *IOP Nanotechnology*, Vol. 29, 2018, pp. 405502.
6. H.-W. Huang, T.-Y. Huang, M. Charilaou, S. Lyttle, Q. Zhang, **S. Pané**, B. J. Nelson, "Investigation of Magnetotaxis of Reconfigurable Micro-Origami Swimmers with Competitive and Cooperative Anisotropy", *Advanced Functional Materials*, Vol. 28, 2018, pp. 1802110.
 7. X. Wang, C. Hu, L. Schurz, C. De Marco, X. Chen, **S. Pané**, B. J. Nelson, "Surface Chemistry-Mediated Control of Individual Magnetic Helical Microswimmers in a Swarm", *ACS Nano*, Vol. 12, 2018, pp. 6210–6217
 8. R. Bernasconi, F. Cuneo, E. Carrara, G. Chatzipirpiridis, M. Hoop, X. Chen, B. J. Nelson, **S. Pané**, C. Credi, M. Levi, L. Magagnin, "Hard-magnetic Cell Microscaffolds from Electroless Coated 3D Printed Architectures", *Materials Horizons*, Vol. 5, 2018, pp. 699-707.
 9. H. Maurenbrecher, J. Mendil, G. Chatzipirpiridis, **S. Pané**, B. J. Nelson, P. Gambardella, "Chiral anisotropic magnetoresistance of ferromagnetic helices", *Applied Physics Letters*, Vol. 112.24, 2018, pp. 242401.
 10. C. Hu, **S. Pané**, Bradley J. Nelson, "Soft Micro- and Nanorobotics", *Annual Review of Control, Robotics, and Autonomous Systems*, Vol. 1, 2018, pp. 53-75.
 11. S. Sevim, A. Sorrenti, C. Franco Pujante, S. Furukawa, **S. Pané**, A. de Mello, J. Puigmartí-Luis, "Self-assembled materials and supramolecular chemistry within microfluidic environments: From common thermodynamic states to non-equilibrium structures", *Chemical Society Reviews*, Vol. 47, 2018, pp. 3788-3803. **Frontispiece**
 12. C. De Marco, **S. Pané**, B. J. Nelson, "4D Printing and Robotics", *Science Robotics*, Vol 3, 2018, pp. eaau0449.
 13. E. Dislaki, J. Pokki, **S. Pané**, J. Sort, E. Pellicer, "Fabrication of sustainable hydrophobic and oleophilic pseudo-ordered macroporous Fe–Cu films with tunable composition and pore size via electrodeposition through colloidal templates", *Applied Materials Today*, Vol. 12, 2018, pp. 1-8.
 14. X.Z. Chen, B. Jang, D. Ahmed, C. Hu, C. De Marco, M. Hoop, F. Mushtaq, B. J. Nelson, **S. Pané** "Small - Scale Machines Driven by External Power Sources", *Advanced Materials*, Vol. 30, 2018, pp. 1705061.
 15. E. Isarain-Chávez, MD Baró, C. Alcantara, **S. Pané**, J. Sort, E. Pellicer, "Micelle - Assisted Electrodeposition of Mesoporous Fe–Pt Smooth Thin Films and their Electrocatalytic Activity towards the Hydrogen Evolution Reaction", *ChemSusChem*, Vol. 11, 2018, pp. 367-375. **Cover picture.**
 16. M. Hoop, C. F. Walde, R. Riccò, F. Mushtaq, A. Terzopoulou, X. Z. Chen, C. J. Doonan, P. Falcaro, B. J. Nelson, J. Puigmarti-Luis, and **S. Pané**, "Biocompatibility characteristics of the metal organic framework ZIF-8 for therapeutical applications", *Applied Materials Today*, Vol. 11, 2018, pp. 13-21.
 17. B. Jang, A. Hong, H. E. Kang, C. Alcantara, S. Charreyron, F. Mushtaq, E. Pellicer, R. Buechel, J. Sort, S. S. Lee, B. J. Nelson, **S. Pané***, "Multi-Wavelength Light Responsive Au/B-TiO₂ Janus Micromotors", *ACS Nano*, Vol. 11, 2017, pp. 6146-6154.
 18. C. Hu, F. Aeschlimann, G. Chatzipirpiridis, J. Pokki, X. Z. Chen, J. Puigmarti-Luis, B. J. Nelson, **S. Pané**, "Spatiotemporally controlled electrodeposition of magnetically driven micromachines based on the inverse opal architecture", *Electrochemistry Communications*, Vol. 81, 2017, pp. 97-101.
 19. A. Quintana, J. Zhang, E. Isarain-Chávez, E. Menéndez, R. Cuadrado, R. Robles, M. D. Baró, M.

- Guerrero, **S. Pané**, B. J. Nelson, C. M. Müller, P. Ordejón, J. Nogués, E. Pellicer, J. Sort “Voltage-Induced Coercivity Reduction in Nanoporous Alloy Films: A Boost toward Energy-Efficient Magnetic Actuation”, *Advanced Functional Materials*, Vol. 27, 2017, 1701904.
20. M. Hoop, X. Z. Chen, A. Ferrari, F. Mushtaq, G. Ghazaryan, T. Tervoort, Dimos Poulidakos, B. J. Nelson, **S. Pané**, “Ultrasound-mediated piezoelectric differentiation of neuron-like PC12 cells on PVDF membranes”, *Scientific Reports*, Vol. 7, 2017, pp. 4028.
 21. N. Shamsudhin, V. I. Zverev, H. Keller, **S. Pané**, P. W. Egolf, B. J. Nelson, A. M. Tishin, “Magnetically Guided Capsule Endoscopy”, *Medical Physics*, Vol. 44, 2017, pp. e91-e111.
 22. S. Sevim, S. Özer, G. Jones, J. Wurzel, L. Feng, A. Fakhraee, N. Shamsudhin, O. Ergeneman, E. Pellicer, J. Sort, **S. Pané**, B. J. Nelson, H. Torun, T. Lühmann, “Nanomechanics on FGF-2 and heparin reveal slip bond characteristics with pH dependency”, *ACS Biomaterials Science & Engineering*, Vol. 3, 2017, pp. 1000-1007.
 23. C. Hu, H. Vogler, M. Aellen, N. Shamsudhin, B. Jang, J. T. Burri, N. Läubli, U. Grossniklaus, **S. Pané**, B. J. Nelson, “High precision, localized proton gradients and fluxes generated by a microelectrode device induce differential growth behaviors of pollen tubes”, *Lab on a Chip*, Vol. 17, 2017, pp. 671-680.
 24. X. Z. Chen, M. Hoop, F. Mushtaq, E. Siringil, C. Hu, B. J. Nelson, **S. Pané*** “Recent developments in magnetically driven micro-and nanorobots”, *Applied Materials Today*, Vol. 9, 2017, pp. 37-48.
 25. J. Pokki, O. Ergeneman, G. Chatzipirpiridis, T. Lühmann, J. Sort, E. Pellicer, S. A. Pot, B. M. Spiess, **S. Pané***, B. J. Nelson, “Protective coatings for intraocular wirelessly controlled microrobots for implantation: Corrosion, cell culture, and in vivo animal tests”, *Journal of Biomedical Materials Research. Part B: Applied Biomaterials*, Vol. 105, 2017, pp. 836-845.
 26. X. Z. Chen, M. Hoop, N. Shamsudhin, B. Özkale, T. Huang, Q. Li, E. Siringil, F. Mushtaq, L. Di Tizio, B. J. Nelson, **S. Pané*** "Hybrid Magnetoelectric Nanowires for Nanorobotic Applications: Fabrication, Magnetoelectric Coupling and Magnetically-assisted in vitro Targeted Drug Delivery", *Advanced Materials*, Vol. 29, 2017, 1605458.
 27. C. Chautems, B. Zeydan, S. Charreyron, G. Chatzipirpiridis, **S. Pané**, B. J. Nelson, “Magnetically powered microrobots: a medical revolution underway?” (Editorial) *European journal of cardio-thoracic surgery*, Vol. 405, 2017, pp. 1-3.
 28. B. Özkale, N. Shamsudhin, T. Bugmann, B. J. Nelson, **S. Pané**, “Magnetostriction in Electroplated CoFe Alloys", *Electrochemistry Communications*, Vol. 76, 2017, pp. 15-19.
 29. S. Schuerle, I. Avalos Vizcarra, J. Moeller, M. S. Sakar, B. Özkale, A. M. Lindo, F. Mushtaq, I. Schoen, **S. Pané**, V. Vogel, B. J. Nelson, “Robotically controlled microprey to resolve initial attack modes preceding phagocytosis”, *Science Robotics* 2017, Vol. 2, eaah6094.
 30. I. Golvano-Escobal, J. D. Sirvent, M. Ferran-Marqués, S. Suriñach, M. D. Baró, **S. Pané**, J. Sort, E. Pellicer, “Cross-sectioning spatio-temporal Co-In electrodeposits: disclosing a magnetically-patterned nanolaminated structure”, *Materials and Design*, Vol. 114, 2017, pp. 202-207.
 31. B. Jang, W. Wang, S. Wiget, A. J. Petruska, X. Chen, C. Hu, A. Hong, D. Folio, A. Ferreira, **S. Pané***, B. J. Nelson “Catalytic Locomotion of Core–Shell Nanowire Motors”, *ACS Nano*, Vol. 10, 2016, pp. 9983-9991.
 32. N. Shamsudhin, Y. Tao, J. Sort, B. Jang, C. L. Degen, B. J. Nelson, **S. Pané**, "Magnetometry of

Individual Polycrystalline Ferromagnetic Nanowires", *Small*, Vol. 12, 2016, pp. 6363-6369.

33. F. Mushtaq, A. Asani, M. Hoop, X. Z. Chen, D. Ahmed, B. J. Nelson, **S. Pané***, "Highly Efficient Coaxial TiO₂-PtPd Tubular Nanomachines for Photocatalytic Water Purification with Multiple Locomotion Strategies", *Advanced Functional Materials*, Vol. 26, 2016, pp. 6995-7002.
34. J. Zhang, **S. Pané**, J. Sort, E. Pellicer, "Toward Robust Segmented Nanowires: Understanding the Impact of Crystallographic Texture on the Quality of Segment Interfaces in Magnetic Metallic Nanowires", *Advanced Materials Interfaces*, Vol. 3, 2016, pp. 1 – 8. **Back cover**
35. H. W. Huang, M. S. Sakar, A. J. Petruska, **S. Pané**, B. J. Nelson, "Soft micromachines with programmable motility and morphology" *Nature Communications*, Vol. 7, 2016, pp. 1 – 9.
36. M. Hoop, F. Mushtaq, C. Hurter, X.-Z. Chen, B. J. Nelson, **S. Pané***, "Smart multifunctional drug delivery nanoplatfoms for targeting cancer cells", *Nanoscale*, Vol. 8, 2016, pp. 12723-12728.
37. X. Z. Chen, N. Shamsudhin, M. Hoop, R. Pieters, E. Siringil, M. S. Sakar, **S. Pané***, "Magnetolectric micromachines with wirelessly controlled navigation and functionality" *Materials Horizons*, Vol. 3, 2016, pp. 113-118. **Cover page**
38. B. Özkale, F. Mushtaq, J. Fornell, G. Chatzipirpiridis, L. H. Martin, J. Sort, C. M: Müller, E. Pellicer, B. J. Nelson, **S. Pané**, "Single step electrosynthesis of NiMnGa alloys", *Electrochimica Acta*, Vol. 204, 2016, pp. 199-205.
39. D. Ahmed, T. Baasch, B. Jang, **S. Pané**, J. Dual, B.J. Nelson "Artificial swimmers propelled by acoustically activated flagella", *Nano Letters*, Vol. 6, 2016, pp 4968–4974.
40. I. Golvano-Escobal, S. Suriñach, M. D. Baró, **S. Pané***, J. Sort, E. Pellicer, "Electrodeposition of sizeable and compositionally tunable rhodium-iron nanoparticles and their activity toward hydrogen evolution reaction", *Electrochimica Acta*, Vol. 194, 2016, pp. 263-275.
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Conference papers, abstracts and invited talks

In my invited talks, my name appears as bold.

1. **S. Pané**, “Magnetolectric Small-Scale Machines for Biomedical Applications”, NanoBio&Med2018 conference, November 20 -22, 2018, Barcelona (Spain). **Keynote talk.**
2. **S. Pané**, “Magnetolectric Small-Scale Robotics”, 6th Galenus Workshop, Development & Translation of Bioresponsive Drug Delivery Systems & Medical Devices, Universität Würzburg, November 6 -7, 2018, Würzburg (Germany). **Invited talk.**
3. **S. Pané**, “Magnetolectric Materials for Chemical and Biomedical Applications”, Gordon Research Conference Multiferroic and Magnetolectric Materials. Effects in Multiferroics Beyond the Coupling of Magnetic and Electric Order, August 5 - 10, 2018, Bates College, Lewiston (Maine, USA). **Invited talk.**
4. **S. Pané**, “Magnetic nanoswimmers for bioorthogonal catalysis-driven targeted cancer therapy”, International Conference on Manipulation, Automation and Robotics at Small Scales, July 2018,

Nagoya (Japan). **Invited talk. Special Session**

5. S. Pané, “Piezoelectric-based swimmers for degradation of organic pollutants”, International Conference on Manipulation, Automation and Robotics at Small Scales, July 2018, Nagoya (Japan). **Special Session on “Small-Scale Robots for Environmental Applications”, chaired and organized by me.**
6. S. Pané, “Magnetolectric Small-Scale Robots”, 1st International Workshop on Magneto-electric Actuation, Magneto-ionics and Related Phenomena in High-Surface Area Materials, 28-30 May 2018, Barcelona. **Invited talk.**
7. S. Pané, “Multiferroic nanostructures for water cleaning applications”, The 10th European School on Molecular Nanoscience (ESMolNa 2018), May 2018. **Invited specialized lecture.**
8. S. Pané, “Hybrid Magnetolectric Nanowires for Nanorobotic Applications”, Deutsche Physikalische Gesellschaft, March 2018, Berlin. **Invited talk.**
9. S. Pané, “A double template-assisted electrodeposition procedure to fabricate well-defined porous structures, 8th European Pulse Plating Seminar, Vienna, March 2018.
10. S. Pané. “Small-scale robots with magnetolectric capabilities“, IEEE Advanced in Magnetism 2018, February 2018, La Thuile (Italy). **Invited talk**
11. S. Pané, “Small-scale machines: the role of electrochemical fabrication”, Initial Training Network SELECTA Winter School (8-12 January 2018, University of Cambridge)
12. M. Hoop, A. S. Ribeiro, D. Rösch, P. Weinand, N. Mendes, F. Mushtaq, X.-Z. Chen, J. Paredes, B. J. Nelson, A. P. Pego, and S. Pané, “Magnetic nanoswimmers for bioorthogonal catalysis-driven targeted cancer therapy”. COST Action MP1407 Workshop e-MINDS: Electrochemical processing methodologies and corrosion protection for device and systems miniaturization. October 2017, Barcelona (Spain).
13. S. Pané, “Micro- y nanorobots: ¿amenaza o ayuda?”, Business Breakfasts organized by the Sociedad Suiza de Barcelona, Asociación económica hispano-suiza. Equestrian Circle of Barcelona, October 2017, Barcelona (Spain), **Invited speaker.**
14. S. Pané, “Magnetolectric small-scale robots”, International Conference on Manipulation, Automation and Robotics at Small Scales, July 2017, Montréal (Canada). **Invited talk. Special Session**
15. S. Pané, "Electrochemical processing technologies: a versatile approach for manufacturing micro- and nanomachines", 31st International Conference on Surface Modification Technologies, July 2017, Mons (Belgium). **Invited talk.**
16. S. Pané, "Magnetic and Magnetolectric Small-Scale Robots", Physics and Materials Science Research Unit, University of Luxembourg, July 2017, Luxembourg. **Invited talk**
17. S. Pané, “A microrobotic approach to ophthalmic procedures”, 32 Congreso de la Sociedad Española de Cirugía Ocular Implanto-refractiva (SECOIR), May 2017. **Invited talk.**
18. S. Pané, “Stimuli-responsive micromachines”, The 10th European School on Molecular Nanoscience (ESMolNa 2017), May 2017. **Invited lecture.**
19. S. Pané, “Magnetolectric small-scale robots: a step towards highly integrated machines”, 2017 IEEE International Magnetism Conference (**INTERMAG**), Dublin, April 2017. **Invited talk**
20. A. Hirt, A. Mahfuj, S. Pané, S. Gervasoni, 3-D Printing: A New Method to Investigate the Effect of

Deformation on Remanent Magnetization EGU General Assembly Conference Abstracts 19, 3547, April, 2017, Vienna.

21. **S. Pané**, “Wireless Magnetic Micro- and Nanorobots”, The Natural and Medical Sciences Institute (NMI) at the University of Tübingen, March 2017. **Invited talk**
22. **S. Pané**, “Magnetic and magnetoelectric small-scale robots”, Lehrstuhl für Analytische Chemie und Zentrum für Elektrochemie, Ruhr-Universität Bochum, January 2017. **Invited talk.**
23. **S. Pané**, “Magnetic and Magnetoelectric Small-scale Machines”, 3M NANO, International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale, Chongqing (China), July 2016. **Keynote speaker.**
24. **S. Pané**, “Magnetic Micro- and Nanorobotic Platforms: Perspectives and Fabrication Challenges”, Micro-robotics and Micro-fabrication Workshop, The 9th Hamlyn Symposium on Medical Robotics, Royal Geographical Society, Imperial College, London, June 2016. **Invited speaker.**
25. **S. Pané**, “Magnetically Guided Micro- and Nanomachines”, Collaborative Conference on 3D and Materials Research, Incheon (Korea), June 2016. **Invited speaker.**
26. **S. Pané**, “Wireless Magnetic Micro- and Nanorobots”, The 9th European School on Molecular Nanoscience (ESMolNa 2016), May-June 2016. **Invited specialized lecture.**
27. **S. Pané**, “Wireless Magnetic Micro- and Nanorobots”, Condensed Matter Seminar, University of Oxford, Department of Physics, May 2016. **Invited talk.**
28. **S. Pané**, “Magnetoelectrochemical Microrobotics”, The 7th European Pulse Plating Seminar, March 2016, Baden (Austria), **Invited speaker.**
29. **S. Pané**, “Magnetically Guided Biomedical Micro- and Nanorobots” 8th International Conference on Bioinformatics Models, Methods and Algorithms, BIOSTEC 2016, February 2016, Rome. **Invited keynote speaker**
30. H. W. Huang, A. J. Petruska, M. S. Sakar, M. Skoura, F. Ullrich, Q Zhang, S Pané, B. J. Nelson, “Self-folding hydrogel bilayer for enhanced drug loading, encapsulation, and transport.” 38th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2016.
31. C. Hu, K. Riederer, M. Klemmer, S. Pané, B. J. Nelson, “Electrosynthesis of magneto-responsive microrobot for targeted drug delivery using calcium alginate” 38th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2016.
32. F. Ullrich, F. Qiu, J. Pokki, T. Huang, S. Pané, B. J. Nelson, (2016, June). Swimming characteristics of helical microrobots in fibrous environments. In *IEEE International Conference on Biomedical Robotics and Biomechatronics (BioRob)*, Singapore 2016 (pp. 470-475). **1st Place Best Student Conference Paper Award**
33. R. Bernasconi, C. Credi, G. Chatzipirpiridis, S. Pané, M. Levi, L. Magagnin, (2016, April). 3D Printing and Electroless Metallization of Microrobots for Biomedical Applications. In *Meeting Abstracts* (No. 20, pp. 1105-1105). The Electrochemical Society.
34. J. Praprotnik, O. Ergeneman, G. Chatzipirpiridis, A. Weidlich, S. Blaz, S. Pané, B. J. Nelson, (2015). An array of 2D Magnetic Micro Force Sensors for Life Science Applications. *Procedia Engineering*, 120, 220-224.
35. C. Peters, V. Costanza, S. Pané, B. J. Nelson, C. Hierold, (2015, June). Superparamagnetic hydrogels

for two-photon polymerization and their application for the fabrication of swimming microrobots. In *2015 Transducers-2015 18th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS)* (pp. 764-767). IEEE.

36. Chatzipirpiridis, G., Gervasoni, S., Berlinger, F., Ergeneman, O., Pané, S., & Nelson, B. J. (2015, June). Miniaturized magnetic force sensor on a catheter tip. In *2015 Transducers-2015 18th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS)* (pp. 1727-1730). IEEE.
37. X. Chen, N. Shamsudhin, E. Siringil, M. S. Sakar, R. Pieters, B. J. Nelson and S. Pané, "Magnetochemical microdevices", 11th International Workshop on Electrodeposited Nanostructures (EDNANO-11) September 10-12, 2015, Balatonfüred, Hungary (oral talk).
38. B. Jang, R. Siegfried, X. Chen, B. Özkale, B. J. Nelson, S. Pané, "Supported thick porous anodic alumina membrane on silicon" 11th International Workshop on Electrodeposited Nanostructures (EDNANO-11) September 10-12, 2015, Balatonfüred, Hungary (oral talk).
39. W. E. G. Hansal, G. Sandulache, S. Hansal, S. Pané, "Fabrication of magnetic nanowires via pulse plating methods", 11th International Workshop on Electrodeposited Nanostructures (EDNANO-11) September 10-12, 2015, Balatonfüred, Hungary (oral talk).
40. I. Golvano-Escobal, S. Suriñach, M. D. Baró, S. Pané, J. Sort, E. Pellicer, "Controlled electrodeposition of Rh-Fe nanoparticles for hydrogen evolution reaction applications" 11th International Workshop on Electrodeposited Nanostructures (EDNANO-11) September 10-12, 2015, Balatonfüred, Hungary (oral talk).
41. E. Pellicer, J. Zhang, A. Varea, B. Özkale, S. Suriñach, M. D. Baró, S. Pané, J. Sort, "Electrodeposited Cu-Ni functional materials: microcolumns, nanopillars and nanofoams" 11th International Workshop on Electrodeposited Nanostructures (EDNANO-11) September 10-12, 2015, Balatonfüred, Hungary (oral talk).
42. **S. Pané**, "Nanotechnologies – Future Impacts", Expanding New Horizons in Cardiovascular Diseases, Santa Marta Lisbon Summer Meeting, 2-4 July 2015, Lisbon. **Invited speaker.**
43. S. Pané, "Electrochemical manufacturing in small robotics", eastForum 2015, Progress in Functional and sustainable Surface technology, June 25-26 in Lund, Sweden (oral talk).
44. M. Hoop, X. Chen, S. Yang, M. S. Sakar, B.J. Nelson, S. Pané, Silver coated antibacterial magnetically manipulated helical nanoswimmers", eastForum 2015, Progress in Functional and sustainable Surface technology, June 25-26 in Lund, Sweden (oral talk).
45. F. Mushtaq, M. Guerrero, S. Sakar, A. M. Lindo, M. A. Zeeshan, J. Sort, B. J. Nelson, E. Pellicer, S. Pané "3D template- assisted electrodeposition of Hybrid magnetic microrobots for photocatalytic targeted water cleaning, eastForum 2015, Progress in Functional and sustainable Surface technology, June 25-26 in Lund, Sweden (oral talk).
46. S. Pané, E. Pellicer, "e-MINDS: an European Networking COST Action for Electrochemical Processing Methodologies and Corrosion Protection for Device and Systems Miniaturization", EuroNanoforum 2015, 10-12 June 2015, Riga, Latvia (**oral talk financed by the COST Association**).
47. **S. Pané**, "Electrodeposited hybrid materials for sub-micro- and nanorobotic applications", 2015 E-MRS Spring Meeting, Lille, May 11-15, 2015. **Invited speaker.**
48. G. Chatzipirpiridis, O. Ergeneman, B. J. Nelson, S. Pané, "Electroformed three-dimensional magnetic

microrobots” 2015 E-MRS Spring Meeting, Lille, May 11-15, 2015 (oral talk)

49. J. Zhang, S. Agramunt, S. Pané, S. Estradé, F. Peiró, N. del Valle, M. D. Baró, C. Navau, A. Sánchez, J. Nogués, E. Pellicer, J. Sort, “Controlled electrodeposition and magnetic properties of hard ferromagnetic (FM)/spacer/soft FM multi-segmented nanowires” 2015 E-MRS Spring Meeting, Lille, May 11-15, 2015 (oral talk)
50. **S. Pané**, “Electrodeposited hybrid materials for sub-micro- and nanorobotic applications”, 2015 E-MRS Spring Meeting, Lille, May 11-15, 2015. **Invited speaker.**
51. B. Özkale, N. Shamsudhin, G. Chatzipirpiridis, M. Hoop, X. Chen, F. Gramm, J. Sort, B. J. Nelson, E. Pellicer, S. Pané, “On-Demand Magnetically Triggered Drug Release with Segmented Nanowires”, 2015 MRS Spring Meeting & Exhibit, San Francisco, April 6-10, 2015 (oral talk).
52. **S. Pané**, G. Chatzipirpiridis, C. Peters, N. Shamsudhin, O. Ergeneman, X. Chen, C. Hierold and Bradley J. Nelson, “Magnetic Microrobots with Programmed Magnetic Properties”, 2015 MRS Spring Meeting & Exhibit, San Francisco, April 6-10, 2015. **Invited speaker.**
53. **S. Pané**, “Biomedical Micro- and Nanorobots - Fabrication and Applications”, 2nd International Congress on Cardiovascular Technologies (CARDIOTECHNIX 2014), **Keynote speaker.**
54. S. Fusco, M. S. Sakar, S. Kennedy, C. Peters, S. Pané, D. Mooney, B. J. Nelson, “Self-folding mobile microrobots for biomedical applications”, Robotics and Automation (ICRA), 2014 IEEE International Conference on: May 31 2014-June 7 2014 : [Hong Kong, China]. **Best Medical Robotics Paper Award - Finalist**
55. **S. Pané**, “Fabrication of segmented FeCo/Cu nanowires by pulse electrodeposition”. European Pulse Plating Seminar 2014, **Plenary Speaker.**
56. E. Pellicer, S. Pané, M. Guerrero, M.A. Zeeshan, J. Bumjin, A. Varea, S. Suriñach, M.D. Baró, J. Nogués, B.J. Nelson, J. Sort Design and synthesis of multi-alloy/hybrid 1-D nanoarchitectures for magnetic and biological applications (ISMANAM 2013, **invited talk**)
57. M. Guerrero, M. A. Zeeshan, S. Pané, E. Pellicer, A. M. Lindo, K. M. Sivaraman, M. D. Baró, B. J. Nelson, J.Sort. Assessment of the magnetic properties of metallic nanowires synthesized by template-assisted electrodeposition on silicon ([ICCE-21](#), oral talk).
58. E. Pellicer, M. A. Zeeshan, S. Pané, M. Guerrero, S. Suriñach, M. D. Baró, J. Nogués, B. J. Nelson, J. Sort. Electrodeposited quaternary CoNiReP nanowires with large hardness and tunable magnetic response ([Thermec 2013](#), oral talk).
59. **S. Pané**, M. A. Zeeshan, B. Özkale, G. Chatzipirpiridis, S. Fusco, J. Pokki, A. M. Lindo, B. Jang, S. Schürle, O. Ergeneman, E. Pellicer, J. Sort, B. J. Nelson, “Electrochemical Processing Technologies for Manufacturing Components in Micro- and Nanorobotic Platforms”, International Workshop on Micro- and Nanomachines, Hannover, Germany, 2nd -5th of July, 2014. **Invited speaker**
60. S. Fusco, B. J. Nelson, S. Pané, "Magnetic biomedical microrobots functionalized with chitosan for targeted drug delivery", Proc. in 2013 MRS fall meeting & Exhibit, Boston, USA, December 2013 (oral talk).
61. J. Pokki, O. Ergeneman, S. Pané, B. J. Nelson, H. Torun, "Nanostructured Spectrally Selective Absorber by Colloidal Lithography", Proc. in 24th Micromechanics and Microsystems Europe Conference (MME2013), September 2013.
62. S. Fusco, B. J. Nelson, S. Pané, "Electrodeposited chitosan hydrogel layers for micro robotic drug

- delivery", Proc. in XVIII World Interfinish Congress & Exhibition, Milano, Italy, November 2012 (oral talk).
63. S. Pané, E. Pellicer, K. M. Sivaraman, M. A. Zeeshan, B. Özkale, G. Chatzipirpiridis, O. Ergeneman, S. Fusco, S. Schürle, S. Suriñach, M. D. Baró, J. Sort, B. J. Nelson, "Pulse Electrodeposition: a fabrication methodology for magnetic biomedical micro and nanorobotic devices", Proc. in XVIII World Interfinish Congress & Exhibition, Milano, Italy, November 2012. (oral talk).
 64. H. Tung, D. R. Frutiger, S. Pané, B. J. Nelson, "Polymer-Based Wireless Resonant Magnetic Microrobots", Proc. in IEEE International Conference on Robotics and Automation (ICRA2012), St. Paul, MN, USA, May 2012.
 65. O. Ergeneman, G. Chatzipirpiridis, S. Pané, G. A. Sotiriou, C. Bergeles, B. J. Nelson, "Wireless Microrobotic Oxygen Sensing for Retinal Hypoxia Monitoring", Proc. in MobiHealth 2011 2nd International ICST Conference on Wireless Mobile Communication and Healthcare, Kos, Greece, October 2011.
 66. C. Framme, C. Bergeles, O. Ergeneman, B. E. Kratochvil, M. Kummer, S. Pané, V. Počepcová, B. J. Nelson, "Magnetically steered inserts for minimally invasive intravitreal surgical procedures", Proc. in 109. Kongress der Deutschen Ophthalmologie Gesellschaft, Berlin, Germany, 2011.
 67. D. Folio, C. Dahmen, T. Wortmann, A. M. Zeeshan, K. Shou, S. Pané, B. J. Nelson, A. Ferreira, S. Fatikow, "MRI Magnetic Signature Imaging, Tracking and Navigation for Targeted Micro/Nano-Capsule Therapeutics", Proc. in IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2011), September 2011.
 68. O. Ergeneman, P. Eberle, M. Suter, G. Chatzipirpiridis, K. Sivaraman, S. Pané, C. Hierold, B. J. Nelson, "An In-Plane Cobalt-Nickel Microresonator Sensor with Magnetic Actuation and Readout", Proc. in IEEE International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers'11), June 2011.
 69. A. M. Zeeshan, K. Shou, S. Schürle, E. Pellicer, S. Pané, J. Sort, K. M. Sivaraman, S. Fusco, S. Muntwyler, M. D. Baró, B. J. Nelson, "Ferromagnetic Nanowires as Potential Drug-Delivery Wireless Nanorobots", IEEE Nanomed, Hong Kong, December 2010.
 70. S. Pané, O. Ergeneman, K. M. Sivaraman, T. Luehmann, H. Hall-Bozic, Bradley J. Nelson, "Strategies for Drug-Delivery and Chemical Sensing using Biomedical Microrobots", IEEE Nanomed, Hong Kong, December 2010. (Oral talk)
 71. O. Ergeneman, G. Chatzipirpiridis, F. B. Gelderblom, J. Pokki, S. Pané, M. M. Toro, J. F. Sánchez, G. A. Sotiriou, B. J. Nelson, "Oxygen Sensing using Microrobots", Proc. in 32nd International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2010), Buenos Aires, Argentina, September 2010. **Best Student Award**
 72. K. Sivaraman, K. Bayrakceken, O. Ergeneman, S. Pané, T. Lühmann, H. Hall, B. J. Nelson, "Tailoring the drug loading capacity of polypyrrole films for use in intraocular biomicrorobots", Proc. in 32nd International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2010), Buenos Aires, Argentina, September 2010.
 73. O. Ergeneman, M. Suter, G. Chatzipirpiridis, J. Zurcher, S. Graf, S. Pané, C. Hierold, B. J. Nelson "Characterization and actuation of a magnetic photosensitive polymer cantilever", International Symposium on Optomechatronic Technologies, 2009. ISOT 2009, Istanbul, Turkey, September 2009.
 74. Z. Nagy, M. Flückiger, O. Ergeneman, S. Pané, M. Probst, B. J. Nelson, "A wireless acoustic emitter

for passive localization in liquids”, IEEE International Conference on Robotics and Automation ICRA'09, Kobe, Japan, May 2009.

75. G. Dogangil, O. Ergeneman, J. J. Abbott, S. Pané, H. Hall, S. Muntwyler, B. J. Nelson, “Toward targeted retinal drug delivery with wireless magnetic microrobots” 2008 IEEE/RSJ International Conference on Intelligent Robots and System, Nice, France, September 2008.

Books and book chapters

1. S. Schürle, B. E. Kratochvil, S. Pané, M. A. Zeeshan and Bradley J. Nelson, Chapter 14: Generating Magnetic Fields for Controlling Nanorobots in Medical Applications, Nanorobotics, Springer, 2013, ISBN: 978-1-4614-2118-4.
2. Amell Tosas, Anna; Amorós i Gurrera, Mònica; Giménez Molina, Isabel; Pané Vidal, Salvador; Vallmitjana i Rico, Montserrat; *Guia didàctica; Ciències de la Naturalesa 1*, Curs 2007-2008, McGRAW-HILL/INTERAMERICANA DE ESPAÑA, S.A.U., ISBN: 8448152662/9788448152666
3. Amell Tosas, Anna; Pané Vidal, Salvador; *Guia didàctica; Física i Química 3*, Curs 2007-2008, McGRAW-HILL/INTERAMERICANA DE ESPAÑA, S.A.U., ISBN: 844816377X
4. Amell Tosas, Anna; Garcia i Serrano, Hèctor; Martí Ausejo, Xavier; Pané Vidal, Salvador; *Guia didàctica; Biologia i Geologia 3*, Curs 2007-2008, McGRAW-HILL/INTERAMERICANA DE ESPAÑA, S.A.U., ISBN: 844816377X