

Curriculum Vitae

Mathieu Hautefeuille

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**Professeur des Universités-Laboratoire de Biologie du Développement (UMR 7622)
IBPS, Sorbonne Université**

Current position

Professeur des Universités (recruited in 2021)

Full Professor

- **Researcher and Principal Investigator** of a new team at LBD-IBS
Dynamic and Multiscale Processes of Self-Organization in Tissue Morphogenesis
- **Lecturer** in Undergraduate and Graduate programs in Biology) - 192h per year
UFR 927 - Sciences de la Vie

Sorbonne Université
**Laboratoire de
Biologie du Développement**
UMR 7622 - IBPS
*Faculté des Sciences
et de l'Ingénierie*

Past positions

Visiting Researcher on sabbatical leave (July 2020-July 2021)

- Developing potential collaborations and structuring future axes of personal research
- Learning new techniques in cell force measurements and cell collective behaviors

**Institut
Jacques Monod**
(Ladoux-Mège team)

Full Professor (tenured 2017-2021)

Current functions: Research and Lecturing (192 hours per year)

- **Researcher and Principal Investigator (HDR advisor since 2015)**
- **Founder** of the "*Micro - Nanotechnology Lab*" in the Physics Department
- **Lecturer at undergraduate level:** created 5 new courses in Biomedical Physics (undergraduate level : Biomedical Physics and Physics) - Graduate level (Biomedical Sciences Biological Sciences, Physics)

*Universidad Nacional
Autónoma de México*

Facultad de Ciencias
(School of Science)
Physics Department

Co-founder and Acting Group Leader the *LaNSBioDyT* National Lab. (2015-2021)

(National Lab of Biomimetic Solutions for Theranostics, founded in 2015)

Current functions:

- **Acting lead manager** of the LaNSBioDyT National Laboratory management role, administration, projects & research direction
- **Manager of the ISO 9001-2015 management system** management and administration of services to academic labs and industry
- **Team Leader** of the “Micro - Nanotechnology Lab”
6 funded projects and ~2M€ funding in 5 years

Universidad Nacional
Autónoma de México

Laboratorio Nacional de
Soluciones Biomiméticas para
Diagnóstico y Terapia

Co-founder / Advisor in point-of-care biosensing

Functions: co-founder, advisor of a spin-off company (no active role)

Licensing the rights of 2 patents on PoC biosensing using microfluidics chips
Technology transfer and advisor - No current active role in the company

BioWIT

Assistant Professor (2014-2017)

Associated functions: Research and Lecturing (288h per year in 2 semesters)

Universidad Nacional Autónoma de México

Facultad de Ciencias
(School of Science)
Physics Department

Research engineer

Advanced Optics Lab (2012-2014)

Associated functions: Research and Lecturing (96h per year in 2 semesters)

Universidad Nacional Autónoma de México

Facultad de Ciencias
(School of Science)
Physics Department

Lecturer

Lecturer in Physics

New courses created in Optoelectronics and Photonics, Instrumentation in the Physics Lab.

Facultad de Ciencias
(School of Science)
Physics Department

Education & Training

Postdoctoral researcher (Centro UNAMEMS)

Universidad Nacional Autónoma de México

School of Engineering - Electrical Engineering Dept.

August 2009 – July 2011

PhD in Microelectronics Engineering

University College Cork – Tyndall National Institute

Thesis: MEMS-based environmental monitoring systems

Supervisors: Dr. Frank Peters, Dr. Brendan O’Flynn, Dr. Conor O’Mahony

Cork, Ireland
2005 – 2009

M.Eng.Sc. in Electronics Engineering (with honors)

Institut National Polytechnique de Grenoble (INPG)
École National Supérieure d'Electronique et de Radioélectricité de Grenoble
Thesis: *Neural-Network Automatic Detection of a 2D-3D image content for 3D displays*
Supervisor: Dr. Wilbert IJzerman (Philips Research)

Grenoble, France
2003 – 2005
Philips Research
Eindhoven, NL

B.Eng.Sc. in Electronics (with honors)

Institut National Polytechnique de Grenoble (INPG)
École National Supérieure d'Electronique et de Radioélectricité de Grenoble
Thesis: *Computational model of spoken communication for impaired hearing*
Supervisor: Prof. Arne Leijon (KTH)

Grenoble, France
2003
KTH University
Stockholm, Sweden

Awards

Highest Distinction for Young Professor-Researcher at UNAM University

UNAM Prize for Young Faculty 2017 (Reconocimiento Distinción Universidad Nacional para Jóvenes Académicos)

Universidad Nacional Autónoma de México - see [here](#)

Received for the contribution in *Technological Innovation*

Google Research Latin America - Innovation Prize

Award recipient in 2016-2017 (part of Catalina Stern team) - prize money for research

“Dual biosensor of glucose and insulin for the diagnostics of diabetic patients”

Prize of the Mexican National Chamber of the Pharmaceutical Industry CANIFARMA

3rd place - Technological Innovation 2016 - prize money for research

“Versatile sensor of biomolecules”

Lecturing

UNDERGRADUATE LEVEL IN PHYSICS / BIOMEDICAL PHYSICS

(350+ undergraduate students in my lectures and ~100 more in laboratory sessions since 2012)

- **Introduction to Biomechanics and Mechanobiology**, undergraduate Biomedical Physics lecture *-created-*
- **Introduction to Microfabrication and Microtechnology**, undergraduate Physics lecture *-created-*
- **Interactions Radiation-Matter**, section of non-ionizing radiation, undergraduate Biomedical Physics lecture *-created-*
- **Introduction to Biosensors**, undergraduate Biomedical Physics lecture *-created-*
- **Experimental Physics Laboratories (1-2-3-4)**, sequential experimental physics labs for Biomedical Physics students
- **Introduction to Optoelectronics**, undergraduate Physics lectures *-created-*
- **Introduction to Instrumentation for Physics Laboratories**, undergraduate Physics lectures *-created-*

GRADUATE LEVEL IN PHYSICS / BIOMEDICAL SCIENCES / ELECTRICAL ENGINEERING

- **Microtechnology and Instrumentation** (Physics and Engineering Masters and PhD programme)
- **Introduction to Mechanobiology** (Biomedical Science and Biology Masters and PhD programme)

Experience in training and conducting research

HDR obtained in 2015 - PhD and M.Sc / M.Eng.Sc. advisor

Postgraduate advisor in 4 graduate programs:

- Engineering
- Materials Science
- Biological Science
- Biomedical Science

Advisor of 14 graduate students (3 PhD and 11 M.Sc.) + 5 PhD and 2 Masters students in progress

Advisor of 17 undergraduate (B.Sc. in Physics and Biomedical Physics) and 3 more in process

Research

Research administration:

Financed projects at Sorbonne Université, since 2021

- **IRP-CNRS (2022-2025):** Partner in MechanoImmunoBio (with LAI in Marseille and LaNSBioDyT in Mexico)

Fields of Interest: bilateral research axis in immuno-mechanobiology in fibrosis and cancer

- **iBio (2022-2024):** Coordinator, 180k€ support for new teams at IBPS from iBio initiative, Sorbonne Université
- **DIM-ELICIT (2022-2024):** Coordinator, 303k€, support for infrastructure - build a microfabrication lab at IBPS

Sabbatical year at Institut Jacques Monod: DGAPA-UNAM fellowship for sabbatical stays

Financed projects as a young PI: over US\$2M in National Research funding grants as a PI, since 2014

6 projects funded in Mexico, 2 bilateral projects France-Mexico

Fields of Interest:

- Mechanobiology: biomaterials science and engineering, cell mechanobiology and biomechanics
- Biomimetics microtechnology: biomaterials, fabrication methods, characterization
- Micro Platforms: Lab-on-a-chip / Organ-on-a-chip / Micro-biosensor
- Optoelectronics and signal & image processing

Co-founder and leader of the LaNSBioDyT National Laboratory (since 2015)

Joint lab between **UNAM & National Institutes of Health: 9 laboratories in total**

Over US\$2M in National Research funding grants as a PI for young researcher since 2014

Founder and Group Leader of the Laboratorio de Micro-Nanotecnología (since 2014)

Research lab with a strong focus on training researchers in interdisciplinary projects and translational research
ISO 9001:2015 management system (since 2017)

Services to the academic community, public and private research lab and industry (development of biochips)

Research translation to the clinics and hospitals in national collaborations

Designed 4 research projects with a potential use in clinics and hospitals (with 3 national institutes of health)

→point-of-care biosensors, organ-on-chip (liver and lung), personalized medicine intelligent systems, imaging

Collaborations with MDs and surgeons to develop on-demand designs and solutions (3 ongoing projects)

Collaboration with public institutions responsible for norms and standards in healthcare (COFEPRIS in Mexico)

Manager Services to other laboratories and to the industry

ISO 9001-2015 certification of my laboratory (since 2016)

More than 200 services to academic laboratories in 4 years in microfabrication and characterization

3 collaboration projects with industry in R&D

International collaborations with missions and students exchange

LAAS-CNRS (2015-2019): Development of 3D microtechnology for optimized cell culture platforms - Laurent Malaquin

- 1 ANR-CONACyT project financed for 3 years
- 3 students and 4 professors exchanges
- 1 publication and 2 posters in conferences

LIA-INSERM-CNRS (2018-to date): Micromechanics of cells and tissues with Pierre-Henri Puech

- 1 PICS project financed for 2 years
- 2 students and 2 professors exchanges - 1 joint postdoc
- 1 publication in progress (submitted in January 2021)

CEMB- UPenn (2018-to date): Liver fibrosis and mechanics project with Rebecca Wells

- 1 student and 2 professors exchanges

INSA Toulouse / Villanova University (2018-to date): Constructal architecture of the liver vasculature with Sylvie Lorente

- 1 student and 2 professors exchanges - 1 joint postdoc
- 1 publication and 2 talks in conferences

Scientific publications [h-index: 9 ; Citations: 248 (Scopus) - 329 (Google Scholar)]

Authored peer-reviewed articles in international journals

50 documents published as referenced by Scopus ([here](#))

33 indexed journal papers (~ 2/3 as first or corresponding author, and with B.Sc. students as co-authors)

Full list is available below

Books and Book Chapter

- "**Field Guide of Optoelectronics and Photonics**", Juan Hernández-Cordero and Mathieu Hautefeuille; Editor: SPIE, currently in revision... (in the last round of revisions, planned for **2021**)
- Vázquez-Victorio G., Rodríguez-Hernández A., Cano-Jorge M., Monroy-Romero A.X., Macías-Silva M., Hautefeuille M. (**2021**) *Fabrication of Adhesive Substrate for Incorporating Hydrogels to Investigate the Influence of Stiffness on Cancer Cell Behavior*. In: Robles-Flores M. (eds) **Cancer Cell Signaling. Methods in Molecular Biology**, vol 2174. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-0759-6_18.

- *“Handbook of MEMS for wireless and mobile applications”*, Editor: Prof Deepak Uttamchandani (University of Strathclyde, UK), *Woodhead Publishing*. ISBN 0 85709 271 5, ISBN-13: 978 0 85709 271 7, August **2013**, 640 pages.

Peer-reviewed international conferences

- 24 international peer-reviewed **proceedings**
- 32 **participations** in **international** conferences
- 12 **participations** in **national** conferences

Editorial work and peer-reviewing

- Member of the Editorial Board of the open-access journal *Manufacturing Review*. EDPsciences
- Member of Topic Editorial Board of the open-access journal *Micromachines*, MDPI
- Guest topic Editor in *Micromachines*, MDPI and *Frontiers in Bioengineering and Biotechnology*
- 53 verified peer-reviews for international indexed journals ([verified reviews in Publons](#))
- peer-reviewing abstracts and proceeding articles at international conferences
- reviewer of national and international projects and grants

Experience in participation in institutional activities

Member of the Board and acting director of the LaNSBioDyT National Laboratory, UNAM

Member of external committees in Doctorate schools - participation in over 40 committees (since 2014)

Member of the Commission for International mobility in undergraduate programs (3 years)

Elected representative of the School of Science in the University’s Science and Engineering Commission Board

Invited member of the National Revision Commission of the CONACyT in the Call for Frontier Projects 2019

Invited member of the Commission for the Teaching of Experimental Physics of the Physics Department (3 yr)

Coordinator of the Electronics Lab in the Department of Physics (2 years)

Organizer of 2 international symposia on biomimetism and biomaterials (over 200 participants in total)

Publication List

Profil Google Scholar: <https://scholar.google.com.mx/citations?hl=en&user=xJFac9YAAAAJ>

Profil Scopus: <https://www.scopus.com/authid/detail.uri?authorId=24166134700>

1. Barrasa-Ramos, Sara; Dessalles, Claire; **Hautefeuille, Mathieu**; Barakat, Abdul; Mechanical regulation of the early stages of angiogenesis, **Journal of the Royal Society Interface**, accepted with minor revisions on August 1st 2022 (*expected to be published in Fall 2022*).
2. Lecoutre, Simon, Mélanie Lambert, Krzysztof Drygalski, Isabelle Dugail, Salwan Maqdasy, **Mathieu Hautefeuille**, and Karine Clément. "Importance of the Microenvironment and Mechanosensing in Adipose Tissue Biology." **Cells**, 11, 15 (2022): 2310.
3. Marc Antoine Fardin*, **Mathieu Hautefeuille**, and Vivek Sharma. "Spreading, pinching, and coalescence: the Ohnesorge units." **Soft Matter**, (2022),18, 3291-3303.
4. Torres Rojas AM, Lorente S, **Hautefeuille M** and Sanchez-Cedillo A, Hierarchical Modeling of the Liver Vascular System, **Frontiers in Physiology**, (2021), 12:733165., (doi: 10.3389/fphys.2021.733165).
5. Malagón-Escandón, Alda, **Mathieu Hautefeuille**, Edgar Jimenez-Díaz, Jesus Arenas-Alatorre, José Manuel Saniger, Isidro Badillo-Ramírez, Nadia Vazquez, Gabriela Piñón-Zarate, and Andrés Castell-Rodríguez. "Three-Dimensional Porous Scaffolds Derived from Bovine Cancellous Bone Matrix Promote Osteoinduction, Osteoconduction, and Osteogenesis." **Polymers** 13, 24 (2021): 4390.
6. Tatiana Fiordeliso*, **Mathieu Hautefeuille**, Ivette Buendia, Diana Del-Río, Diana Ríos-López, Diego Zamarrón-Hernández, Samuel Amat-Shapiro, Andrea Campa, Edgar Jiménez-Díaz, Erika González-Villa, Janikua Nelson, Natyelli García, Jehú López-Aparicio, Eduardo Montes, J. Armando Santiago, Annie Pardo, Moisés Selman, "Rapid diagnostic method of avian-related hypersensitivity pneumonitis for the development of a point-of-care biosensor", **Biosensors**, 2021 Jun; 11(6): 196. doi: [10.3390/bios11060196](https://doi.org/10.3390/bios11060196)
7. D. Pérez-Calixto; S. Amat-Shapiro; D. Zamarrón-Hernández; G. Vázquez-Victorio; P-H. Puech; **M. Hautefeuille***; Determination by Relaxation Tests of the Mechanical Properties of Soft Polyacrylamide Gels Made for Mechanobiology Studies, **Polymers**, 2021, 13, 629. <https://doi.org/10.3390/polym13040629>
8. J. A. Benítez-Martínez, I. M. Garnica-Palafox, G. Vázquez-Victorio, **M. Hautefeuille**, and F. M. Sánchez-Arévalo*, Semi-interpenetrating polymeric networks based on poly(dimethylsiloxane)-chitosan-poly(vinyl alcohol) crosslinked with genipin with possible use in biomedical applications, **Journal of Materials Science**, 56, 5936–5955 (2021). <https://doi.org/10.1007/s10853-020-05683-3>
9. S. Lorente*, **M. Hautefeuille** & A. Sanchez-Cedillo, The liver, a functionalized vascular structure. **Scientific Reports**, 10, 16194 (2020). (<https://doi.org/10.1038/s41598-020-73208-8>).

10. N. Serna-Márquez, A. Rodríguez-Hernández, M. Ayala-Reyes, L.O. Martínez-Hernández, M.A. Peña-Rico, **M. Hautefeuille**, G. Vázquez-Victorio*, Fibrillar Collagen Type I Participate in the Survival and Aggregation of Primary Hepatocytes Cultured on Soft Hydrogels, **Biomimetics** **2020**, 5(2), 30. <https://doi.org/10.3390/biomimetics5020030>.
11. E. Rodriguez-Alba, N. Dionisio, M. Perez- Calixto, L. Huerta, L. Garcia-Uriostegui, **M. Hautefeuille**, G. Vázquez-Victorio, G. Burillo*, "Surface modification of polyethyleneterephthalate film with primary amines using gamma radiation and aminolysis reaction for cell adhesion studies", **Radiation Physics and Chemistry**, Volume 176, November **2020**, 109070. (<https://doi.org/10.1016/j.radphyschem.2020.109070>)
12. Lucia Cabriales, **Mathieu Hautefeuille***, Genaro Vázquez-Victorio, David Martinez-Pastor, Jorge Carretero-Ortega, Alejandra Jiménez-Escobar, Marina Macias-Silva, Hepatic C9 cells switch their behavior in short or long exposure to soft substrates, **Biology of the cell (2020)** 112, 1–15, DOI: 10.1111/boc.201900115; (<https://doi.org/10.1111/boc.201900115>)
13. Genaro Vázquez-Victorio, Cindy Peto-Gutiérrez, Beatriz Díaz-Bello, Mariel Cano-Jorge, Daniel Pérez.Calixto, Alejandra Jiménez-Escobar, Silvia Espinosa-Matías, Reyna Lara-Martínez, Rémi Courson, Laurent Malaquin, Diego Zamarrón-Hernández and **Mathieu Hautefeuille***, Building a microfluidic cell culture platform with stiffness control using Loctite 3525 glue, **Lab Chip**, **2019**, 19, 3512-3525 (<https://doi.org/10.1039/C9LC00649D>).
14. Edgar Jimenez-Diaz , Mariel Cano-Jorge , Diego Zamarron-Hernandez , Lucia Cabriales , Francisco Paez-Larios , Aaron Cruz-Ramirez , Genaro Vazquez-Victorio , Tatiana Fiordeliso* , **Mathieu Hautefeuille***, Micro-macro: selective integration of microfeatures in large macromolds for low-cost PDMS microfluidics fabrication, **Micromachines**, **2019**, 10(9), 576. (<https://doi.org/10.3390/mi10090576>).
15. Beatriz Díaz-Bello, Ana Ximena Monroy-Romero, Daniel Pérez-Calixto, Diego Zamarrón-Hernández, Nathalia Serna-Marquez, Genaro Vázquez-Victorio and **Mathieu Hautefeuille***, Method for the direct fabrication of polyacrylamide hydrogels with controlled stiffness in polystyrene multiwell plates for mechanobiology assays, **ACS Biomaterials Science and Engineering** **2019**, 5 (9), 4219-4227. (<https://pubs.acs.org/doi/abs/10.1021/acsbiomaterials.9b00988>).
16. María Luisa Durán-Pastén*, Daniela Cortes, Alan E. Valencia-Amaya, Santiago King, Gertrudis Hortensia González-Gómez and Mathieu Hautefeuille, Cell Culture Platforms with Controllable Stiffness for Chick Embryonic Cardiomyocytes, **Biomimetics** **2019**, 4(2), 33. (<https://doi.org/10.3390/biomimetics4020033>)
17. Nadia Adriana Vázquez-Torres, Francisco Manuel Sanchez-Arevalo, Alfredo Maciel-Cerda, Itzel Marisol Garnica-Palafox, Rodrigo Ontiveros-Tlachi, Casandra Paulina Chaires-Rosas, Gabriela Piñón-Zárate, Miguel Ángel Herrera-Enríquez, **Mathieu Hautefeuille**, Ricardo Vera-Graziano and Andrés Eliú Castell-Rodríguez, Influence of the PLGA/gelatin ratio on the physical, chemical and biological properties of electrospun scaffolds for wound dressings, **Biomedical Materials**, **2019** May 3;14(4):045006 (doi: 10.1088/1748-605X/ab1741).
18. Cruz-Ramírez A, Sánchez-Olvera R, Zamarrón-Hernández D, **Hautefeuille M***, Cabriales L, Jiménez-Díaz E, Díaz-Bello B, López-Aparicio J, Pérez-Calixto D, Cano-Jorge M, Vázquez-Victorio G., Progress on the Use of

Commercial Digital Optical Disc Units for Low-Power Laser Micromachining in Biomedical Applications. **Micromachines**. 2018; 9(4):187. (<https://doi.org/10.3390/mi9040187>).

19. Lidia Escutia-Guadarrama, Genaro Vázquez-Victorio, David Martínez-Pastor, Brenda Nieto-Rivera, Marcela Sosa-Garrocho, Marina Macias-Silva, **Mathieu Hautefeuille***, Fabrication of low -cost micropatterned PDMS scaffolds to organise cells in a variety of 2D biomimetic arrangements for lab-on-chip culture platforms, **Journal of Tissue Engineering**, 8, 2017 (doi: <https://doi.org/10.1177/2041731417741505>)

20. Maria-José González-Vázquez and **Mathieu Hautefeuille***, “Controlled Solvent-Free Formation of Embedded PDMS-Derived Carbon Nanodomains with Tunable Fluorescence Using Selective Laser Ablation with A Low-Power CD Laser”, **Micromachines** 2017, 8(10), 307. (<https://doi.org/10.3390/mi8100307>).

21. Daniel Pérez-Calixto, Diego Zamarrón-Hernández, Aarón Cruz-Ramírez, **Mathieu Hautefeuille***, Juan Hernández-Cordero, Víctor Velázquez, and Marcela Grether, Fabrication of large all-PDMS micropatterned waveguides for lab on chip integration using a rapid prototyping technique, **Optical Materials Express**, 7, 4, 1343-1350 (2017). doi: 10.1364/OME.7.001343.

22. Jehú López-Aparicio, Mathieu Hautefeuille*, Sara Herrera-Domínguez, Adriana Razo-de-León, Mariel Cano-Jorge, Ixcheltl Rojas-Benito, Mariana Centeno-Sierra, Tatiana Fiordelisio-Coll, Catalina Elizabeth Stern-Forgach, Use of a CD laser pickup head to fabricate microelectrodes in polymethylmethacrylate substrates for biosensing applications, **Biomedical Microdevices** (2017) 19: 5. doi:10.1007/s10544-016-0145-0.

23. R. Pimentel-Domínguez, A.M. Velázquez-Benítez, J. Rodrigo Vélez-Cordero, **M. Hautefeuille**, F. Sánchez-Arévalo and J. Hernández-Cordero*, "Photothermal effects and applications of polydimethylsiloxane membranes with carbon nanoparticles", **Polymers** 2016, 8(4), 84; doi:10.3390/polym8040084.

24. R. Pimentel-Domínguez*, P. Moreno-Álvarez, **M. Hautefeuille**, A. Chavarría and J. Hernández-Cordero, "Photothermal lesions in soft tissue induced by optical fiber microheaters", **Biomedical Optics Express**, Vol. 7, Issue 4, pp. 1138-1148 (2016); doi: 10.1364/BOE.7.001138.

25. I. Galinskiy*, O. Isaksson, I. Rebolledo Salgado, **M. Hautefeuille**, B. Mehlig, D. Hanstorp, “Measurement of particle motion in optical tweezers embedded in a Sagnac interferometer”, **Optics Express**, 23, 27071-27084 (2015). doi: 10.1364/OE.23.027071.

26. J.C. Alcantara, M. Cerda Zorrilla, L. Cabriales, **M. Hautefeuille***, "Low-cost formation of bulk and localized carbon carbon nanodomains from poly-dimethylsiloxane", **Beilstein Journal of Nanotechnology**, 6, 744–748 (2015). doi:10.3762/bjnano.6.76

27. A. Reyes Contreras, **M. Hautefeuille***, A. Esparza García, Oscar Olea Mejia, M.A. Camacho López, "Inexpensive laser-induced surface modification in bismuth thin films", **Applied Surface Science**, 336, 212–216 (2015). doi:10.1016/j.apsusc.2014.11.053

28. L. Cabriales, M. Hautefeuille*, G. Fernández, V. Velázquez, M. Grether, E. López-Moreno, "Fabrication of on-demand high resolution optical masks using a CD-DVD pickup head", **Applied Optics**, 53 (9), 1802–1807 (2014).
29. M. Hautefeuille*, L. Cabriales, R. Pimentel-Domínguez, V. Velázquez, J. Hernández-Cordero, L. Oropeza-Ramos, M. Rivera, M.P. Carreón-Castro, M. Grether, E. López-Moreno, "New perspectives in direct PDMS microfabrication using a CD-DVD laser", **Lab Chip**, 2013, 13 (24), 4848 - 4854.
30. R. Pimentel-Domínguez, F.M. Sánchez-Arévalo, M. Hautefeuille and J. Hernández-Cordero*, "Laser Induced Deformation in PDMS Membranes with Embedded Carbon Nanopowder", **Smart Materials and Structures**, 22, 3, 037001 (2013).
31. M. Hautefeuille*, A.K. Jimenez-Zenteno, K. Hess-Frieling, P. Perez-Alcazar, V. Velazquez, M. Grether-González, E. Lopez-Moreno, "Utilization of a digital-versatile-disc pickup head for benchtop laser microfabrication", **Applied Optics**, 51 (8), 1171–1177 (2012).
32. M. Hautefeuille*, J.G. Lopez Cortes, M.C. Ortega Alfaro, M.P. Carreon Castro, V. Velazquez, "Note: Fabrication of a simple versatile micro-positioning setup for automated soft lithography", **Review of Scientific Instruments**, 82, 116104 (2011). doi:10.1063/1.3659951
33. M. Hautefeuille, B. O’Flynn, F. Peters, C. O’Mahony, "Development of a MEMS-based Multisensor Platform for Environmental Monitoring", **Micromachines**, 2(4), 410-430 (2011). doi:10.3390/mi2040410
34. M. Hautefeuille, B. O’Flynn, F. Peters, C. O’Mahony,, "Miniaturised multi-MEMS sensor development", **Journal of Microelectronics Reliability**, 49.(6), 621-626, (2009). doi:10.1016/j.microrel.2009.02.017
35. M. Hautefeuille C. O’Mahony, B. O’Flynn, K. Khalfi, F. Peters, "A MEMS-based Wireless Multisensor Module for Environmental Monitoring", **Journal of Microelectronics Reliability**, 48 (6), 906-910 (2008). doi: 10.1016/j.microrel.2008.03.007

Pre-prints

- a. Daniel Pérez-Calixto, Erika González-Villa, Edgar Jiménez-Díaz, Nathalia Serna-Márquez, Genaro Vázquez-Victorio, Mathieu Hautefeuille*, "Elucidating the short and long-term mechanical response of the cell nucleus with a hybrid-viscoelastic model", **bioRxiv** 542274; doi: <https://doi.org/10.1101/542274>.

Patents

1. *"Método de hibridación para la detección de ácidos nucleicos empleando partículas magnéticas funcionalizadas"*

MX/a/2020/006374

Approved and granted in 2020

2. ***“Dispositivo biosensor para la detección y medición de biomoléculas utilizando una muestra de fluido corporal”***

MX/a/2016/008613

Approved and granted in 2020

3. ***“Uso del rayo láser de baja potencia en diversos métodos que típicamente requieren de láseres de altas potencias”***

MX/a/2017/002707

Approved and granted in 2021

Books and Book Chapters

Books (textbook):

Mathieu Hautefeuille & Juan Hernández-Cordero, **“Field Guide to Optoelectronics and Photonics”**, SPIE editorial (100 topics and pages).

Book chapters:

Vázquez-Victorio G., Rodríguez-Hernández A., Cano-Jorge M., Monroy-Romero A.X., Macías-Silva M., Hautefeuille M. (2021) **Fabrication of Adhesive Substrate for Incorporating Hydrogels to Investigate the Influence of Stiffness on Cancer Cell Behavior**. In: Robles-Flores M. (eds) Cancer Cell Signaling. Methods in Molecular Biology, vol 2174. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-0759-6_18.

Hautefeuille, M., **Telecommunications reliability monitoring using wireless MEMS** in the book “Handbook of MEMS for wireless and mobile applications”, Editor: Prof Deepak Uttamchandani, Woodhead Publishing. ISBN 0 85709 271 5, ISBN-13: 978 0 85709 271 7, August 2013, 640 pages.

Peer-reviewed conferences proceedings

24 proceedings

- I. Mathieu Hautefeuille; Genaro Vázquez-Victorio; Aaron Cruz-Ramírez; Lucia Cabriales; Edgar Jiménez-Díaz; Lidia Escutia-Guadarrama; Jehú López-Aparicio; Daniel Pérez-Calixto; Mariel Cano-Jorge; Brenda Nieto-Rivera; Raúl Sánchez-Olvera, Progress on CD-DVD laser microfabrication method to develop cell culture scaffolds integrating biomimetic characteristics, Proceedings of SPIE, SPIE (Microfluidics, BioMEMS, and Medical Microsystems XVI), vol.10491, 2018.

- II. Daniela Margarito; Erika González; Ivette Buendía; Moisés Selman; Mathieu Hautefeuille, Development of a wearable for oximetry and patient physical activity correlation, Proceedings of SPIE, SPIE (Smart Photonic and Optoelectronic Integrated Circuits XX), vol.10536, 2018.
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- IV. Lucero Cano, Diego Lara-Bustillos, Mathieu Hautefeuille and Victor Velázquez, "Is There a Quantum Origin in the Biological Memory?", Journal of Physics: Conference Series, Volume 839, 012023, 2017.
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- IX. Itzel M Garnica-Palafox, Francisco M Sánchez-Arévalo, Juan Hernandez-Cordero, Mathieu Hautefeuille, Photomechanical response of PDMS+ CNP composite under IR irradiation detected by dynamic speckle, paper LW4D.3 (ISBN: 978-1-943580-16-3). doi:10.1364/LAOP.2016.LW4D.3
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- XI. Hautefeuille, M.*, Stern-Forgach, C., López-Aparicio, J., Cabriales, L., Jimenez-Diaz, E., Macias-Silva, M., Sosa-Garrocho, M., Sanchez-Cedillo, A., Vilatoba-Chapa, M., Kershenobich-Stalnikowitz, D., "Rapid prototyping of integrated biochips for on-demand 3D cell culture (Conference Paper)", Progress in Biomedical Optics and Imaging - Proceedings of SPIE, Volume 9518, 2015, Article number 95180R, doi: 10.1117/12.2180361.
- XII. González, E., López, J., Hautefeuille*, M., Velázquez, V., Del Moral, J., "Use of a prototype pulse oximeter for time series analysis of heart rate variability", Proceedings of SPIE - The International Society for Optical Engineering, 2015, 9517, 95172J, doi: 10.1117/12.2181339.

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- XV. A. Cruz-Ramirez, M. Hautefeuille, A. Esparza, V. Velázquez, and J. Hernandez-Cordero, "PDMS Laser-Induced Forward Transfer using a CD-DVD laser platform," in Latin America Optics and Photonics Conference, OSA Technical Digest (online) (Optical Society of America, 2014), paper LTh4A.18.
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- XVIII. J. López, M. Hautefeuille, and A. Cruz-Ramírez, "Carbon Paste Microelectrodes Microfabrication Using a Low-Cost Laser," in Latin America Optics and Photonics Conference, OSA Technical Digest (online) (Optical Society of America, 2014), paper LM4A.36.
- XIX. A. Reyes, M. Hautefeuille, L. Romero Salazar, A. Esparza García, and O. Olea Mejía, "Microfabricated induced by laser pulses in bismuth thin films," in Latin America Optics and Photonics Conference, OSA Technical Digest (online) (Optical Society of America, 2014), paper LTu4A.13.
- XX. M. Hautefeuille*, V. Velázquez, J. Hernández-Cordero, R. Pimentel, L. Cabriales, E. López-Moreno, M. Grether, "Laser Microfabrication Using Light-Induced Nanoparticle Incandescence", Proceedings of OSA Advanced Photonics Congress, Integrated Photonics Research, Silicon and Nano Photonics (IPR), 17-21 June 2012.
- XXI. L. Oropeza-Ramos*, S. Juárez, A. Macías, A. Falcón, A. Torres, M. Hautefeuille, J. García and H. González, "Low cost micro-platform for culturing and stimulation of cardiomyocyte tissue", Proceedings of the 24th International Conference on Micro Electro Mechanical Systems (IEEE-MEMS 2011), pp. 912-915, Cancún, México, 23-27 January 2011.
- XXII. M. Hautefeuille*, C. O'Mahony, B. O'Flynn and F. Peters, "A Miniaturised MEMS-based multi-parameter sensing module", Proceedings of XXXI International Conference of IMAPS Poland, Rzeszów - Krasiczyn, Poland, 23-26 September 2007, pp.487-490.
- XXIII. C. O'Mahony*, M. Hautefeuille, P. Crookston, P.Lambkin, B. O'Flynn, J. Barton and F. Peters, "Integrated Multisensors for Wireless Monitoring Applications", Proceedings Micromechanics Europe (MME 2006), Southampton, England, 3-5 September 2006, pp. 133-136, ISBN 085432-8483.
- XXIV. M. Hautefeuille*, C. O'Mahony, B. O'Flynn and F. Peters, "A Wireless MEMS Sensor System for Telecomms Reliability Monitoring", Proceedings IMAPS Poland, Krakow, Poland, 24-27 September 2006, pp. 307-310.

Participations to international conferences and congresses

International Conferences with peer-review (32 participations)

- Event: **ASCB-EMBO 2019** / Place: Washington D.C., USA / Date: December 2019
Presentation: **4 posters**
- Event: **STALYC 2019** / Place: Mérida, México / Date: October 2019
Presentation: **2 posters, 1 invited talk**
- Event: **BioNano Meeting 2019** / Place: Angelus Oaks, CA, USA / Date: September 2019
Presentation: **1 poster**
- Event: **IMRC 2019** / Place: Cancún, México / Date: August 2019
Presentation: **1 poster, 1 talk, 1 invited talk**
- Event: **Building the Cell 2018** / Place: Institut Pasteur, Paris, France / Date: September 2018
Presentation: **3 posters**
- Event: **Building the Cell 2018** / Place: Institut Pasteur, Paris, France / Date: September 2018
Presentation: **3 posters**
- Event: **IMRC 2018** / Place: Cancún, México / Date: August 2018
Presentation: **1 poster**
- Event: **IV Symposium of Nanoscience and Nanomaterials 2018** / Place: Ensenada, México / Date: 23-27 April 2018
Presentation: **1 talk (invited) + 4 posters présentés**
- Event: **Mechanobiology of Polarized Cells 2018** / Place: Les Houches, France / Date: 8-13 April 2018
Presentation: **4 posters présentés**
- Event: **Photonics West 2018** / Place: San Francisco, USA / Date: 27/01-01/02/2018
Presentation: **1 talk oral + 2 posters présentés**
- Event: **Conference on Complex Systems CCS'17** / Place: Cancún / Date: 17-22 Sept. 2017
Presentation: **1 talk oral présenté par une co-auteure**
- Event: **MicroTAS 2016** / Place: Dublin, Irlande / Date: October 2016
Presentation: **1 poster**
- Event: **WBC 2016** / Place: Montreal, Canadá / Date: May 2016
Presentation: **2 posters**
- Event: **Polymat 2015** / Place: Huatulco, México / Date: October 2015
Presentation: **1 invited talk**

- Event: **XXIII Congreso Latinoamericano y del Caribe de Trasplantes-XIX Congreso Nacional de la Sociedad Mexicana de Trasplantes** / Place: Cancún, México / Date: October 2015
Presentation: **2 posters**
- Event: **IMRC 2015** / Place: Cancún, México / Date: August 2015
Presentation: **1 talk y 6 posters (best poster award)**
- Event: **SPIE EMT 2015** / Place: Barcelona, España / Date: May 2015
Presentation: **1 poster + 1 talk**
- Event: **E-MRS Spring Meeting 2015** / Place: Lille, France / Date: May 2015
Presentation: **1 poster**
- Event: **Latin America Optics and Photonics Congress 2014 (OSA LAOP 2014)**
Place: Cancún, México / Date: 17-21 Noviembre 2014
Presentation: **5 posters**
- Event: **E-MRS Spring Meeting 2014** / Place: Lille, France / Date: 26-30 May 2014
Presentations: **1 talk, 1 poster**
- Event: **The XIII Mexican Symposium on Medical Physics (XIII MSMP 2014)**
Place: Guanajuato, México / Date: 14-17 March 2014
Presentation: **1 poster**
- Event: **66th Annual Meeting of the APS Division of Fluid Dynamics**
Place: Pittsburgh, PA, USA / Date: 24-26 November 2013
Presentation: **1 poster**
- Event: **Polymat 2013** / Place: Huatulco, México / Date: 13-17 October 2013
Presentation: **1 talk** (presented by J. Hernández Cordero)
- Event: **Micromechanics and Microsystems Europe 2013 (MME 2013)**
Place: Aalto University Wiki, Finlandia / Date: 1-4 September 2013
Presentation: **1 poster** (presented by M. Hill)
- Event: **XXII International Material Research Congress (IMRC 2013)**
Place: Cancún, México / Date: 11-15 August 2013
Presentations: **1 talk (invited)** + co-author in **3 posters**
- Event: **XXI International Material Research Congress (IMRC 2012)**
Place: Cancún, México / Date: 12-17 August 2012
Presentations: **1 talk** + co-author in **4 posters**
- Event: **OSA Advanced Photonics Congress, Integrated Photonics Research, Silicon and Nano Photonics (IPR)**
Place: Colorado Springs, USA / Date: 17-21 June 2012
Presentation: **1 talk, 1 poster**
- Event: **IEEE MEMS 2011** / Place: Cancún, México / Date: 23-27 January 2011
Presentation: 1 poster (presented by L. Oropeza Ramos)

- Event: **XIX International Material Research Congress (IMRC 2010)** Place: Cancún, México / Date: 15-19 August 2010
Presentation: **1 talk**
- Event: **32nd International Microelectronics and Packaging IMAPS-CPMT Poland Conference (IEEE IMAPS-CPMT Poland 2008)**
Place: Warszawa-Pułtusk, Poland / Date: 21-24 September 2008
Presentation: **1 poster**
- Event: **31st International IMAPS Poland Conference (IMAPS Poland 2007)**
Place: Rzeszów - Krasieczyn, Poland / Date: 23-26 September 2007
Presentation: **1 poster**
- Event: **2nd Workshop on Wireless Sensor Networks Research (WiSen 2007)**
Place: Dublín, Irlanda / Date: 11 June 2007
Presentation: **1 poster**
- Event: **17th workshop on Micromachining, Micromechanics and Microsystems (MME 2006)**
Place: Southampton, Inglaterra / Date: 3-5 September 2006
Presentation: **1 poster**
- Event: **30th International IMAPS Poland Conference (IMAPS Poland 2006)**
Place: Krakow, Poland / Date: 24-27 September 2006
Presentation: **1 poster**

National conferences with peer-review (12 participations)

- Event: **VII Congreso Nacional de Transducción de Señales**
Place: Juriquilla, Querétaro / Date: 4-7 November 2019
Presentation: *5 posters presented by students*
- Event: **LXI Congreso Nacional de Física**
Place: Puebla, Puebla / Date: 7-12 October 2018
Presentation: *2 posters presented by students*
- Event: **XXII Reunión Nacional de Morfología (Sociedad Nacional de Anatomía)**
Place: Acapulco, Guerrero / Date: 2-6 October 2017
Presentation: *1 poster presented by a student*
- Event: **LX Congreso Nacional de Ciencias Fisiológicas**
Place: Monterrey, Nuevo León / Date: 13-17 August 2017
Presentation: *3 posters presented by students*
- Event: **LVIII Congreso Nacional de Física (Sociedad Mexicana de Física)**
Place: Mérida, Yucatán / Date: October 2015
Presentation: *5 posters presented by students*
- Event: **LVII Congreso Nacional de Física (Sociedad Mexicana de Física)**
Place: Mazatlán, Sinaloa / Date: 5 -10 October 2014
Presentation: *3 posters presented by students*
- Event: **LVI Congreso Nacional de Física (Sociedad Mexicana de Física)**

Place: San Luis Potosi, San Luis Potosi / Date: 28 October-1 November 2013

Presentation: 2 posters presented by students

Event: **LV Congreso Nacional de Física (Sociedad Mexicana de Física)**

Place: Morelia, Michoacán / Date: 8-12 October 2012

Presentation: 1 talk, 5 posters presented by students

Event: **5ª Reunión de la División de Información Cuántica, Sociedad Mexicana de Física (dICu-SMF)** / Date: 26-28 April 2012

Place: Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Tonantzintla, Puebla.

Presentation: 3 posters presentés con estudiantes

Event: **LIV Congreso Nacional de Física (Sociedad Mexicana de Física)**

Place: Mérida, Yucatán / Date: 10-14 October 2011

Ponencia: 1 poster

Event: **4ª Reunión de la División de Información Cuántica, Sociedad Mexicana de Física (dICu-SMF)**

Place: Centro Nacional de Metrología (CENAM), Querétaro / Date: 28-30 April 2011

Ponencia: 1 poster

Event: **Primer Congreso Mexicano de la Ciencia de la Complejidad (CMCC'2010)**

Place: Centro de la Ciencia de la Complejidad (C3) – Auditorio Alfonso Caso, UNAM

Date: 4-6 October 2010

Ponencia: 1 poster

Other activities

Editorial work and peer-reviewing

53 verified reviews (voir profil Publons: <https://publons.com/researcher/1174999/mathieu-hautefeuille/>)

Outstanding Reviewer of the Lab on Chip journal 2019 (Royal Society of Chemistry)

<https://pubs.rsc.org/en/content/articlehtml/2020/lc/d0lc90047h>

Review Editor in Frontiers in Bioengineering and Biotechnology

Member of the Editorial Board of the open-access journal Manufacturing Review. EDPsciences

Member of Topic Editorial Board of the open-access journal Micromachines, MDPI

Guest topic Editor in Micromachines, MDPI and Frontiers in Bioengineering and Biotechnology (open access)

Reviewer of the National Funding Agency in Mexico CONACyT since 2015 (12 calls in total)

Member of the Reviewing Board for the Frontiers 2019 Call from CONACyT