

Benoît CHARLOT, Publications, June 2025

<https://orcid.org/0000-0001-7178-1949>

ResearcherID # D-2576-2017

1. Articles de journaux, RICL

- [1] S.Sierra-Alarcón, E.E.Ramírez-Miquet, J.Perchoux, L.Julien, B.Charlot, A.Quotb “Self-mixing interferometry system for in-vitro flow mapping of retinal arteriolar network”, *Micro and Nano Engineering* 28, 100318 (2025). <https://doi.org/10.1016/j.mne.2025.100318>
- [2] M.J.Ferreira, S.Colombani, A.Bernardin, A.Lacampagne, J.L.Pasquié, P.F.Costa, B.Charlot, A.C.Meli, “Advancing organ-on-chip systems: the role of microfluidics in neuro-cardiac research”, *Current Research in Pharmacology and Drug Discovery*, 100227, (2025), <https://doi.org/10.1016/j.crphar.2025.100227>,
- [3] J.Mateus, P.Melo, M.Aroso, **B.Charlot** and P.Aguiar, “Influence of asymmetric microchannels in the structure and function of engineered neuronal circuits”, *IOP Biofabrication*, 17 025022 (2025). <https://doi.org/10.1088/1758-5090/adb2e5>
- [4] Q.Hanniet, Z.Anfar, H.Dory, S.Calas-Etienne, P.Etienne, V.Flaud, J.Castellon, **B.Charlot**, P.Miele, D.Voiry, C.Salameh, “Activation of patternable ceramics for hydrogen evolution reaction using molybdenum-based fillers” *RSC New Journal of Chemistry* 49 (3), 712-720 (2025). <https://doi.org/10.1039/D4NJ02080D>
- [5] E.Partiot, A.Hirschler, S.Colomb, W.Lutz, T.Claeys, F.Delalande, M.S Deffieu, Y.Bare, J.RE Roels, B.Gorda, J.Bons, D.Callon, L.Andreoletti, M.Labrousse, F.M.J.Jacobs, V.Rigau, **B.Charlot**, L.Martens, C.Carapito, G.Gowrishankar, R.Gaudin “Brain exposure to SARS-CoV-2 virions perturbs synaptic homeostasis”, *Nature Microbiology* (2024). 1-18. <https://doi.org/10.1038/s41564-024-01657-2>
- [6] E.Partiot, B.Gorda, W.Lutz, S.Lebrun, P.Khalfi, S.Mora, **B.Charlot**, K.Majzoub, S.Desager, G.Gowrishankar, S.Colomb, R.Gaudin, “Organotypic culture of human brain explants as a preclinical model for AI-driven antiviral studies”, *EMBO Mol Med* (2024). <https://doi.org/10.1038/s44321-024-00039-9>
- [7] O.Phouphtelinthong, E.Partiot, C.Bernou, A.Sebban, R.Gaudin, **B.Charlot**, “Protruding Cantilever Micro Electrode Array to monitor the inner electrical activity of cerebral organoids”, *RSC Lab on a Chip*, (2023). <https://doi.org/10.1039/D3LC00294B>.
- [8] Q.Hanniet, E.Petit, S.Calas-Etienne, P.Etienne, K. Aissou, C.Gervais, P.Miele, **B.Charlot**, C.Salameh, “Rational design of SiBCN microstructures using direct photolithography of patternable preceramic photoresists”, *Materials & Design*, 111234, (2022). <https://doi.org/10.1016/j.matdes.2022.111234>
- [9] J.Eid, M.Socol, A.Naillon, J.Feuillard, L.Ciandrini, E.Margeat, **B.Charlot**, M.Mougel, “Virofluidics: Real-time analysis of virus production kinetics at the single-cell level”, *Biophysical Reports*, 100068, (2022). <https://doi.org/10.1016/j.bpr.2022.100068>.
- [10] T.Xu, M.A.Lizarralde-Iragorri, **B.Charlot**, J.Roman, O.Français, W.El Nemer, B.Le Pioufle, “Bioimpedance single cell sensing of low and high density sickle erythrocytes using microfluidics”, *Biosensors and Bioelectronics: X*, Vol.10, 100140, (2022). <https://doi.org/10.1016/j.biosx.2022.100140>
- [11] P.Duc, M.Vignes, G.Hugon, A.Sebban, G.Carnac, E.Malyshev, **B.Charlot**, F.Rage, “Human neuromuscular junction on micro-structured microfluidic devices implemented with a custom micro electrode array (MEA)”, *RSC Lab on a Chip*, 21, 4223-4236, (2021). <https://doi.org/10.1039/D1LC00497B>
- [12] C.Jolly, A.Gomez, D.Sánchez-Fuentes, D.Cakiroglu, R.Rathar, N.Maurin, R.Garcia-Bermejo, **B.Charlot**, M.Gich, M.Bahriz, L.Picas, A.Carretero-Genevrié, “Soft-Chemistry-Assisted On-Chip Integration of Nanostructured α -Quartz Microelectromechanical System”, *Advanced Materials Technologies*, 2000831, (2021). <https://doi.org/10.1002/admt.202000831>

- [13] T.Xu, M.Yehya, A.S.Dahiya, T.Gil, P.Bideaux, J.Thireau, A.Lacampagne, **B.Charlot**, A.Todri-Sanial, "Dedicated Wearable Sensitive Strain Sensor, based on Carbon Nanotubes, for Monitoring the Rat Respiration Rate", *Engineering Proceedings*, 2021, 10(1), 27; (2021) <https://doi.org/10.3390/ecsa-8-11293>
- [14] A.S.Dahiya, T.Gil, J.Thireau, N.Azemard, A.Lacampagne, **B.Charlot**, A.Todri-Sanial "1D Nanomaterial-Based Highly Stretchable Strain Sensors for Human Movement Monitoring and Human–Robotic Interactive Systems", *Advanced Electronic Materials*, (2020). <https://doi.org/10.1002/aelm.202000547>
- [15] Q.Zhang, D.Sanchez-Fuentes, R.Desgarceaux, A.Gomez, P.Escofet-Majoral, J.Oro-solé, J.Gàzquez, G.Larrieu, **B.Charlot**, A.Gomez, M.Gich, A.Carretero-Genevriér, "Micro/Nanostructure engineering of epitaxial piezoelectric α -quartz thin films on silicon", *ACS Appl. Mater. Interfaces*, 12, 4, 4732–4740 (2020), doi : 10.1021/acsami.9b18555
- [16] R.Desgarceaux, Z.Santybayeva, E.Battistella, A.L.Nord, C.Braun-Breton, M.Abkarian, O.M.Maragò, **B.Charlot**, F.Pedaci, "High-Resolution Photonic Force Microscopy Based on Sharp Nanofabricated Tips", *Nano Letters*, 20, 6, 4249–4255 (2020). <https://doi.org/10.1021/acs.nanolett.0c00729>
- [17] M.Bomers, **B.Charlot**, F.Barho, A.Chanuel, A.Mezy, L.Cerutti, F.Gonzalez-Posada, T.Taliercio "Microfluidic surface-enhanced infrared spectroscopy with semiconductor plasmonics for the fingerprint region", *RSC Reaction Chemistry & Engineering*, 5, 124-135, (2020), <https://doi.org/10.1039/C9RE00350A>
- [18] A.S.Dahiya, M.Dhifallah, N.Ullberg, J.Thireau, J.Boudaden, S.Lal, T.Gil, N.Azemard, P.Ramm, T.Kiessling, C.O'Murchu, C.Glynn, M.Morrissey, F.Sebelius, J.Tilly, U.Gulzar, C.O'Dwyer, K.M. Razeeb, A.Lacampagne, and **B.Charlot**, A.Todri-Sanial, "Energy autonomous wearable sensors for smart healthcare: A Review", *Journal of The Electrochemical Society*, 167-3, (2019), <https://doi.org/10.1149/2.0162003JES>
- [19] Q.Zhang, D.Sánchez-Fuentes, A.Gómez, R.Desgarceaux, **B.Charlot**, J.Gàzquez, A.Carretero-Genevriér, M.Gich, "Tailoring the crystal growth of quartz on silicon for patterning epitaxial piezoelectric films", *Nanoscale Advances*, 1, 3741-3752, (2019), <https://doi.org/10.1039/C9NA00388F>
- [20] M.Fenech, V.Girod, S.Meance, V.Claveria, M.Abkarian, **B.Charlot**, "Microfluidic blood vasculature replicas using backside photolithography", *RSC Lab on a Chip*, 19, 2096-2106, (2019), doi : 110.1039/c9lc00254e
- [21] E.Moutaux, **B.Charlot**, A.Genoux, F.Saudou, M.Cazorla, "An integrated microfluidic/microelectrode array for the study of activity-dependent intracellular dynamics in neuronal networks", *RSC Lab on a Chip*, 18, pp. 3425-3435, (2018), doi: 10.1039/c8lc00694f
- [22] E.Moutaux, W.Christaller, C.Scaramuzzino, A.Genoux, **B.Charlot**, M.Cazorla, F.Saudou, "Neuronal network maturation differently affects axonal transport of secretory vesicles and mitochondria", *Scientific Reports*, 8:13429, (2018), <https://doi.org/10.1038/s41598-018-31759-x>
- [23] D.Coglitore, N.Giamblanco, A.Kizalaite, P.E.Coulon, **B.Charlot**, J.M.Janot, S.Balme, "Unexpected Hard Protein Behavior of BSA on Gold Nanoparticle Caused by Resveratrol", *Langmuir* 34 (30), pp 8866–8874 (2018), <https://doi.org/10.1021/acs.langmuir.8b01365>
- [24] N.Giamblanco, D.Coglitore, J.M.Janot, P.E.Coulon, **B.Charlot**, S.Balme, "Detection of protein aggregate morphology through single antifouling nanopore", *Sensors and Actuators B: Chemical*, 260, pp.736-745, (2018), <https://doi.org/10.1016/j.snb.2018.01.094>
- [25] A.Virlogeux, E.Moutaux, W.Christaller, A.Genoux, J.Bruyère, **B.Charlot**, M.Cazorla, F.Saudou, "Reconstituting Corticostriatal Network On-a-Chip Reveals the Contribution of the Presynaptic Compartment to Huntington's Disease", *Cell Reports* 22-1, (2018), <https://doi.org/j.celrep.2017.12.013>
- [26] L.Lanotte, D.Laux, **B.Charlot** and M.Abkarian, "Role of red cells and plasma composition on blood sessile droplet evaporation" *Phys. Rev. E* 96, 053114, (2017), <https://doi.org/10.1103/PhysRevE.96.053114>.

- [27] M.J.Milla-Rodrigo, F.Barho, F.González-Posada, L.Cerutti, **B.Charlot**, M.Bomers, F.Neubrech, E. Tournie, T.Taliercio, "Surface-Enhanced Infrared Absorption with Si-doped InAsSb/GaSb nano-antennas", *Optics Express*, 25(2), pp. 26651-61, (2017), <https://doi.org/10.1364/OE.25.026651>
- [28] L.Paris, I.Marc, **B.Charlot**, M.Dumas, J.Valmier, F.Bardin, "Millisecond infrared laser pulses depolarize and elicit action potentials on in-vitro dorsal root ganglion neurons", *Biomed. Opt. Express* 8, pp. 4568-78, (2017), <https://doi.org/10.1364/BOE.8.004568>
- [29] A.Virlogeux, M.Cazorla, J.Bruyère, W.Christaller, A.Genoux, **B.Charlot**, F.Saudou, "B41 HD on chip: reconstituting the cortico-striatal network on microfluidics to study intracellular trafficking and synaptic transmission", *J. Neurol Neurosurg Psychiatry* 87:Suppl 1 A23-A24, (2016), <https://doi.org/10.1136/jnnp-2016-314597.72>
- [30] J.Weiss, Q.Schwaab, Y.Boucetta, A.Giani, C.Guigue, P.Combette, **B.Charlot**, "Simulation and Testing of a MEMS Calorimetric Shear-Stress Sensor" *Sensors and Actuators A*. 253-1, (2016), doi:10.1016/j.sna.2016.11.018
- [31] S.Balme, P.E.Coulon, M.Lepoitevin, **B.Charlot**, N.Yandrapalli, C.Favard, D.Muriaux, M.Bechelany, J-M.Janot, "Influence of adsorption on proteins and amyloids detection by silicon nitride nanopore", *Langmuir*, 32 (35), pp 8916–8925, (2016), <https://doi.org/10.1021/acs.langmuir.6b02048>
- [32] Z.Santybayeva, A.Meghit, R.Desgarceaux, R.Teissier, F.Pichot, C.de Marin, **B.Charlot**, F.Pedaci, "Fabrication of quartz micro-cylinders by laser interference lithography for angular optical tweezers", *J. Micro/Nanolith. MEMS MOEMS*. 15(3), 034507 (2016), <https://doi.org/10.1117/1.JMM.15.3.034507>
- [33] A.Leroy, C.Bony, C.Pinese, **B.Charlot**, X.Garric, D.Noël, J.Coudane, "PLA-poloxamer/poloxamine copolymers for ligament tissue engineering: sound macromolecular design for degradable scaffolds and MSC differentiation", *Biomaterials Science*, 3, pp. 617-626, (2015), <https://doi.org/10.1039/c4bm00433g>
- [34] **B.Charlot**, D.Coudouel, F.Very, P.Combette, A.Giani, "Droplet generation for thermal transient stimulation of pyroelectric PZT element", *Sensors and Actuators A* : 225, pp.103-110, (2015), <https://doi.org/10.1016/j.sna.2015.02.011>
- [35] **B.Charlot**, R.Teissier, M.Drac, E.Schwob, "DNA on rails: Combing DNA fibers on nanogratings", *Applied Physics Letters*, 105, 243701 (2014), <https://doi.org/10.1063/1.4904886>
- [36] L.Paris, M.Burland, P.Quintana, J.M.Bec, L.Diouloufet, C.Sar, H.Boukhaddaoui, **B.Charlot**, J.Braga Silva, M.Chammas, V.Sieso, J.Valmier and F.Bardin, "Neurite growth acceleration of adult Dorsal Root Ganglion neurons illuminated by low-level Light Emitting Diode light at 645 nm", *Journal of Biophotonics* 8-6, pp.480-488, (2014), <https://doi.org/10.1002/jbio.201400052>
- [37] **B. Charlot**, F. Bardin, N. Sanchez, P. Roux, S. Teixeira and E.Schwob, "Elongated unique DNA strand deposition on microstructured substrate by receding meniscus assembly and capillary force", *Biomicrofluidics* 8, 014103 (2014), <https://doi.org/10.1063/1.4863575>
- [38] **B.Charlot**, G.Sassine, A.Garraud, B.Sorli, A.Giani, P.Combette, "Micropatterning PEDOT-PSS layers", *Microsystem technologies* 19,6, pp. 895-903, (2013), <https://doi.org/10.1007/s00542-012-1696-5>
- [39] A.Garraud, P.Combette, F.Pichot, J.Courteaud, **B.Charlot** and A.Giani, "Frequency response analysis of an accelerometer based on thermal convection", *J. Micromech. Microeng.* 21 035017 (2011), <https://doi.org/10.1088/0960-1317/21/3/035017>
- [40] **B.Charlot**, S.Gauthier, A.Garraud, P.Combette, A.Giani, "PVDF/PMMA blend pyroelectric thin films" *J Mater Sci: Mater Electron*, 22,12, pp.1766-1771, (2011).
- [41] A.Garraud, A.Giani, P.Combette, **B.Charlot**, M.Richard, "A dual axis CMOS micromachined convective thermal accelerometer" *Sensors and Actuators A: Physical*, Vol.170, Issues 1-2, pp. 44-50, (2011), <https://doi.org/10.1088/0960-1317/21/3/035017>

- [42] **B.Charlot**, K.Yamashita, W.Sun, H.Fujita and H.Toshiyoshi, "Bistable nanowire for micromechanical memory", *Journal of Micromechanics and Microengineering* 18, 045005, (2008), <https://doi.org/10.1088/0960-1317/18/4/045005>
- [43] S.Grauby, A.Salhi, L.D.Patino Lopez, W.Claeys, **B.Charlot**, S.Dilhaire, "Comparison of thermorefectance and scanning thermal microscopy for microelectronic device temperature variation imaging: Calibration and resolution issues", *Microelectronics Reliability*, volume 48, issue 2, pp. 204- 21, (2008), <https://doi.org/10.1016/j.microrel.2007.04.008>
- [44] K.Yamashita, W.Sun, **B.Charlot**, K.Kakushima, H.Fujita, and H.Toshiyoshi, "Vacuum, temperature, and time dependencies of field-emission current for RF-MEMS applications," *Journal of Microelectronic Engineering* vol. 84, pp. 1345-1353, (2007), <https://doi.org/10.1016/j.mee.2007.01.185>
- [45] S.Gomes, P.O.Chapuis, F.Nepveu, N.Trannoy, S.Volz, **B.Charlot**, G.Tessier, S.Dilhaire, B.Cretin, P.Vairac, "Temperature Study of Sub-Micrometric ICs by Scanning Thermal Microscopy", *IEEE Transaction of Components and Packaging Technologies*, Vol. 30, Issue 3, pp. 424-431, (2007). <https://doi.org/10.1109/TCAPT.2007.901748>
- [46] N.Galy, **B.Charlot**, B.Courtois, "A Full Fingerprint Verification System for a Single-Line Sweep Sensor", *IEEE Sensors Journal*, Vol.7, issue 7, pp. 1054-1065, (2007).
- [47] K.Dogheche, B.Cavallier, P.Delobelle, L.Hirsinger , E.Cattan, D.Remiens , M.Marzencki, **B.Charlot**, S.Basrour, S.Ballandras, "A bi-stable micro-machined piezoelectric transducer for mechanical to electrical energy transformation ", *Integrated Ferroelectrics* 80, 305-315, (2006), <https://doi.org/10.1080/10584580500413285>
- [48] L.Aigouy, G.Tessier, M.Mortier, **B.Charlot**, "Scanning thermal imaging of microelectronic circuits with a fluorescent nanoprobe", *Appl. Phys. Lett.* 87, 184105 (2005), <https://doi.org/10.1063/1.2123384>
- [49] C.Filloy, G.Tessier, S.Holé, G.Jérolimski, D.Fournier, **B.Charlot**, "Hot spot detection in integrated circuits working at up to 1 GHz", *J. Phys. IV* 125, 105-107 (2005), <https://doi.org/10.1051/jp4:2005125024>
- [50] **B.Charlot**, F.Parrain, N.Galy, S.Basrour and B.Courtois, "A Sweeping Mode Integrated Fingerprint Sensor With 256 Tactile Microbeams". *IEEE Journal of Microelectromechanical Systems*, Vol 13, Issue 4, pp. 636-644, (2004), <https://doi.org/10.1109/JMEMS.2004.832195>
- [51] C.Roman, S.Mir and **B.Charlot**. "Building an analogue fault simulation tool and its application to MEMS". *Microelectronics Journal*, 34(10), pp. 897-906, (2003)
- [52] S.Mir and **B.Charlot**, "From Microelectronics to Integrated Microsystems Testing", *Nano et micro technologies*. Hermes Science Publications, Paris, 12(1-2), pp. 249-270, (2002)
- [53] F.Parrain, **B.Charlot**, B.Courtois, "Capteur infrarouge CMOS à thermopiles comportant des fonctions de self-test", *Nano et Micro-Technologies, microcapteurs et microsystèmes intégrés*, Hermès Sciences publications, Volume 1-n°3-4, pp. 387-412, (2002).
- [54] **B.Charlot**, S.Mir, F.Parrain and B.Courtois, "Generation of Electrically Induced Stimuli for MEMS self-test", *JETTA, Journal of electronic testing: theory and applications*, Volume 17, issue 6, pp. 459-470, (2001). <https://doi.org/10.1023/A:1012860420235>
- [55] S.Mir, F.Parrain, **B.Charlot**, D.Veyhard, "Microbeams with Electronically Controlled High Thermal Impedance", *ALOG Analog Integrated and Signal Processing*, Volume 29, Issue 1/2, pp. 71-83, (2001), <https://doi.org/10.1023/A:1011282314105>
- [56] S.Mir, **B.Charlot**, B.Courtois, "Extending Fault-Based Testing To Microelectromechanical systems", *JETTA, Journal of electronic testing :theory and applications*, Volume 16, Issue 3, pp. 279-288, (2000), <https://doi.org/10.1023/A:1008303717862>
- [57] S.Mir, **B.Charlot**, "On the integration of design and test for chips embedding MEMS", *IEEE Design and Test of computers*, 16(4), pp. 28-38, (1999). <https://doi.org/10.1109/54.808204>
- [58] **B.Charlot**, S.Mir, B.Courtois, "Fault Simulation of MEMS Using HDLs", *Journal of Modeling and Simulation of Microsystems, JMSM*, Volume 2, N°1, (1999).

2. Conferences invité

- [59] **B.Charlot**, “Microelectrode arrays and microfluidics for the recording of reconstructed neuronal junctions and organoids”, NeuroTechEU Autumn School : “Closed Loop Neurotechnologies - From sensors to application”, 13-16 October 2025 University of Lille.
- [60] **B.Charlot**, “Microelectrode arrays and microfluidics for the recording of reconstructed neuronal junctions and organoids”, Journées scientifiques annuelles du PEPR MedOoC Organes et organoïdes sur puce, 27-28 Mai 2025, Institut Imagine, Paris.
- [61] **B.Charlot**, “Microelectrode arrays and microfluidics for the recording of reconstructed neuronal junctions and organoids”, Journées plénières du GDR Micro et Nano Fluidique, Nice, 18 et 19 Novembre 2024.
- [62] **B.Charlot**, “Microelectrode arrays and microfluidics for the recording of reconstructed neuronal junctions and organoids”, Microfluidic & biodevices Workshop, Institut Jean Lamour, Nancy, 14 Juin 2024.
- [63] **B.Charlot**, “Microelectrode arrays and microfluidics for the recording of reconstructed neuronal junctions and organoids”, 4th Workshop on Neuroengineering: brain-on-a-chip platforms, 4-5 April 2024, i3S – Instituto de Investigação e Inovação em Saúde, Porto, Portugal.
- [64] **B.Charlot**, “Microfluidique et organes sur puces”, Biomarkers day, le citoyen acteur de sa santé”, 30-31 mai 2023, Université de Montpellier, Faculté de médecine.
- [65] **B.Charlot**, “Neuro-electronic interfaces, micro electrodes for neurons and cerebral organoids” OPTAPHI Workshop 4, 4th – 5th April 2023, Université de Montpellier (France)
- [66] **B.Charlot** et al. “Micro-structured microfluidic devices implemented with a custom MEA for all human neuromuscular junctions”, Eurobiotech, 8th Central Europe Congress in Life Sciences. Krakow, Poland 20-22 June 2022 .
- [67] **B.Charlot**, "Integration of Micro Electrode Array with compartmentalized microfluidics for the analysis of reconstructed neuronal junctions", Congres BioTRACE, February 7, 2019, Montpellier, France.
- [68] **B.Charlot**, “Microfluidics and Neurosciences”, Microfluidics19 - Ecole thématique, 13-18 oct. 2019 Sète, France.
- [69] **B.Charlot**, “Thermodynamics and thermal stimulation of neurons”, PEP2018 Photothermal effects in plasmonics, Porquerolles, June 24-30, France.
- [70] **B.Charlot**, “Microfluidique et Lab On a Chip pour l’étude des écoulements sanguine”, IMHC 2016, Institut du Mouvement Humain et Cybernétique Jeudi 17 Novembre 2016, Montpellier, France.
- [71] **B.Charlot**, “Neuron - Light interaction, Action potential stimulation in neurons with infrared laser bursts”, Workshop on Thermal Nanosciences and Nanoengineering, Paris – November, 12th & 13th 2015.
- [72] **B.Charlot** “Micro mouvement, nano mouvement”, Journée “le mouvement dans tous ses états”, société de Biologie, 23 Octobre 2013, Montpellier
- [73] **B.Charlot**, W.Sun, K.Yamashita, H.Fujita and H.Toshiyoshi, “Bistable Nanowire For micromechanical memory”, The 8th Japan-France Workshop on Nanomaterials. June 15-17th, 2009, NIMS Sengen site, Tsukuba, Japan.
- [74] **B.Charlot**, “La micro thermique dans les systèmes micro-électro-mécaniques”, Congrès Français de Thermique, SFT 2005, Reims, 30 mai - 2 juin 2005.
- [75] **B.Charlot**, S.Mir, L. Rufer and B.Courtois, “On-Chip Testing of Embedded Transducers”, *IEEE System On Chip Conference, SOCC’04*, 12-15 Sept 2004, Santa Clara, CA, USA.
- [76] **B.Charlot**, “Microsystèmes thermiques et applications”, Journée thématique Micro et Nano Thermique, *Exposition de Physique*, 21-22-23 octobre 2003, Paris Expo.
- [77] **B.Charlot**, “Les microsystèmes thermiques, exemples de réalisations”, Séminaire invité, Réunion du groupe de Micro et Nanothermique de la Société Française de Thermique, Reims, Janvier 2002.

3. Conferences internationale à comité de lecture, CICL

- [78] L.Alonso, L.Vuiart, **B.Charlot**, F.Rage, “A 32-well Microfluidic MEA Platform to Model Neuromuscular Junctions Across Spinal Muscular Atrophy Subtypes and identifying specific electrical signatures”, MEA 2025 - 13th international Meeting on Neural and Electrogenic Cell Interfacing, Vienna, Austria, July 2025. (**Best Poster Award**)
- [79] L.Vuiart, M.J.Pereira-Ferreira, A.Meli, **B.Charlot**, “Cantilever MEAs for Simultaneous Electrophysiological and Mechanical Sensing of Developing Cardiac Tissues”, MEA 2025 - 13th international Meeting on Neural and Electrogenic Cell Interfacing, Vienna, Austria, July 2025. (Oral)
- [80] O.Phouphetlinthong, A.Sebban¹, R.Zweigerdt, A.Birgit, L.Drakhlis, F.Rage, **B.Charlot**, “Protruding cantilevers MEA with embedded strain gauges for monitoring contractile organoids”, The 28th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2024), Montreal, Canada. October 14-17th 2024. (Poster)
- [81] O.Phouphetlinthong, E.Partiot, C.bernou, A.Sebban, R.Gaudin, and **B.Charlot**, “Self-straightening micro cantilevers for the measurement of inner electrical activity of cerebral organoids”, MNE 2024 | 50th International Micro and Nano Engineering Conference, September, 16th -19th, Montpellier, France. (Oral)
- [82] O.Phouphetlinthong, A.Moisan, A.Sebban, P.Duc, F.Rage, and **B.Charlot**, “A multiwell microfluidic-MEA Platform for neuromuscular junction reconstruction”. The 27th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2023), Katowice, Poland. (Poster)
- [83] O.Phouphetlinthong, E.Partiot, A.Sebban, R.Gaudin, and **B.Charlot**, “Microelectrode array (MEA) for the measurement of inner extracellular activity of cerebral organoids”, The 27th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2023), Katowice, Poland.(Poster)
- [84] M.Monchablon, D.Chapeau, G.N'Kaoua, A.Pirog, E.Puginier, B.Charlot, S.Arbault, J.Gaitan, P.Scotti, A.Bouter, J.Lang, M.Raoux, S.Renaud, “Multi-sensor pancreatic-islets-and-muscle-on-chip for real-time studies of glucose homeostasis”, EUROoCS conference on Organ-on-Chip, 2022.
- [85] O.Phouphetlinthong, E.Partiot, A.Sebban, R.Gaudin, **B.Charlot** “Micro Electrode Array for the monitoring of inner electrical activity of cerebral organoids”, MEA Meeting 2022 12th International Conference on Microelectrode Arrays for Life Sciences July 6-8, 2022, Tübingen, Germany. (Oral presentation)
- [86] P.Duc, A.Sebban, G.Carnac, M.Vignes, G.Hugon, **B.Charlot**, Florence Rage “Micro-structured microfluidic devices implemented with a custom MEA for all human neuromuscular junctions”, MEA Meeting 2022 12th International Conference on Microelectrode Arrays for Life Sciences July 6-8, 2022 · Tübingen, Germany. (**Best poster award**)
- [87] A.Singh Dahiya, T.Gil, N.Azemard, J.Thireau, A.Lacampagne, A.Todri-Sanial, B.Charlot, “Stretchable Strain Sensors for Human Movement Monitoring”, 2020 Symposium on Design, Test, Integration & Packaging of MEMS and MOEMS (DTIP). (Oral on line)
- [88] E.Puginier, K.L.Fischer, J.Gaitan, E.Malyshev, **B.Charlot**, M.Raoux, J.Lang, “Electrical coupling in primary or clonal islet cell spheroids”, 55th Annual Meeting of the European-Association-for-the-Study-of-Diabetes (EASD), Barcelona, Spain, Sep 16-20, 2019
- [89] R.Desgarceaux, **B.Charlot**, F.Pedaci “Nano-cones and nano-cylinders fabrication for surface scanning based on optical tweezers”, Optical Trapping and Optical Micromanipulation XVI, San Diego, California, United States, August 2019. (Poster)
- [90] M.Fenech, V.Girod, S.Meance, V.Claveria, M.Abkarian, **B.Charlot**, "Microfluidic blood vasculature replicas using backside photolithography", MicroTAS 2019, The 23rd International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2019), 27-31 October 2019. (Oral presentation).
- [91] E.Puginier, K.Leal Fischer, J.Gaitan, E.Malyshev, **B.Charlot**, M.Raoux, J.Lang, “Electrical coupling in primary or clonal islet cell spheroids”, Annual Meeting of the European Association for the Study of Diabetes, Barcelona, Spain, 16-20 September 2019. Poster

- [92] **B.Charlot**, E.Moutaux, F.Bardin, E.Malyshev, F.Saudou, M.Cazorla, "Integration of Micro Electrode Array with compartmentalized microfluidics for the analysis of reconstructed neuronal junctions", NMI MEA meeting, July 4-6, 2018, Reutlingen, Germany. Oral presentation.
- [93] R.Desgarceaux, Z.Santybayeva, F.Pedaci, **B.Charlot**, "Talbot Lithography with soft elastomeric conformal phase masks", DTIP 2018 Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, Roma - Italy, May 22nd - May 25th, 2018. Oral Presentation.
- [94] E.Moutaux, **B.Charlot**, F.Bardin, F.Saudou, M.Cazorla, "An integrated microelectrode array and microfluidic platform for stimulating and recording reconstructed neuronal networks", MicroTAS 2017, The 20th International Conference on Miniaturized Systems for Chemistry and, Life Sciences, Savannah, Georgia, October 22-26, 2017. Oral presentation.
- [95] **B.Charlot**, R.Desgarceaux, A.Giani, F.Bardin, "PLL-FITC Fluorescence Thermography on Dry Surfaces", DTIP 2017, Symposium on Design Test Integration and Packaging of MEMS and MOEMS, May, 29th - June, 1st, 2017, Bordeaux, France. Oral Presentation.
- [96] L.Lanotte, D.Laux, **B.Charlot** and M.Abkarian, "Ultrasound pulse echo analysis of blood aggregation in microfluidics" MicroTAS 2016, The 20th International Conference on Miniaturized Systems for Chemistry and, Life Sciences, Dublin, Ireland, October 9-13, 2016. Poster.
- [97] Z.Santybayeva, A.Meghit, C.de Marin, R.Desgarceaux, R.Teissier, **B.Charlot** and F.Pedaci, "Birefringent quartz micro cylinders for angular optical tweezers", MicroTAS 2016, The 20th International Conference on Miniaturized Systems for Chemistry and, Life Sciences, Dublin, Ireland, October 9-13, 2016. Poster.
- [98] Z.Santybayeva, C.de Marin, A.Meghit, R.Teissier, **B.Charlot** and F.Pedaci, "Laser Interference Lithography for the collective fabrication of quartz-microcylinders", DTIP 2016, Symposium on Design Test Integration and Packaging of MEMS and MOEMS, Budapest - Hungary, May, 30th - June, 2nd, 2016. Oral Presentation.
- [99] G.Kock, P.Combette, **B.Charlot**, A.Giani, M. Schneider, and C. Gauthier-Blum, "Numerical study of a two-dimensional thermal convection gyroscope," DTIP 2016, Symposium on Design Test Integration and Packaging of MEMS and MOEMS, Budapest - Hungary, May, 30th - June, 2nd, 2016.
- [100] J.Weiss, Q.Schwaab, Y.Boucetta, A.Giani, C.Guigue, P.Combette, **B.Charlot**, "Simulation and Testing of a New Type of MEMS Thermal Shear-Stress Sensor" 2nd AIAA Aerodynamic Measurement Technology and Ground Testing Conference, AIAA Aviation 2016, Washington, D.C. <http://dx.doi.org/10.2514/6.2016-4033>
- [101] D.Lapeine, F.Very, D.Laux J.Y.Ferrandis, **B.Charlot**; F.Pascal, P.Combette; A.Giani "Fabrication, characterization and test of acoustic sensors for detection of pollutants in aquatic environments," in 2015 Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 2015.
- [102] **B.Charlot**, R.Teissier, and E.Schwob, "Micro and nanostructured substrates for DNA fibers combing by forced dewetting", DTIP, Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), Montpellier - France, (2015).
- [103] L.Paris, **B.Charlot**, M.Dumas, J.Valmier and F.Bardin, "Stimulation of dorsal root ganglion neurons by infra-red laser millisecond pulses", IEEE EMBS Neural engineering conference, Montpellier, France, (2015)
- [104] **B.Charlot**, M.Lechelon, F.Bardin, R.Teissier, L.Paris, J.Valmier, "Axonal growth guidance by surface nano-topology for the regeneration of sensori motor neurons", IEEE EMBS Neural engineering conference, Montpellier, France, (2015)
- [105] A.Vena, B.Sorli, **B.Charlot** and S.Naudi, "An RFID-based Implant for Identification and Pressure Sensing of Orthopedic Prosthesis", 1st URSI Atlantic Radio Science Conference (URSI AT-RASC) May 18 - 22, 2015
- [106] **B.Charlot**, N.Sanchez, P.Roux, S.Teixeira, "Double emulsion generation and separation by microfluidic consecutive flow focusing", DTIP, Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 2-4 April 2014, Cannes, France

- [107] **B.Charlot**, F.Bardin, N.Sanchez, P.Roux, S.Teixeira and E.Schwob, "Mechanisms of DNA combing through receding meniscus assembly on microstructured substrate" Proc. Conference on Miniaturized Systems for Chemistry and Life Sciences, MicroTAS 2013.
- [108] M.Balde, F.Bibi, **B.Charlot**, P.Combette, B.Sorli, "Growth and characterization of anodized aluminum oxide thin film on paper-based substrate", DTIP, Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 16-18 April 2013, Barcelona, Spain.
- [109] **B.Charlot**, D.Coudouel, P.Combette, A.Giani, "Pyroelectric PZT sensors screen printed on glass", DTIP, Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 16-18 April 2013, Barcelona, Spain.
- [110] M.Balde, F.Jacquemoud-Collet, **B.Charlot**, P.Combette, B.Sorli, "Microelectronic technology on paper substrate", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 25-27 April 2012
- [111] **B.Charlot**, G.Sassine, A.Garraud, A.Giani, P.Combette, "Micropatterning and casting PEDOT-PSS/DMSO layers", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 2012, 25-27 April 2012
- [112] D.Coudouel, A.Garraud, S.Gauthier, A.Giani, B.Sorli, **B.Charlot**, P.Combette, "Convective thermal accelerometers using screen printed pyroelectric thick-films", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 2012, pp.177-18.
- [113] A.Garraud, P.Combette, J.M.Gosalbes, **B.Charlot**, A.Giani, "First high-g measurement by thermal accelerometers", 16th International Solid-State Sensors, Actuators and Microsystems Conference (TRANSDUCERS), 2011.
- [114] P.Combette, A.Garraud, B.Charlot, A.Giani, "A new thermal accelerometer based on pyroelectric thin films", 14th International Symposium on Electrets (ISE), 28-31 Aug. 2011
- [115] A.Garraud, P.Combette, **B.Charlot**, P.Loisel, A.Giani, "A closed-loop micromachined accelerometer based on thermal convection", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 2011.
- [116] A.Garraud, A.Giani, P.Combette, **B.Charlot**, M.Richard, "A dual axis CMOS frontside bulk micromachined thermal accelerometer", Symposium on Design Test Integration and Packaging of MEMS/MOEMS (DTIP), 2010
- [117] **B.Charlot**, F.Pichot, A.Giani, Ph.Combette, H.Fujita and H.Toshiyoshi, "A-Si:H bistable microbeams for memory applications", MME'09, 20th workshop on micromachining, micro mechanics and micro systems, September 20-2, Toulouse, France, 2009.
- [118] **B.Charlot**, K.Yamashita, W.Sun, H.Fujita and H.Toshiyoshi, "Field Emission displacement gauge for microelectromechanical resonators", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP'09, 1-4 April 2009, Roma, Italy.
- [119] J.W.Park, N.Pereira Rodrigues, O.Ducloux, **B.Charlot**, T.Fujii, and H. Fujita, "development of a Calcium-ISFET array dedicated to endocrine cell High throughput analysis ", MMB 2009, International Conference on Microtechnologies in Medicine and Biology, Quebec City, Quebec, CANADA, April 1 - 3, 2009
- [120] B.Courtois, **B.Charlot**, G. Dipendina, L.Rufer, "Electronics Manufacturing Infrastructures for Education and Commercialization", 30th Annual International IEEE EMBS Conference, IEEE Engineering in Medicine and Biology Society, August 20-24, 2008, Vancouver, British Columbia, Canada
- [121] B.Courtois, **B.Charlot**, G. Dipendina, L.Rufer, "Infrastructures for Education, Research and Industry: CMOS and MEMS for BioMed", The 12th World Multi-Conference on Systemics, Cybernetics and Informatics, WMSCI, Orlando USA, 29 June - 2 July 2008, Orlando CA, USA.
- [122] **B.Charlot**, K.Yamashita, W.Sun, H.Fujita and H.Toshiyoshi, "In-plane Bistable nanowire for micromechanical memory", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP'o8.

- [123] K.Yamashita, **B.Charlot**, W.Sun, K.Kakushima, H.Fujita, and H.Toshiyoshi, "Modulation and detection of field emission current by using MEMS resonator for application to RF-MEMS band-pass filters " Asia Pacific Conference on Transducers and Micro-Nano Technology (APCOT) 08', TAYIH Landis Hotel, Tainan, Taiwan 22–25 June, 2008.
- [124] K.Yamashita, W.Sun, **B.Charlot**, K.Kakushima, H. Fujita, and H. Toshiyoshi, "Time dependence of field-emission current for silicon RF-MEMS applications," Proc. 32nd Int. Conf. on Micro- and Nano-Engineering 2006 (MNE 2006), Barcelona, Spain, Sept. 17-20, 2006.
- [125] M.Marzencki, S.Basrour, **B.Charlot**, S.Spirkovich, M.Colin, "A MEMS Piezoelectric Vibration Energy Harvesting Device", in PowerMEMS 05, Nov 28-30, Tokyo, Japan.
- [126] S.Basrour, J.J.Chaillout, **B.Charlot**, G.Despesse, T.Jager, J.M.Leger, A.Vassilev, "Fabrication and characterization of high damping electrostatic micro devices for vibration energy scavenging", Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP 2005), June 1-3, Montreux : Switzerland (2005)
- [127] Y.Ammar, A.Buhrig, M.Marzencki, **B.Charlot**, S.Basrour, K.Matou and M.Renaudin, "Wireless sensor network node with asynchronous architecture and vibration harvesting micro power generator", in SoC-EUSAI, Smart Objects & Ambient Intelligence, October 12th - 14th 2005, Grenoble, France.
- [128] G.Tessier, S.Pavageau, C.Filloy, **B.Charlot**, G.Jerosolinski and D.Fournier, "Quantitative thermoreflectance imaging: calibration method and validation on a dedicated integrated circuit", in 11th Int'l Workshop on THERMal INvestigations of ICs and Systems, THERMINIC 2005, 27 - 30 September 2005, Belgirate, Lake Maggiore, Italy.
- [129] N.Trannoy, F.Nepveu, S.Gomes, P.O.Chapuis, S.Volz, **B.Charlot**, B.Cretin, S.Dilhaire, G.Tessier and P.Vairac, "Temperature measurement of microsystems by Scanning Thermal Microscopy", in 11th Int'l Workshop on THERMal INvestigations of ICs and Systems, THERMINIC 2005, 27 - 30 September 2005, Belgirate, Lake Maggiore, Italy.
- [130] L.Aigouy, G.Tessier, Y.De Wilde, M.Mortier, and **B.Charlot**, "A scanning fluorescent probe for local temperature imaging of microelectronic circuits", in 11th Int'l Workshop on THERMal INvestigations of ICs and Systems, THERMINIC 2005, 27 - 30 September 2005, Belgirate, Lake Maggiore, Italy.
- [131] S.Grauby, A.Salhi, L-D.Patino Lopez, S.Dilhaire, **B.Charlot**, W.Claeys, B.Cretin, S.Gomes, G.Tessier, N.Trannoy, P.Vairac and S.Volz, "Temperature variations imaging by thermoreflectance and SThM techniques", in 11th Int'l Workshop on THERMal INvestigations of ICs and Systems, THERMINIC 2005, 27 - 30 September 2005, Belgirate, Lake Maggiore, Italy.
- [132] P.Vairac, B.Cretin, **B.Charlot**, S.Dilhaire, S.Gomes, G.Tessier, N.Trannoy and S.Volz, "Ultra-Local temperature mapping with an intrinsic thermocouple, in 11th Int'l Workshop on THERMal INvestigations of ICs and Systems, THERMINIC 2005, 27 - 30 September 2005, Belgirate, Lake Maggiore, Italy.
- [133] S.Basrour, **B.Charlot**, G.Despesse, J.J.Chaillout, I.Dekkaki, T.Jager, J.M.Leger, A.Vassilev, "High Damping Electrostatic System For Vibration Energy Scavenging", In Technical Proceedings of the 2005 NSTI Nanotechnology Conference and Trade Show (2005) 375 – 378.
- [134] K.Dogheche, B.Cavallier, P.Delobelle, L.Hirsinger, S. Ballandras, E.Cattan, D.Remiens, M.Marzencki, **B.Charlot**, S. Basrour, "Piezoelectric micro-machined ultrasonic transducer (pMUT) for energy harvesting", IEEE Ultrasonics Symposium, Vol. 2, 18-21, pp.939 – 942, (2005).
- [135] M.Marzencki, S.Basrour, **B.Charlot**, M.Colin, L.Valbin, "Design and fabrication of piezoelectric micro power generators for autonomous microsystems", *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP'05*, 01-03 June 2005, Montreux, Switzerland.
- [136] G.Despesse, T.Jager, J.J.Chaillout, J.M.leger, A.Vassilev, S.Basrour and **B.Charlot**, "Fabrication and characterization of high damping electrostatic micro devices for vibration

energy scavenging”, *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP’05*, 01-03 June 2005, Montreux, Switzerland.

- [137] M.Marzencki, S.Basrour and **B.Charlot**, “Design, modelling and optimisation of integrated piezoelectric micro power generator”, *Modeling and Simulation of MEMS, MSM’05*, Anaheim, California, USA, 8-12 Mai 2005.
- [138] V.Szekely, G.Bognar, M.Rencz, F.Ciontu, **B.Charlot** and B.Courtois, “Design and verification of an electrostatic MEMS simulator”, *Nanotechnology Conference and TradeShow (NanoTech’04)*, Boston, Massachusetts, U.S.A., March 7-11.
- [139] **B.Charlot**, B.Courtois, V.Szekely, M.Rencz, G. Bognár, “An 8X8 Thermopile Based Uncooled Infrared Imager”, *European Micro and Nanosystems*, 20-21 Oct 2004, Noisy le Grand, Paris, France.
- [140] **B.Charlot**, K.Torki, G.Tessier, C.Filloy and D.Fournier, “A Digital CMOS Circuit For Reflectance Thermography”, *10th International Workshop on Thermal Investigations of ICs and Systems, THERMINIC’04*, 29 Sept-2 Oct, Sophia Antipolis, France.
- [141] N.Galy, **B.Charlot**, F.Parrain and B.Courtois, “A Full Identification System For A Tactile Fingerprint Sensor”, *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP’04*, 12-14 May 2004, Montreux, Switzerland
- [142] **B.Charlot**, F.Parrain, N.Galy and B.Courtois, “A Sweeping Mode Tactile Integrated Fingerprint Sensor”, *12th International conference on solid-state sensors, actuators and microsystems TRANSDUCERS’03*, 8-12 June 2003, Boston.
- [143] C.Roman, S.Mir, **B.Charlot**, “Building an Analog Fault Simulation Tool and Its Application to MEMS”, *IMSTW’02 International Mixed Signal Test Workshop*, 18-21 Juin 2002, Montreux, Switzerland.
- [144] F.Parrain, **B.Charlot**, N.Galy, B.Courtois, “A CMOS Micromachined Tactile Fingerprint Sensor”, *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS*, 6-8 Mai 2002, Cannes - Mandelieu, France.
- [145] G.Nicolescu, S.Martinez, L.Kriaa, W.Youssef, S.Yoo, **B.Charlot**, A.Jerraya, “Application of Multi-domain and Multi-language Cosimulation to an optical MEM switch Design”, *ASPDAC/VLSI Design*, 7-11 Janvier 2002, Bangalore Inde.
- [146] **B.Charlot**, S.Mir, F.Parrain, B.Courtois, "Electrically Induced Stimuli for MEMS self-test", *19th VLSI test symposium, VTS2001*, Los Angeles, 29 Avril–3 Mai, 2001, pp. 210-125.
- [147] **B.Charlot**, F.Parrain, S.Mir, B.Courtois, "A Self-testable CMOS Thermopile-based Infrared Imager", *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP’2001*, Cannes - Mandelieu, France, 25-27 avril 2001, pp. 96-103.
- [148] Z.Juneidi, K.Torki, **B.Charlot**, B.Courtois, "MEMS synthesis and optimisation", *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP’2001*, Cannes - Mandelieu, France, 25-27 avril 2001, pp. 159-164.
- [149] B.Courtois, S.Mir, **B.Charlot** and M.Lubaszewski, "From Microelectronics to MEMS Testing", MRQ 2000, *IEEE Microelectronics Reliability and Qualification Workshop*, 31 Oct-1 Nov, 2000, Hilton, Glendale, California.
- [150] S.Mir, **B.Charlot**, G.Nicolescu, P.Coste, F.Parrain, N.Zergainoh, B.Courtois, A.Jerraya, M.Rencz, "Towards design and validation of mixed technology SOCs", *10th Great Lakes Symposium on VLSI*, Chicago USA, 2000.
- [151] S.Mir, **B.Charlot**, F.Parrain, D.Veychard, "High thermal impedance beams for suspended MEMS", *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, DTIP2000*, 9-11 Mai 2000, Paris.
- [152] B.Courtois, **B.Charlot**, H.Delori, S.Eyraud, J.F.Paillotin, K.Torki, "Achievements and advances at CMP", *EWME 2000, European Workshop on Microelectronics Education*, Aix en Provence, 18-19 Mai 2000.
- [153] **B.Charlot**, S.Mir, E.F.Cota, M.Lubaszewski, B.Courtois, "Fault modeling of suspended thermal MEMS", *ITC’99, IEEE International Test Conference*, Atlantic city, NJ, USA, 28-30 septembre, 1999, pp. 319-328.

- [154] **B.Charlot**, S.Moussouris, S.Mir, B.Courtois, "Fault modeling of electrostatic comb-drives for MEMS", *DTM'99, SPIE Symposium on Design, Test and Microfabrication of MEMS/MOEMS*, Paris, France, Mars-Avril 1999, pp. 398-405.
- [155] **B.Charlot**, S.Mir, E.F. Cota, M.Lubaszewski, B.Courtois, "Fault simulation of MEMS using HDLs", *DTM'99, SPIE Symposium on Design, Test and Microfabrication of MEMS/MOEMS*, Paris, France, Mars-Avril 1999, pp.70-77.
- [156] S.Mir, **B.Charlot**, B.Courtois, "Extended fault based testing to microelectromechanical systems", *ETW'99, European Test Workshop*, Constance, Germany, Mai 1999.

4. Colloques sans actes

- [157] M.Dhifallah, J.Liang, T.Gil, N.Azemard, **B.Charlot**, A.Giani, A.Lacampagne, A.Todri-Sanial "Piezoelectric Sensors Based on 1D/2D Materials for Smart Health Monitorin IoT", Colloque du GDR SoC-SiP, Jun 2019, Montpellier, France. (2019)
- [158] E.Moutaux, **B.Charlot**, M. Cazorla, F.Bardin, F.Saudou, "Micro Electrode Arrays and Microfluidics for Stimulation and Recording of Neuronal Junctions", *Neurofluidics*, 28 Nov.2016 (2016)
- [159] **B.Charlot**, M. Lechelon, F.Bardin, L.Paris, C.Lasbleiz, "Substrat microstructuré en PEGDMA pour la croissance axonale dirigée", *Matériaux 2014*, 24-28 Novembre 2014, Montpellier
- [160] **B.Charlot**, D.Coudouel, F.Very, P.Combette, A.Giani, B.Sorli, M. Balde, A.Vena, "Transitoire thermique dans un écoulement microfluidique diphasique pour la stimulation d'un élément pyroélectrique en PZT sérigraphié", *Matériaux 2014*, 24-28 Novembre 2014, Montpellier
- [161] **B.Charlot**, "DNA capillary deposition, microfluidic for neuroscience And pyroelectric power generation", *Journée TIC et Santé, Club EEA, Xlim, Limoges*, Octobre 2013.
- [162] **B.Charlot**, F.Bardin, N.Sanchez, P.Roux, S.Teixeira and E.Schwob, "Mechanisms of DNA combing through receding meniscus assembly on microstructured substrate", 5th GRISBI Meeting, Groupement de Recherche Interdisciplinaire sur les Systèmes Biologiques, October 2013, Montpellier
- [163] K.Yamashita, **B.Charlot**, W.Sun, K. Kakushima, H.Fujita, and H.Toshiyoshi, "MEMS共振子を用いた電界電子放出電流の変調と検出", *IEEJ (The Institute of Electrical Engineers of Japan) conference*, March 2008, Tokyo, Japan.
- [164] W. Sun, K. Yamashita, **B.Charlot**, H. Fujita, and H. Toshiyoshi, "A MEMS Vacuum Tube Resonator with Field-Emission Type Pick-up Mechanism", in *Proc. The 3rd Japan-Taiwan Workshop on Future Frequency Control Devices*, March 8-9, 2007, Keyaki Hall, Chiba University, Japan, pp. 93 - 96.
- [165] L.Montès, D.Tsamados, N.Mathieu, P.Morfouli, **B.Charlot** and C.Schaeffer, "Microsystèmes (MST/MEMS) : de la simulation à la réalisation technologique et à la caractérisation", *J3eA, Journal sur l'enseignement des sciences et technologies de l'information et des systèmes*, Volume 4, Hors-Série 2, 28 (2005)
- [166] S.Mir, **B.Charlot**, "MEMS testing", *MIGAS summer school*, Autrans, September 2002.
- [167] F.Parrain, **B.Charlot**, N.Galy, "Capteur intégré d'empreintes digitales à micropoutres piezorésistives", *Journées Micro/Nanotechnologies*, Paris, Novembre 2001.
- [168] **B.Charlot**, F.Parrain, "A Self testable CMOS thermopile based Infrared Imager", *Journées Micro/Nanotechnologies*, Paris, Novembre 2000.
- [169] **B.Charlot**, S.Mir, "Intégration de la Conception et du Test dans des Puces avec Dispositifs Microsystèmes Embarqués", *Colloque CAO de circuits intégrés et systèmes*, Aix en Provence, Fuveau, 10-12 mai 1999.

5. Livres et chapitres de livre

- [170] **B.Charlot** and D.Tousch, “Biocaptors and barcodes: The new devices for the traceability and authenticity”, Food Traceability and Authenticity, Analytical Techniques, Edited By Didier Montet, Ramesh C. Ray, CRC press, 9781498788434
- [171] S.Mir, **B.Charlot**, L.Rufer, F.Parrain, S.Martinez, "Conception de microsystemes sur silicium", Traité EGEM, série Electronique et micro-électroniques, Hermes sciences - Lavoisier 2002.
- [172] S.Mir, **B.Charlot**, L.Rufer, F.Parrain, S.Martinez, "Dispositifs et physique des microsystemes sur silicium", Traité EGEM, série Electronique et micro-électroniques, Hermes sciences - Lavoisier 2002.
- [173] S.Mir and **B.Charlot**. “From Microelectronics to Integrated Microsystems Testing”. Chapter in Microsystems Technology – Fabrication, test and reliability, J. Boussey (Ed.), Hermes Penton Science, 2003.

6. Brevets

Titre : A MEMS CALORIMETRIC SHEAR-STRESS SENSOR AND A METHOD OF FABRICATION THEREOF

Date de dépôt du brevet provisoire: 18 mai 2016

Numéro d'application : 62/338,022

Inventeurs: Julien Weiss, Alain Giani, Philippe Combette et Benoît Charlot.

Titre : Puce microfluidique pour attirer et détruire un élément biologique spécifique

Date de dépôt du brevet provisoire: 15 mars 2019

Numéro d'application FR1902686

Inventeurs: CHARLOT Benoît, RAMIREZ Jean-Marie, MEANCE Sébastien, GARRIC Xavier, PINESE Coline, GUIRAUD Isabelle