

Curriculum Vitae of Francesco Rizzi

PERSONAL INFORMATION

Francesco Rizzi



Work:

Istituto Italiano di Tecnologia: <https://www.iit.it/it/people/francesco-rizzi> ;

Scientific reference:

ResearcherID: <http://www.researcherid.com/rid/K-3950-2013>

ORCID: <http://orcid.org/0000-0002-5142-5231>

WORK EXPERIENCE

February, 1 st 2017 – today	Senior Technician Center for Bio-molecular Nanotechnologies, Istituto Italiano di Tecnologia, (CBN-IIT) Lecce (Italy). <ul style="list-style-type: none">▪ Responsabile della stesura di progetti e coordinamento delle attività di ricerca del relativo team di progetto.▪ Reporting di progetti a commissione UE, ministero italiano, mass media.▪ Insegnamento e supervisione per master e dottorandi▪ Allestimento e gestione di infrastrutture di laboratorio a CBN-IIT (Lecce)▪ Punto di contatto per le relazioni industriali ed educative a CBN▪ Sector: Design, Micro-fabbricazione e caratterizzazione di Micro-sistemi e Sensori: Robotica and Biomimetica.
September, 1 st 2009 – January, 31 st 2017	Research Team Leader Center for Bio-molecular Nanotechnologies, Istituto Italiano di Tecnologia, Lecce (Italy). <ul style="list-style-type: none">▪ Responsabile della stesura di progetti e coordinamento delle attività di ricerca del relativo team di progetto.▪ Reporting di progetti a commissione UE, ministero italiano, mass media.▪ Insegnamento e supervisione per master e dottorandi▪ Allestimento e gestione di infrastrutture di laboratorio a CBN-IIT (Lecce)▪ Punto di contatto per le relazioni industriali a CBN▪ Sector: Design, Micro-fabbricazione e caratterizzazione di Micro-sistemi e Sensori: Robotica and Biomimetica.
December, 11 th 2008 – August, 31 st 2009	Research Team Leader Nanobiotechnology Dept., Istituto Italiano di Tecnologia, Genoa (Italy) and visiting at National nanotechnology Laboratory, Lecce (Italy). <ul style="list-style-type: none">▪ Allestimento della Clean Room set-up e gestione di facility, infrastrutture e laboratory presso IIT Headquarter (Genoa) and CBN-IIT (Lecce)▪ Design, Micro-fabbricazione e caratterizzazione di Micro-sistemi e Sensori: Robotica and Biomimetica.▪ Sector: Gestione Laboratori.
December, 11 th 2006 – December, 10 th 2008	Post-doc fellowship Nanobiotechnology Dept., Istituto Italiano di Tecnologia, Genoa (Italy). <ul style="list-style-type: none">▪ Allestimento della Clean Room set-up e gestione di facility, infrastrutture e laboratory presso IIT Headquarter (Genoa)▪ Sector: Gestione Laboratori.

February, 1st 2005 – November, 30th 2006	Post-doc fellowship Department of Physics and Institute of Photonics, University of Strathclyde, Glasgow (UK). ▪ “Clermont2” EU Marie Curie Training Network: “Physics of microcavities”. Research on Physics of Polaritons. Sector: Fisica della Materia Condensata; Fotonica; Optoelettronica.
March, 16th 2004 – January, 31st 2005	Collaborazione con Istituto Nazionale di Fisica della Materia Physics Department of Physics, University of Bari, Bari (Italy). ▪ Realizzazione di un software di acquisizione dati per caratterizzazione elettrica e ottica di dispositivi elettroluminescenti Sector: Fisica della Materia Condensata; Fotonica; Optoelettronica.
June, 15th 2000 – October, 31th 2000	Grant post-laurea Physics Department of Physics, University of Bari, Bari (Italy). ▪ Design e processing con tecniche fotolitografiche e caratterizzazione con elettroluminescenza FTIR di emettitori mid-IR e Laser a Cascata Quantica. Sector: Fisica della Materia Condensata; Fotonica; Optoelettronica.

EDUCATION AND TRAINING

October, 1st 2000
- March, 14th 2004

PhD in Physics

Passed

Department of Physics, University of Bari, Bari (Italy)

- Fisica della Materia Condensata; Fotonica; Optoelettronica.

March, 15th 2000
- October, 1991

Degree in Physics110/110 cum
Laude

University of Bari, Bari (Italy)

- Tesi in Fisica della Materia Condensata; Fotonica; Optoelettronica.

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills

- Buone capacità comunicative sia nelle presentazioni orali, sia per la partecipazione a riunioni e conferenze, sia nelle relazioni tecniche e nella scrittura di deliverable.
- Partecipazione a programmi TV nazionali e locali, riviste specializzate e giornali.
- Reporting di progetti a commissione UE, ministero italiano, mass media.
- Interventi orali e invitati a conferenze internazionali,
- Ho seguito un corso sulla comunicazione.

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Organizational / managerial skills

- Responsabile della stesura di progetti e coordinamento delle attività di ricerca del relativo team di progetto.
- Carico didattico presso l'Università del Salento, ISUFI, Università di Scienze Applicate del Reno-Waal.
- Costruzione di infrastrutture.
- allestimento di laboratorio.
- Gestione di impianti.

Scientific skills

- **Simulazione di progettazione di dispositivi e multifisica in COMSOL.**
- **Caratterizzazione di Materiali:** fotoluminescenza con Laser IR, visibili e UV (Nd:YAG, He-Ne, He-Cd), Catodoluminescenza con rivelazione CCD. Electron Probe Microscopy Analysis con tecniche EDS and WDS. **Applicazioni:** *InP:Fe* and *ZnSe:Fe* samples, *Nitride-based* alloys.
- **Microscopia:** SEM microscopy: Secondary Electron, Back Scattering Electron by Atomic Contrast. AFM microscopy.
- **Tecnologie di Fabbricazione di Dispositivi:** Litografia Ottica (Design di maschere, allineamento), deposizione di film sottili (e-beam and PE-CVD), riflettometria di film sottili, Chemomechanical Polishing (CMP), attacco chimico umido, attacco chimico a secco (RIE, ICP), Lift-off, Processi di riscaldamento rapido, caratterizzazione di giunzioni a semiconduttore (μ -probes), preparazione di campioni elettroluminescenti (cleaving, 45°-wedging, μ -bonding). Principi di litografia nano.
- **Caratterizzazione Elettrica, Ottica e Meccanica di Dispositivi:** Criogenica, Spettrometria FTIR e amplificazione "Lock-in", Curve intensità di emissione / Corrente / Tensione (L-I-V); Interfacciamento di strumentazione via "National Instrument" Package: Lab-view. Vibrometria Laser Doppler.

Teaching skills

▪ **Lezioni in Accademia:**

- 2015: Scientific Seminar at ISUFI in PhD lectures: "Flow Sensing for bioinspired robot"
- 2015: Corso per metà semestre in "Smart Materials" - Faculty of Technology and Bionics, Rhine Waal Technical University, Kleves, Germany.
- 2014: "Bioengineering of a Stress-driven Artificial Hair Cell for Water Flow Sensing" - Faculty of Technology and Bionics, Rhine Waal Technical University, Kleves, Germany.
- 2011-2016: Preparazione di lezioni su "Finite Element Methods analysis" in "Nanotechnologie" per Ingegneria presso Università del Salento.
- 2012-2019: Partecipazione al Collegio di Dottorato per conto dell'Istituto Italiano di Tecnologia nel Dipartimento di Ingegneria dell'Innovazione, Università del Salento.
- 2013-2014: Organizzazione delle attività formative nell'ambito del progetto ITEM - "Training on Job" dei futuri ricercatori.

▪ **Supervisione delle seguenti tesi:**▫ *Bachelor Thesis:*

- 2012: "PROGETTAZIONE E SIMULAZIONE DI UNA COCLEA ARTIFICIALE CON IL METODO DEGLI ELEMENTI FINITI" (Design and simulation of an Artificial Cochlea with Finite Elements Methods) – V. Labriola.

- 2012: "TECNOLOGIE FOTOVOLTAICHE A CONCENTRAZIONE DI RADIAZIONE" (Photovoltaic technologies by concentration of Radiation) – R. Tramis

▫ *ISUFI Bachelor Thesis:*

- 2012: "SISTEMA MICRO-ELETTRO-MECCANICO BIO-MIMETICO DELLE PROPRIETÀ DI ADATTAMENTO DELLE CELLULE CILIATE" (Micro-Electro-Mechanical System Bio-mimicking the adaptation properties of Hair Cells) – E. D. Lemma

▫ *Master Thesis:*

- 2011: "PROGETTAZIONE E REALIZZAZIONE DI IDROFONI PER APPLICAZIONI BIOMARINE" (Design and realization of Hydrophones for biomarine applications) - F. Guido.
- 2015: "HOLLOW CANTILEVER MEMS PER LA BIOSENSORISTICA IN LIQUIDO" (Hollow cantilever MEMS for biosensing in liquid) – G. A. Marocco.
- 2016: "MEMS TECHNOLOGIES FOR ACTIVE TACTILE DEVICES" – S. Puce.
- 2016: "STUDY AND OPTIMIZATION OF PIEZOELECTRIC FLAGS FOR MECHANICAL ENERGY HARVESTING" – A. Lezzi.
- 2016: "ALUMINUM NITRIDE –BASED MEMS TECHNOLOGIES FOR PIEZOELECTRIC ULTRASONIC MICRO-MACHINED TRANSDUCERS" – M. Ungaro
- 2017: "ANTI-BIOFOULING TECHNOLOGIES FOR SUBMARINE PIEZOELECTRIC ENERGY HARVESTERS" – M. Mariello
- 2018: "DESIGN AND FABRICATION OF A PHOTOACOUSTIC PROBE FOR BIOLOGICAL APPLICATIONS" – R. Avezano Comes
- 2018: "AUXETIC MATERIALS, PROPERTIES AND APPLICATIONS FOR A WEARABLE CAPACITIVE TECHNOLOGY" - Andrea Nocco

▫ *PhD Thesis:*

- 2014: "FABRICATION AND CHARACTERIZATION OF SMART POLYMERIC SYSTEMS WITH FUNCTIONAL PROPERTIES" – P. Calcagnile
- 2015: "A TUNABLE PDMS FORCE DELIVERY AND SENSING PROBE FOR MECHANOSENSATION" – T. Dattoma
- 2016: "MECHANICAL BIOMEMS TECHNOLOGIES FOR ADVANCED LABEL-FREE SENSING OF BIOMOLECULAR SPECIES IN MICROFLUIDIC CHANNELS" – C. Accoto
- 2016: "PIEZOELECTRIC TRANSDUCERS BASED ON ALUMINUM NITRIDE AND POLYIMIDE FOR TACTILE APPLICATIONS" – V. Mastronardi
- 2018: "DESIGN AND OPTIMISATION OF A FLUCTUATION-BASED ARTIFICIAL LATERAL LINE FLOW SENSING SYSTEM FOR BIOMIMETIC APPLICATIONS" – C. Abels
- 2018: "FLEXIBLE DEVICES BASED ON HYDROGELS FOR WEARABLE AND PORTABLE (BIO)SENSING" – E. Scarpa

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

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Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

- good command of office suite (word processor, spread sheet, presentation software)
- good command of data management gained as researcher

Courses and Certifications

- **2018:** “Workshop Public Speaking / Adding visuals to slide-based presentations” - Lecce, Italy
- **2014:** “Management of Research and Innovation” – Lecce, Italy
- **2014:** “Excel Pivot Tables” – Lecce, Italy
- **2013:** “Technology Transfer Days” – Lecce, Italy.
- **2013:** “WRITING A SUCCESSFUL EUROPEAN PROJECT and H2020 sneak previews” – Lecce, Italy.
- **2012:** “Advanced introduction to COMSOL Multiphysics” – Brescia, Italy.
- **2005:** “International School of Nanophotonics”. Maratea, Italy
- **2004:** “X National School of Material Science”. Sestri Levante, Italy
- **2002:** School on “Progress in Laser Sources and Photonic Devices”. Capri, Italy
- **2001:** “Safety in pure gas and mixture use”, Bari, Italy

Driving licence B

ADDITIONAL INFORMATION

Scientific bibliometrics

ResearcherID: <http://www.researcherid.com/rid/K-3950-2013>

ORCID: <http://orcid.org/0000-0002-5142-5231>

SCOPUS Author ID: 6701814611

Subject area: Physics and Astronomy, Materials Science, Engineering, Chemistry, Medicine, Chemical Engineering, Neuroscience, Agricultural and Biological Sciences, Computer Science, Pharmacology, Toxicology and Pharmaceuticals.

Documents (from Scopus database, retrieved in February, 8th 2019): 44

Journal Article: 29 Conference Papers: 11

Book Chapter: 2 Review: 2

Patent: 2

Author H-index: 11 (Scopus, Google Scholar, WOS)

Projects written/achieved

- **2018:** Scrittura di un workpackage nel progetto SEI4: “Smart Energy Efficiency & Environment for Industry.” – funding scheme: **PON MIUR**
- **2018:** Collaborazione nella scrittura del progetto ERN: “Apulia - European Researchers' Night Apulia 2018-2019 - Discovering the fascinating world of research” – funding scheme: **H2020 MSC NIGHT**
- **2017:** Scrittura di un workpackage nel progetto BENEFIT: “Benessere Nutrizionale e Fisico con Tecnologie inossidabili” - funding scheme: **POR PUGLIA**
- **2017:** Scrittura di un workpackage nel progetto REM: “Recupero di energia meccanica da fluidi per internet delle cose e sensori remoti.” - funding scheme: **PON MISE H2020**
- **2016:** Scrittura di un workpackage nel progetto “ERIC: “ **Environmentally Responsive Intelligent translating Composites for biomedical use**” - funding scheme: **H2020-ICT-**

2016-1.

- **2014:** Scrittura di un workpackage nel progetto “STREAM: “*Soft Tailed Robot for Efficient Autonomous Mission*” - funding scheme: **H2020-ICT-2014-1**. Project not fundend.
- **2013:** Scrittura di un workpackage nel progetto “BIOSAFE: “*Biodegradable Sensing of Algae for Environmental Monitoring*” - funding scheme: **FP7-OCEAN-2013**. Project not fundend.
- **2011-2014:** Collaborazione nell scrittura del grant: “Infrastructure for advanced BioMEMS sensing Technologies for food diagnostics and Environmental Monitoring”. Acronym: **ITEM** - Programma Operativo Nazionale **PON RICERCA E COMPETITIVITA' 2007-2013** - ASSE I: "Sostegno ai mutamenti strutturali" - Obiettivo Operativo 4.1.1.4 "Potenziamento delle Strutture e delle Dotazioni Scientifiche e Tecnologiche". Periodical Reporting for technical details to Italian Ministry of Research. Local coordinator for Researcher Training on Job.
- **2011:** Scrittura di un workpackage nel progetto “UNSELFISH: “*Untethered Sensor Enabled Locomotion FISH*” - funding scheme: **FP7-ICT-2011-7**. Project not funded.
- **2010-2011:** Collaborazione al progetto di ricerca con KITECH, South Korea, on “**Development of MEMS type lateral line sensors**”.
- **2009-2012:** Scrittura e coordinamento del work-package 4 (Artificial lateral line development) del progetto “**FILOSE**” (231495) (funded in **FP7-ICT-2007-3-2-2 – Cognitive Systems, Interaction, Robotics**): “*Artificial Fish Locomotion and Sensing*”.
- **2008 - 2009:** Collaborazione scientifica nel progetto “**SUPERTUNE**”, partnership tra Department of Electronics and Electrical Engineering, University of Glasgow and Compound Semiconductor Technologies Global Ltd. : “*Voltage tuneable, mid-infrared emission from semiconductor devices*”.
- **2005-2006:** Collaborazione scientifica nel progetto EU **STIMSCAT (STREP Contract 517769)**: “*Stimulated Scattering*”.
- **2005-2006:** Collaborazione scientifica nel progetto EU **CLERMONT2 (MRTN-CT-2003-503577)**: “*Physics of microcavities*”
- **2003 - 2005:** Collaborazione scientifica nel progetto EU **ESA-ESTEC**: “*Far-IR Wave Generation*”.
- **2000 – 2003:** Collaborazione scientifica nel progetto italiano **MURST-CIPE CI. 26P5BW2**: “*Realizzazione di dispositivi laser unipolari a cascata quantica operanti nel medio infrarosso per la rivelazione di tracce gassose*”.
- **1999 – 2000:** Collaborazione scientifica nel progetto EU **ESPRIT LTR n. 28235 PIANOS** “*Processing of Information by Arrays of Nonlinear Optical Solitons*”.

Technology Transfer

Patents

- “Electro-active microelectromechanical device and corresponding detection process” – WO2012035491 (A1) — 2012-03-22.
- “Device for harvesting energy from a fluidic flow including a thin film of piezoelectric material” – WO2015155746 (A1) — 2015-10-15

Technology Transfer collaborations:

- 2016 - Technology Transfer and collaborations agreement with ESAOTE s.p.a., Italy (~50k€)
- 2016 - Technology Transfer and collaborations agreement with ILK-Dresden, Germany.

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- 2015 - Technology Transfer and collaborations agreement with Enel Green Power, Italy.
- 2012 - Technology Transfer and collaborations agreement with Kitech, Korea (~100k€).

References

1. Most recent / current employer:

Prof. Massimo De Vittorio

Center for Bio-molecular Nanotechnologies - Via Barsanti, sn - Arnesano (LE) 73010 – Italy

Phone: 003908321816255

e-mail: massimo.devittorio@iit.it

2. Collaborator:

Prof. William Megill

Rhine-Waal University of Applied Sciences - Marie-Curie-Straße 1 - Kleve - Germany

Phone: +492821 80673-646

e-mail: william.megill@hochschule-rhein-waal.de

3. Former employer:

Dr. Ian Watson

Institute of Photonics, University of Strathclyde - Wolfson Centre, 106 Rottenrow
East, Glasgow - UK

Phone: +44 (0)141 548 4597

e-mail: i.m.watson@strath.ac.uk

ANNEXES

Published Publications

- Desmaële, D.; La Malfa, F.; **Rizzi, F.**; Qualtieri, A.; Di Lorenzo, M.; De Vittorio, M. Using Galistan to fabricate porous gold electrodes: toward non-enzymatic glucose fuel cells with enhanced performance for driving wearable/bioelectronic devices. *J. Phys. Conf. Ser.* **2018**, in press.
- Desmaële, D.; La Malfa, F.; **Rizzi, F.**; Qualtieri, A.; Di Lorenzo, M.; De Vittorio, M. A novel flexible conductive sponge-like electrode capable of generating electrical energy from the direct oxidation of aqueous glucose. *J. Phys. Conf. Ser.* **2018**, in press.
- S. Puce, E. Sciurti, **F. Rizzi**, et al. (2019). 3D-microfabrication by two-photon polymerization of an integrated sacrificial stencil mask, MICRO AND NANO ENGINEERING, <https://doi.org/10.1016/j.mne.2019.01.004>
- Scarpa E, Lemma ED, Fiammengio R, Cipolla MP, Pisanello F, **Rizzi F**, De Vittorio M (2019). Microfabrication of pH-responsive 3D hydrogel structures via two-photon polymerization of high-molecular-weight poly(ethylene glycol) diacrylates. SENSORS AND ACTUATORS. B, CHEMICAL, vol. 279, p. 418-426; <https://doi.org/10.1016/j.snb.2018.09.079>
- Abels C, Qualtieri A, Lober T, Mariotti A, Chambers LD, De Vittorio M, Megill WM, **Rizzi F** (2019). Bidirectional biomimetic flow sensing with antiparallel and curved artificial hair sensors. BEILSTEIN JOURNAL OF NANOTECHNOLOGY, vol. 10, p. 32-46; <https://doi.org/10.3762/bjnano.10.4>
- Puce S, Dattoma T, **Rizzi F**, Emara M, Qualtieri A, De Vittorio M (2019). A thermo-activated tactile micro-actuator for displays. MICROELECTRONIC ENGINEERING, vol. 205, p. 6-13; <https://doi.org/10.1016/j.mee.2018.11.010>
- Desmaële D, La Malfa F, **Rizzi F**, Qualtieri A, De Vittorio M (2018). Including liquid metal into porous elastomeric films for flexible and enzyme-free glucose fuel cells: A preliminary evaluation. JOURNAL OF LOW POWER ELECTRONICS AND

APPLICATIONS, vol. 8, 45; <https://doi.org/10.3390/jlpea8040045>

- Lamanna L, **Rizzi F**, Demitri C, Pisanello M, Scarpa E, Qualtieri A, Sannino A, De Vittorio M (2018). Determination of absorption and structural properties of cellulose-based hydrogel via ultrasonic pulse-echo time-of-flight approach. *CELLULOSE*, vol. 25, p. 4331-4343; <https://doi.org/10.1007/s10570-018-1874-4>
- Enrico Domenico Lemma, Barbara Spagnolo, **Francesco Rizzi**, Stefania Corvaglia, Marco Pisanello, Massimo De Vittorio, Ferruccio Pisanello – “Microenvironmental Stiffness of 3D Polymeric Structures to Study Invasive Rates of Cancer Cells”, *Advanced healthcare materials* 6 (22) (2017); <https://doi.org/10.1002/adhm.201700888>
- E Scarpa, T Dattoma, P Calcagnile, L Blasi, A Qualtieri, **F Rizzi**, M De Vittorio – “Surface-tension-confined fluidics on Parylene C coated paper substrate”, *Nanotechnology (IEEE-NANO)*, IEEE 17th International Conference on, 259-262 (2017); <https://doi.org/10.1109/NANO.2017.8117418>
- Claudio Abels, Vincenzo Mariano Mastronardi, Francesco Guido, Tommaso Dattoma, Antonio Qualtieri, William M Megill, Massimo De Vittorio, **Francesco Rizzi** – “Nitride-Based Materials for Flexible MEMS Tactile and Flow Sensors in Robotics”, *Sensors* 17 (5), 1080 (2017); <https://doi.org/10.3390/s17051080>
- Paola Calcagnile, Tommaso Dattoma, Elisa Scarpa, Antonio Qualtieri, Laura Blasi, Massimo De Vittorio, **Francesco Rizzi** – “A 2D approach to surface-tension-confined fluidics on parylene C”, *RSC Advances* 7 (26), 15964-15970 (2017); <https://doi.org/10.1039/C7RA01604B>
- Enrico Domenico Lemma, **Francesco Rizzi**, Tommaso Dattoma, Barbara Spagnolo, Leonardo Sileo, Antonio Qualtieri, Massimo De Vittorio, Ferruccio Pisanello – “Mechanical properties tunability of three-dimensional polymeric structures in two-photon lithography”, *IEEE Transactions on Nanotechnology* 16 (1), 23-31 (2017); <https://doi.org/10.1109/TNANO.2016.2625820>
- Claudio Abels, Antonio Qualtieri, Massimo De Vittorio, Megill, William, **Francesco Rizzi** – “A bio-inspired real-time capable artificial lateral line system for freestream flow measurements.”, *Bioinspiration & biomimetics* 11 (3), 035006 (2016); <http://dx.doi.org/10.1088/1748-3190/11/3/035006>
- Tommaso Dattoma, Antonio Qualtieri, Massimo De Vittorio, **Francesco Rizzi**, K. Domenica Karavitaki, David P. Corey – “PDMS ring-spring soft probe for nano-force bio-sensing.”, *Proceedings of the 15th IEEE International Conference on Nanotechnology*, Rome, Italy, July 27-30, 2015; <http://dx.doi.org/10.1109/NANO.2015.7388869>
- V. M. Mastronardi, L. Ceseracciu, F. Guido, **F. Rizzi**, A. Athanassiou, M. De Vittorio and S. Petroni – “Low stiffness tactile transducers based on AlN thin film and polyimide” *Appl. Phys. Lett.* **106**, 162901 (2015); <http://dx.doi.org/10.1063/1.4918749>
- Dattoma, Tommaso; Qualtieri, Antonio; Karavitaki, Domenica; Corey, David; De Vittorio, Massimo; **Rizzi, Francesco** – “Design of a tunable PDMS force delivery and sensing probe for studying mechanosensation” *IEEE Sensors Journal* 16 (3), 620-627, 2016; 10.1109/JSEN.2015.2486044.
- Petroni, Simona; **Rizzi, Francesco**; Guido, Francesco; Cannavale, Alessandro; Donateo, Teresa; Ingrosso, Fabio; Mastronardi, Vincenzo; Cingolani, Roberto; De Vittorio, Massimo – “AlN flexible flags for efficient wind energy harvesting at ultralow cut-in wind speed” *RSC Adv.*, 2015,5, 14047-14052; DOI: 10.1039/C4RA10319J.
- Accoto, C.; Qualtieri, A.; Pisanello, F.; Ricciardi, C.; Pirri, C.F.; De Vittorio, M.; **Rizzi, F.**, "Two-Photon Polymerization Lithography and Laser Doppler Vibrometry of a SU-8-Based Suspended Microchannel Resonator," in *Microelectromechanical Systems*, Journal of , vol.24, no.4, pp.1038-1042, Aug. 2015 - doi: 10.1109/JMEMS.2014.2376986
- **Francesco Rizzi**, Antonio Qualtieri, Tommaso Dattoma, Gianmichele Epifani, Massimo

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De Vittorio – “Biomimetics of underwater hair cell sensing” *Microelectron. Eng.* 132 (2015), 90-97.

- Kruusmaa, M. Fiorini, P. ; Megill, W. ; de Vittorio, M. ; Akanyeti, O. ; Visentin, F. ; Chambers, L. ; El Daou, H. ; Fiazza, M. ; Jezov, J. ; Listak, M. ; Rossi, L. ; Salumae, T. ; Toming, G. ; Venturelli, R. ; Jung, D. ; Brown, J. ; **Rizzi, F.** ; Qualtieri, A. ; Maud, J. ; Liszewski, A. – “FILOSE for Svenning: A Flow Sensing Bioinspired Robot.” *Robotics & Automation Magazine, IEEE* , vol.21, no.3, pp.51,62, Sept. 2014.
- Paola Calcagnile, Laura Blasi, **Francesco Rizzi**, Antonio Qualtieri, Athanassia Athanassiou, Evangelos Gogolides, Massimo De Vittorio – “Parylene C surface functionalization and patterning with pH-responsive microgels” *ACS Applied Materials and Interfaces*, 6 (18) 15708-15715 (2014).
- Guglielmo Lanzani, Maria Rosa Antognazza, Massimo De Vittorio, Simona Petroni, **Francesco Rizzi** – “Biosensing Detection”, chapter in “Bioinspired Approaches for Human-Centric Technologies”, edited by R. Cingolani , Springer-Verlag GmbH (2014), pp 77-109.
- Otar Akanyeti, Jen C Brown, Lily D Chambers, Hadi el Daou, Camilla Fiazza, Paolo Fiorini, Jaas Jezov, David S Jung, Maarja Kruusmaa, Madis Listak, Andrew Liszewski, Jacqueline L Maud, William M Megill, Lorenzo Rossi, Antonio Qualtieri, **Francesco Rizzi**, , Taavi Salumäe, Gert Toming, Roberto Venturelli, Francesco Visentin, Massimo De Vittorio - “FILOSE: a svenning robot” accepted for publication in *IEEE robotics and automation magazine* in 2014.
- **Francesco Rizzi**; Antonio Qualtieri; Lily D. Chamber; G. Epifani, William M. Megill; Massimo De Vittorio – “Stress-driven artificial hair cell for flow sensing”, Chapter in “Flow Sensing in Air and Water - Behavioural, Neural and Engineering Principles of Operation”, edited by Horst Bleckmann, Joachim Mogdans, Sheryl L. Coombs, Springer-Verlag GmbH (2014), pp 499-519.
- T. Dattoma, M. Grande, A. Qualtieri, T. Stomeo, V. Petruzzelli, A. D’Orazio, M. De Vittorio, **F. Rizzi** – “Flexible and highly sensitive optical polymeric strain gauge”, *Proceedings of the 13th IEEE International Conference on Nanotechnology*, Beijing, China, August 5-8, 2013.
- **Francesco Rizzi**; Antonio Qualtieri; Lily D. Chamber; William M. Megill; Massimo De Vittorio - “Parylene conformal coating encapsulation as a method for advanced tuning of mechanical properties of an artificial hair cell”, *Soft Matter*, (2013), 9, 2584.
- Antonio Qualtieri; **Francesco Rizzi**; Gianmichele Epifani; Andres Ernits; Maarja Kruusmaa; Massimo De Vittorio -“Parylene-coated bioinspired artificial hair cell for liquid flow sensing”, *Microelectronic Engineering* 98 (2012), 516-518.
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- **F. Rizzi**, G. Scamarcio and G. Strasser, "Three-terminal mid-IR tunable emitters based on Wannier-Stark ladder transitions in semiconductor superlattices", Semiconductor Science and Technology, **19** (4), S87-S88, (2004).
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Attended Conferences

- **34th INTERNATIONAL CAE CONFERENCE AND EXHIBITION"** - Vicenza, Italy, 8 - 9 October 2018 – "Recovery of Mechanical Energy from fluids for the feeding of an IoT node for monitoring of diesel engine exhaust gases" **F. Rizzi** – **INVITED ORAL** contribution.
- **Measuring by Light – International Meeting on Optical Measurement Technique and Industrial Applications** – November 18-19, 2015 Rijswijk, The Netherlands – "Laser Doppler Vibrometry Methodologies for Mechanical Characterization of Soft Materials and MEMS" **F. Rizzi** – **INVITED ORAL** contribution.
- **International Conference on Medical Devices** - September 21-22, 2015 Orlando, USA – "Biomimetic Parylene-coated artificial hair cells bio-MEMS as a platform for biosensing applications" **F. Rizzi** – **INVITED ORAL** contribution.
- **IEEE-NANO 2015 - The 15th IEEE International Conference on Nanotechnology** – Rome (IT), 27th July – 30th July 2015 – "PDMS ring-spring soft probe for nano-force bio-sensing." Tommaso Dattoma, Antonio Quattieri, Massimo De Vittorio, **Francesco Rizzi**, K. Domenica Karavitaki, David P. Corey – **ORAL** contribution.
- **NICE 2014 – 2nd International Conference on Bioinspired and Biobased Chemistry & Materials** – Nice (FR), 15th October – 17th October 2014 – "Plasma-based micro-contact printing for Parylene functionalization." Paola Calcagnile, Laura Blasi, Antonio Quattieri, Kosmas Ellinas, Evangelos Gogolides, Massimo De Vittorio, **Francesco Rizzi** – **ORAL** contribution.
- **MNE 2014 - 40th International Conference on Micro & Nano Engineering (MNE)** – Lausanne (CH), 22nd September – 26th September 2014 – "A tunable ring-based PDMS soft probe for bio-mechanosensing" Tommaso Dattoma, Antonio Quattieri, Gianmichele Epifani, K. Domenica Karavitaki, David P. Corey, Massimo De Vittorio, **Francesco Rizzi** -

ORAL contribution.

- **Workshop “Sustainable Management of Mediterranean Sea - XIV World Water Day 2014”**, Accademia Nazionale dei Lincei, Rome (IT) 21st March 2014 – “Litografia laser a due fotoni per la fabbricazione di sensori bio-meccanici microfluidici per la diagnostica chimica di inquinanti in liquido” (Two-photon laser lithography of bio-mechanical microfluidic sensors fabrication for chemical sensing of pollutant in liquids.). **Francesco Rizzi**, Celso Accoto, Antonio Quattieri, Ferruccio Pisanello, Stefano Stassi, Simone Marasso, Carlo Ricciardi, Fabrizio Pirri, Massimo De Vittorio - ORAL contribution.
- **MNE 2013 - 39th International Conference on Micro & Nano Engineering (MNE)** - London (UK), 15th September – 19th September 2013 – “Two-photon direct laser writing in SU8 epoxy resin of a suspended microchannel resonant bio-mechanical sensor for liquid chemical analyses” Celso Accoto, Antonio Quattieri, Ferruccio Pisanello, Carlo Ricciardi, Fabrizio Pirri, Massimo De Vittorio, **Francesco Rizzi** - ORAL contribution.
- **IEEE-NANO 2013 - The 13th IEEE International Conference on Nanotechnology** - Beijing (China), 5th August – 8th August 2013 – “Flexible and highly sensitive optical polymeric strain gauge” Tommaso Dattoma, Antonio Quattieri, Tiziana Stomeo, Massimo De Vittorio, **Francesco Rizzi**, Marco Grande, V. Petruzzelli, A. D’Orazio - ORAL contribution.
- **CIMTEC 2012 “Smart Materials, Structures and Systems”** - Special Session H-7: “Biomimetic Flow Control in Aquatic and Aerial Systems and its Application to Bioinspired Autonomous Vehicles” - Montecatini Terme, (Italy), 10th June - 14th June 2012. “Bioinspired parylene-coated stress-driven artificial hair cell for flow sensing in air and water.” **Francesco Rizzi**, Antonio Quattieri, Massimo De Vittorio, Elisabetta Primiceri, Gianmichele Epifani, Giuseppe Maruccio - ORAL contribution.
- **IAS-12 - 12th International Conference on Intelligent Autonomous Systems** - Jeju Island (Korea), 26th June – 29th June 2012. - “Bioinspired flow sensors array for Intelligent Autonomous Systems.” **Francesco Rizzi**, Antonio Quattieri, Gianmichele Epifani, Andres Ernits, Maarja Kruusmaa, Massimo De Vittorio - ORAL contribution.
- **MNE 2012 - 38th International Conference on Micro & Nano Engineering (MNE)** - Toulouse (France), 16th September – 20th September 2012 – “Bioinspired flow sensors array for Intelligent Autonomous Systems” Antonio Quattieri, Gianmichele Epifani, Andres Ernits, Maarja Kruusmaa, Massimo De Vittorio, **Francesco Rizzi** - ORAL contribution.
- **BION 2011 – “International Bionic Engineering Conference 2011”** - Boston (USA), 18th September – 20th September 2011. Antonio Quattieri, **Francesco Rizzi**, Lily Chambers, William Megill, Massimo De Vittorio – “Bio-inspired artificial hair cell for flow detection” - ORAL contribution.
- **International Congress on Flow Sensing in Air and Water – Bonn (Germany)**, 17th July – 21st July 2011. **Francesco Rizzi**, Antonio Quattieri, Lily Chambers, William Megill and Massimo De Vittorio - “Stress-driven artificial hair cell for flow sensing” - ORAL contribution.
- **MNE 2010 - 36th International Conference on Micro & Nano Engineering (MNE) - Genoa (Italy)**, 19th September – 22nd September 2010. Antonio Quattieri; **Francesco Rizzi**; Maria Teresa Todaro; Adriana Passaseo; Massimo De Vittorio – “Stress-driven AIN cantilever-based flow sensor for fish lateral line system” - ORAL contribution.
- **E-MRS 2006 Spring Meeting – 2006 European Material Research Society Spring Meeting** – Nice (France), 29th May – 2nd June 2006. **F. Rizzi**, K. Bejtka, E. Gu, M. D. Dawson, I. M. Watson, P. R. Edwards, R. W. Martin – “Processing of N-face GaN for

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microcavity applications" – ORAL contribution

- **UK Nitrides Consortium meeting, University of Strathclyde**, Glasgow (Scotland), 11th – 12th January 2006. **F. Rizzi**, K.Bejtka, E.Gu, M.D.Dawson, I.M.Watson, R.W.Martin – "Processing of N-face GaN for microcavity applications" – ORAL contribution.
- **PLMCN 5 - 5th International Conference on Physics of Light-Matter coupling in Nanostructure**, Glasgow, (Scotland), 8th-11th June 2005. K. Bejtka, **F. Rizzi**, P. R. Edwards, R. W. Martin, E. Gu, M. D. Dawson, I. M. Watson, I. R. Sellers, F. Semond - "Roles for Aluminum Indium Nitride Insertion Layers in Fabrication of GaN-based Microcavities" – ORAL contribution.
- **HCIS 13 - 13th International Conference on Nonequilibrium Carrier Dynamics in Semiconductors**, Modena (Italy) , 28 July - 1 August 2003. **F. Rizzi**, G. Scamarcio and G. Strasser, "Three-terminal mid-IR emitters based on Wannier-Stark ladder transitions in semiconductor superlattices" – ORAL contribution.