

# Giorgio Biasiol

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Date of birth: 12/12/1967 | Nationality: Italian | Gender: Male | (+39) 0403756439 | [biasiol@iom.cnr.it](mailto:biasiol@iom.cnr.it) |

IOM-CNR, AREA Science Park Basovizza, SS 14, Km 163,5, 34149, Trieste, Italy

## ● WORK EXPERIENCE

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15/10/2020 – CURRENT – Trieste, Italy

### **RESEARCH DIRECTOR – CNR-IOM, Laboratorio TASC**

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Direction of the high mobility MBE (Molecular Beam Epitaxy) and magnetotransport laboratories at the IOM-CNR Institute in Trieste, Italy.

<https://www.iom.cnr.it/high-mobility-molecular-beam-epitaxy-hm-mbe> |

AREA Science Park Basovizza, 34149, Trieste, Italy

01/01/2010 – 14/10/2020

### **SENIOR DEVELOPMENT SCIENTIST-TECHNOLOGIST – CNR-IOM, Laboratorio TASC**

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Direction of the high mobility MBE (Molecular Beam Epitaxy) and magnetotransport laboratories at the IOM-CNR Institute in Trieste, Italy.

<https://www.iom.cnr.it/high-mobility-molecular-beam-epitaxy-hm-mbe> |

AREA Science Park Basovizza, 34149, Trieste, Italy

01/12/2001 – 31/12/2009

### **DEVELOPMENT SCIENTIST-TECHNOLOGIST – CNR-IOM, Laboratorio TASC**

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Management of the high mobility MBE (Molecular Beam Epitaxy) and magnetotransport facilities at the TASC IOM-CNR Lab in Trieste, Italy.

AREA Science Park Basovizza, 34149, Trieste, Italy

15/08/1999 – 30/11/2001

### **POST-DOC FELLOW – Laboratorio Nazionale TASC INFM**

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Growth and characterization of high-mobility III-V semiconductors

AREA Science Park Basovizza, 34149, Trieste, Italy

01/08/1998 – 01/09/1999

### **SCIENTIFIC COLLABORATOR – Département de Physique, École Polytechnique Fédérale**

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Epitaxial growth and characterization of semiconductor nanostructures

PH-Ecublens, 1015, Lausanne, Switzerland

01/08/1994 – 31/07/1998

### **GRADUATE STUDENT - ASSISTANT – Département de Physique, École Polytechnique Fédérale**

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Epitaxial growth and characterization of semiconductor nanostructures, teaching assistant in Physics diploma courses.

PH-Ecublens, 1015, Lausanne, Switzerland

17/05/1994 – 30/06/1995

### **HONORARY FELLOW – Synchrotron Radiation Center, University of Wisconsin**

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Synchrotron radiation photoelectron spectroscopy  
3731 Schneider Dr., 53589, Stoughton, WI, United States

01/08/1992 – 31/07/1994

**RESEARCH SPECIALIST** – Department of Chemical Engineering and Materials Science,  
University of Minnesota

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Synchrotron radiation and X-ray photoemission spectroscopy  
421 Washington Ave. SE, 55455, Minneapolis, MN, United States

## ● EDUCATION AND TRAINING

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01/08/1994 – 13/11/1998 – Lausanne, Switzerland

**PH.D. IN PHYSICS** – Département de Physique, École Polytechnique Fédérale

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Epitaxial growth of semiconductors, atomic force microscopy, micro-nanofabrication of semiconductors

**Field(s) of study**

- Physical sciences

01/10/1986 – 10/07/1992 – Trieste, Italy

**BACHELOR DIPLOMA IN PHYSICS (SCORE 110/110 WITH HONOURS)** – Dipartimento di  
Fisica, Università degli Studi di Trieste

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Epitaxial growth of semiconductors, X-ray photoemission spectroscopy

**Field(s) of study**

- Physical sciences

01/10/1981 – 15/06/1986 – Monfalcone (GO), Italy

**SCIENTIFIC HIGH SCHOOL DIPLOMA (SCORE 60/60)** – Liceo Scientifico “Michelangelo  
Buonarroti”

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## ● PUBLICATIONS

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### **Excitons bound by photon exchange**

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Nature Physics (in press).

<https://doi.org/10.1038/s41567-020-0994-6> – 2020

E. Cortese, L. Tran, J.-M. Manceau, A. Bousseksou, I. Carusotto, G. Biasiol, R. Colombelli, and S. De Liberato

### **First observation of the quantized exciton-polariton field and effect of interactions on a single p**

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Science Advances 4, eaao6814 (2018)

<https://doi.org/10.1126/sciadv.aao6814> – 2018

A. Cuevas, B. S. Fernández, J. C. López Carreño, M. de Giorgi, C. S. Muñoz, A. Fieramosca, D. S. Forero, F. Cardano, L. Marrucci, V. Tasco, G. Biasiol, E. del Valle, L. Dominici, D. Ballarini, G. Gigli, P. Mataloni, F. Sciarrino, and D. Sanvitto

### **Perfect energy feeding into strongly coupled systems: polaritonic coherent perfect absorption**

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Nature Physics 10, 830 (2014)

<https://dx.doi.org/10.1038/nphys3106> – 2014

S. Zanotto, F. Mezzapesa, F. Bianco, G. Biasiol, L. Baldacci, M. Vitiello, L. Sorba, Raffaele Colombelli, and A. Tredicucci

## Imaging Fractional Incompressible Stripes in Integer Quantum Hall Systems

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Phys. Rev. Lett. 108, 246801 (2012)

<https://dx.doi.org/10.1103/PhysRevLett.108.246801> – 2012

N. Paradiso, S. Heun, S. Roddaro, L. Sorba, F. Beltram, G. Biasiol, L. N. Pfeiffer and K. W. West

## Compositional Mapping of Semiconductor Quantum Dots and Rings

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Physics Reports 500, 117 (2011)

<https://dx.doi.org/10.1016/j.physrep.2010.12.001> – 2011

G. Biasiol and S. Heun

## Correlation-Induced Single Flux-Quanta Penetration in Quantum Rings

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Nature Physics 6, 173 (2010)

<https://dx.doi.org/10.1038/nphys1517> – 2010

J. M. Giesbers, U. Zeitler, M. I. Katsnelson, D. Reuter, A. D. Wieck, G. Biasiol, L. Sorba, and J.C. Maan

## Sub-cycle switch-on of ultrastrong light-matter interaction

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Nature 458, 178 (2009)

<https://dx.doi.org/10.1038/nature07838> – 2009

G. Günter, A. A. Anappara, J. Hees, L. Sorba, G. Biasiol, S. De Liberato, C. Ciuti, A. Tredicucci, A. Leitenstorfer, and R. Huber

## Rabi splitting of intersubband cavity polaritons

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Phys. Rev. Lett. 90, 116401 (2003)

<https://dx.doi.org/10.1103/PhysRevLett.90.116401> – 2003

D. Dini, R. Köhler, A. Tredicucci, G. Biasiol, L. Sorba, and F. Beltram

## Mechanisms of self-ordering of quantum nanostructures grown on nonplanar surfaces

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Phys. Rev. Lett. 81, 2962 (1998)

<https://doi.org/10.1103/PhysRevLett.81.2962> – 1998

G. Biasiol and E. Kapon

## Microscopic Capacitors and Neutral Interfaces in III-V/IV/III-V Semiconductor Heterostructures

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Phys. Rev. Lett. 69 (8), 1283 (1992)

<https://doi.org/10.1103/PhysRevLett.69.1283> – 1992

G. Biasiol, L. Sorba, G. Bratina, R. Nicolini, A. Fanciosi, M. Peressi, S. Baroni, R. Resta, and A. Baldereschi

## ● PROJECTS

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01/04/2019 – CURRENT

### **FET OPEN "AndQC (Andreev qubits for scalable quantum computation)"**

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IOM CNR coordinator

05/02/2017 – 04/02/2020

### **PRIN 2015 "Rivelatori di raggi X in semiconduttori ad alto numero atomico per sorgenti di nuova ge"**

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IOM CNR coordinator

01/01/2017 – CURRENT

### **FET OPEN "MIR-BOSE (Mid- and far-IR optoelectronic devices based on Bose-Einstein condensation)"**

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CNR coordinator

## ● HONOURS AND AWARDS

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### Honours and awards

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Winner of the "Young Author Best Paper Award", 24th International Conference on the Physics of Semiconductors, Jerusalem (Israel), August 2-7, 1998.

## ● WORK ACTIVITY

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### Responsibilities

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As head of the Leader of the HMMBE group (High Mobility Molecular Beam Epitaxy) at IOM-CNR, consisting normally of three to five people, I am involved in several projects aimed both to basic science and to technological innovation, in fields such as photonics, development of semiconductor nanostructures, coherent transport, biosensors, spintronics, plasmonics, large infrastructures support (Elettra Synchrotron), surface science.

My main activity consists both in the technical management of the lab and in the development of materials and devices, in collaboration with Italian and international researchers working in the above-mentioned fields, within common projects or commercial contracts.

These competences led me to join various advisor and strategic panels within national and international institutions.

### Achievements

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- Coordinator/local coordinator for 9 National research projects, 2 EU H2020 project and 4 commercial contracts.
- Involved in more than 20 National and European research projects and commercial contracts.
- Member of the International Foresight Science & Technology Group of the Italian National Research Council (CNR).
- Delegate of the IOM-CNR Institute at the Italian Technological Platform for Photonic Sources and Sensors.
- Expert Pool member of the European Photovoltaic Technology Platform.
- Expert evaluator for: ENI CBC-MED ERA-NET, Italian MIUR and MiSE, FNRS and FWO (Belgium), COST, NKFIH (Hungary), TACR (Czech).
- Member of the teachers board, Doctorate School in Nanotechnology, University of Trieste, Italy.
- Co-organizer of the 18th European Molecular Beam Epitaxy Workshop, March 2015.
- Member of the Editorial Boards of: Journal of Materials Science & Nanotechnology (AnnexPublishers, USA), International Journal of Material Science (World Academic Publishing); DatasetPapers in Condensed Matter Physics (Hindawi Publishing Corp.), Materials (MDPI Publisher), AppliedSciences (MDPI Publisher), International Journal of Physics (MDPI Publisher)
- Guest Editor, Materials (MDPI Publisher); special issue "Epitaxial Materials"
- Editorial Referee for over 20 ISI journals

## ● BIBLIOMETRIC INFORMATION

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### Bibliometric information

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Author of more than 180 papers on peer reviewed international journals and 5 invited papers and book chapters.

h-index: 28 (Scopus), 27 (ISI-WoS), 33 (Google Scholar)

ORCID:<http://orcid.org/0000-0001-7974-5459>

ResearcherID: C-5465-2009,<http://www.researcherid.com/rid/C-5465-2009>

Google Scholar:<http://scholar.google.it/citations?user=HrGAeroAAAAJ&hl=it&oi=ao>

## ● PATENTS

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### Patents

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"Position and mass detector by means of surface acoustic waves", Italian National Patent (2011)