CURRICULUM VITAE ***Mircea GUINA***

- **PERSONAL INFORMATION**

Family name, First name: GUINA, Mircea
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- **EDUCATION**

2002 PhD in Physics (laser technology) – graduated on 11.12.2002
Faculty of Physics, Tampere University of Technology, Finland
1997 Master in Photonics, University POLITEHNICA of Bucharest, Romania

- **EMPLOYMENT TRACK**

2008 – Professor, Tampere University (Tampere University of Technology until 2018)
2005 – 2008 Senior researcher, Optoelectronics Research Centre, Tampere University of Technology
2003 – 2005 Postdoc, Optoelectronics Research Centre, Tampere University of Technology
1999 – 2002 Post-grad student, Optoelectronics Research Centre, Tampere University of Technology
1997 – 1999 Teaching assistant (optoelectronics), University POLITEHNICA of Bucharest, Romania

- **MAJOR FUNDING**

Since 2010, the estimated project funding as PI is more than 13.5 M€, covering 4 H2020 projects funded by the European Commission, 6 projects funded by the Academy of Finland, 4 by the European Space Agency, and 8 by the Finnish Funding Agency for Innovation. Grantee of an ERC Advanced Grant (AMETIST, 2017-2022; 2.5 M€). Key contributor to several large ecosystem projects, including PRAIN Flagship program.

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2008 – 2023 Supervisor of more than **25 postgraduate students**: 21 theses completed, 5 to be completed during 2023/2025; Supervisor of 14-16 postdoctoral researchers.

- **TEACHING ACTIVITIES**

2020 – Optoelectronics Technology and Devices, undergraduate & postgraduate, one period, 5 c.u.
2020 – Applications of Lasers, shared responsibility, undergrad. & postgraduate, one period, 5 c.u.
2019 – Physics of Optoelectronics, undergraduate & postgraduate, one period, 5 c.u.
2014 – 2018 Responsible for a postgraduate course on "Basic Semiconductor Technology".
2001 – 2013 Photonics and Optical Communications, lectures and seminars
1997 – 1999 Laboratory and exercises sessions in Optoelectronics, University Politehnica of Bucharest

- **AWARDS AND FELLOWSHIPS**

2023 Innovation Professor of Year 2023, the leading Finnish award for academic innovation
2018 Optica (OSA) Fellow, SPIE Fellow
2015/11 "Distinguished Researcher" prize awarded by Finnish Industrial Research Fund
2015/02 "Excellence in Research prize", 50 000 € grant awarded with the occasion of the 50th anniversary of the Tampere University of Technology
2014 International visiting professor fellowship, CAPES Foundation, Brazil

- **ORGANISATION OF SCIENTIFIC MEETINGS**

2023 Program Chair, *"Advances in 3OM"*, SPIE Conference 2023, Timisoara, Romania
2022 Chair of the *"11th VECSELs Conference"*, SPIE Photonics West 2022, San Francisco, USA
2016/2018 Co-chair of the "Conference on Infrared Technology and Applications", OTA, Beijing
2015 Chair of the *"5th VECSELs Conference"*, SPIE Photonics West 2015, San Francisco, USA
2013 Chair and organizer of the "*17th European MBE Workshop*", Euro-MBE, Levy, Finland
2012 Co-organizer of a COST Workshop "*Site Controlled Epitaxy*", Greece
2001 – *Founder and Director* of the Markus Pessa International Summer School "*New Frontiers in Optical Technologies*" (2001/2003/2005/2007/2009/2011/2013/2015/2017/2019/2023).

- **COMMISSIONS OF TRUST**

2015 – 2021 Topical Editor, Optics Letters, OSA
2015 – 2021 Topical Editor, Journal of the European Optical Society, EOS
2016 – 2023 Chairman of the Academic Advisory Board of *Photonics Finland*
2011 – 2013 Chairman and Grant Holder of the COST Action MP0805

As member of conference boards (more than 30 international committees; recent selection given)

2023/2024 Chairman of the European sub-committee, International Semiconductor Laser Conference.
2021 Topic Chair, European Microelectronics and Packaging Conference (EMPC 2021)
2021 Program committee member ECOC 2020, September 2021, Bordeaux
2020 Program committee of the IEEE International Semiconductor Laser Conference (ISLC 2021)
2020 Program committee member ECOC 2020, December 2020, Brussels
2019 Program committee member (semiconductor lasers), CLEO/Europe IQEC 2019, Germany
2018 Program committee member ECOC 2018, 23-17 September, Rome
2018 Permanent member of the International Advisory Board, International MBE Conference
2017 Program committee member ECOC, 18-20 September, Gothenburg
2017 Program committee member (semiconductor lasers), CLEO/Europe IQEC 2017
2015 Permanent member of the Scientific Board of the European MBE Workshop

Reviewer of large projects and PhD theses

2021 Opponent PhD thesis at LAAS-CNRS, Toulouse, France
2020 Opponent PhD thesis at Institut d'Optique, Paris, France
2019/'17/'15 External reviewer for European Research Council Executive Agency (ERC grants)
2019 Opponent PhD thesis at Rennes University, France
2018/2014 Opponent of two PhD thesis at ETH Zurich, Switzerland
2017 Member of the evaluation panel, Swedish Foundation for Strategic Research
2017/2016 Evaluator for the "Agence Nationale de la Recherche", France
2017/2015 Evaluator for National Science Centre Poland and Swiss Science Foundation
2014 Opponent of a PhD thesis at Oulu University, Finland
2012 Opponent of a PhD thesis at Chalmers University of Technology, Sweden
Since 2009 External reviewer of 8 PhD theses at Aalto Univ., Univ. of Turku, and Oulu Univ.

Other commissions of trust

2018 – 2022 Member of Photonics21 Board of Stakeholder, representing Tampere University
2017 – Chairman & CSO at *Vexlum Oy*
2015 – Chairman & CSO at *Picophotonics Oy*
2005 – Chairman at *RefleKron Oy*

- **SUMMARY OF THE MAIN SCIENTIFIC ACTIVITIES AND PUBLICATIONS**
  - ✓ Over 260 refereed journal articles, *h-index* = 34 WoS
  - ✓ More than 300 papers in international conference proceedings
  - ✓ More than 35 invited talks at international conferences (e.g. Photonics West, CLEO, MRS, EuroMBE)
  - ✓ Frequently invited for seminars at leading photonics research laboratories (mainly in Europe)
  - ✓ Author of 9 book chapters, 5 granted patents, and several patent applications.

- **MAJOR RESEARCH CONTRIBUTIONS**

High-power laser technology and applications

- ✓ Pioneering work on *cw GaInNAs*-based VECSELs at 1.2/1.5 μm
- ✓ Pioneering work on high-power yellow-orange VECSELs
- ✓ Demonstration of the first ultrafast GaAs quantum-well VECSEL at visible wavelengths
- ✓ Demonstration of the first ultrafast GaSb VECSEL at 2 μm
- ✓ Development of VECSEL-based yellow laser system for dermatology (with clinical trials)

Optoelectronic devices and nanostructures

- ✓ First demonstration of a 2.6 μm GaSb/Si hybrid lasers tuneable with a silicon-photonics chip
- ✓ First demonstration of 1.3 μm GaInNAs quantum well laser diode grown on Ge substrate
- ✓ Leading results on broadband GaSb-based superluminescent diodes at >2 μm
- ✓ Pioneering work on nonlinear dynamics of 2 μm GaSb SESAMs (mode-locking of new types of lasers)
- ✓ Leading results on multijunction monolithic solar cells based on GaInNAsSb

Fundamentals of epitaxy

- ✓ Understanding on growth dynamics in MBE of GaInNAsSb alloys (leading European competence)
- ✓ Fundamental experiments concerning epitaxy of GaAsBi and GaSbBi alloys.