

# Giuseppe Cantarella

## 1. Curriculum Vitae

### • PERSONAL INFORMATION

Family name, first name: Cantarella Giuseppe  
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Date of birth: December 4<sup>th</sup>, 1989  
Nationality: Italy  
ORCID: <https://orcid.org/0000-0002-6398-601X>  
Google Scholar: <https://scholar.google.it/citations?user=bbBakRMAAAAJ&hl=it&oi=ao>  
Research institution: University of Modena and Reggio Emilia, Via Campi 213/A, 41125, Modena, Italy  
URL for web site: <http://personale.unimore.it/rubrica/dettaglio/gcantarella>

### • EDUCATION

- 2013 - 2018 **PhD in electrical engineering:** ETH Zürich (Switzerland)  
“Stretchable Oxide Semiconductor Transistors and Circuits” (Prof. Dr. G. Tröster)  
Certificate: Dr. sc. ETHZ (PhD)
- 2011 - 2013 **Joint Master in “Nanotechnologies for ICTs”:** Polytechnic of Turin (Italy), INP Grenoble (France), EPF Lausanne (Switzerland)  
**Diploma thesis:** Nanofabrication and Optical Characterization of a 3 Dimensional (3D) Optical Transformer – Lawrence Berkeley National Laboratory, Molecular Foundry (Berkeley USA)
- 2009 - 2011 **Joint Diploma in “Information Technology Engineering”:** Polytechnic of Turin (Italy), Polytechnic of Milan (Italy), Tongji University of Shanghai (China).

### • CURRENT AND PREVIOUS POSITIONS

- Nov 2022 on: Fixed-term contract Researcher (RTD-b), Experimental Physics, Department of Physics, Informatics and Mathematics, University of Modena and Reggio Emilia (Italy)
- 2020 - 2022: Fixed-term contract Researcher (RTD-a), Physics of Matter, Faculty of Science and Technology, Free University of Bozen/Bolzano (Bolzano, Italy)
- 2019- 2020: Postdoctoral Researcher, Nanomaterials Engineering Research group, ETH Zürich (Zürich, Switzerland)
- 2018 – 2020: Postdoctoral Researcher, Sensing Technologies Laboratory: Faculty of Science and Technology, Free University of Bozen/Bolzano (Bolzano, Italy)
- 2013 – 2018: Research and teaching assistant: Electronics Laboratory, Department for information technology, ETH Zürich (Zürich, Switzerland)
- Feb-Aug 2013: Student Researcher Assistant: Molecular Foundry, Lawrence Berkeley National Lab (LBNL) (Berkeley, USA)
- May-Sep 2012: Student Researcher Assistant: Institute for Microelectronics and Microsystems, National Research Council (Catania, Italy)
- Feb-Jul 2011: Student Researcher Assistant: Remote Sensing Group, Polytechnic of Turin (Turin, Italy)

### • RESEARCH PROJECTS

- *V-SaFE: Vitriimer-based Sustainable Flexible Electronics*, Luxembourg/South-Tyrol Joint Project, **Role:** Principal Investigator (2023-2025) [my share: 287 k€]. **Luxembourg Partner:** Green Polymers Group, Luxembourg Institute of Science and Technology (LIST), Luxembourg.
- *Biodegradable thin film electronics for massively deployable and sustainable Internet of Things applications*, Italian Ministry of Education and Research, call “PRIN: Research Projects of Relevant National Interest”, **Role:** Team member. **Partner:** Free University of Bozen-Bolzano, Università Ca’ Foscari Venice, University of Modena and Reggio Emilia, Italy.

- *iNEST: Interconnected Nord-Est Innovation Ecosystem*, Italian Ministry of Education and Research within the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2 on “Innovation Ecosystems”, **Role:** Team Member (2022-2025) [my share: 53 k€]. **Partner:** University of Padova (HUB), University of Trento, University of Verona, University of Venice, University IUAV of Venice, University of Trieste, University of Udine.
- *FLEXIBOTS: Flexible Electronics meets  $\mu$ -Robotics: Route for Augmented Bio-Intelligent Medical Treatments*, Switzerland/South-Tyrol Joint Project, **Role:** Principal Investigator (2021-2023) [my share: 268 k€]. **Swiss Partner:** Multi-Scale Robotics Lab (ETH Zurich) and Center for Project-Based Learning D-ITET (ETH Zurich).
- *ICC: Integrated flexible sensor conditioning circuits for high performance wearables*, The Royal Society International Exchange Scheme (United Kingdom), **Role:** Team Member (2021-2023) [overall project: 11.9 k€]. **English partner:** University of Sussex.
- *FERMI: Flexible Electronics-integRATED Micromachines*, RTD Call 2020 Science and Technology Faculty at the Free University of Bozen-Bolzano, **Role:** Principal Investigator (2020-2022) [my share: 13.7 k€].
- *Semiconductor Device Physics Laboratory*, European Regional Development Fund (EFRE/FESR) (2020-2022), **Role:** Team Member.
- *SMArTE: Search for Market Applications of Thin-film Electronics*, Interdepartmental Project Free University of Bolzano-Bozen (2020-2023), **Role:** Work Package Coordinator [overall project: 94.4 k€].
- *WISDOM II: Wireless Indium-Gallium-Zinc-Oxide transceivers and devices on mechanically-flexible thin-film substrates*, DFG, External Partner (2019-2022), **Role:** Team Member. **German Partner:** Chair of Circuit Design and Network Theory, Technical University Dresden (TUD).
- *WISDOM: Wireless Indium-Gallium-Zinc-Oxide transceivers and devices on mechanically-flexible thin-film substrates*, DFG/SNF project: 2015-2018, WP 1: “InGaZnO technology”, **Role:** Team Member. **German Partner:** Chair of Circuit Design and Network Theory, Technical University Dresden (TUD).
- *FLEXI-BILITY: Flexible Multifunctional Bendable Integrated Light-Weight Ultra-Thin Systems*, EU FP7 project: 2011-2015, WP 4: “Technologies for circuits”, **Role:** Team Member. **Partner:** Chair of Circuit Design and Network Theory, Technical University Dresden (TUD) (Germany).
- *EYRE: Environmentally-friendly Electronics on Paper*, RTD Call 2018 Science and Technology Faculty at the Free University of Bozen-Bolzano (2019-2022), **Role:** Team Member.
- *SSP: Sustainable Smart Parasites*, Interdepartmental Project Free University of Bolzano-Bozen (2018-2021), **Role:** Team Member.
- *STEX: smart Textile for monitoring muscles activity*, European Regional Development Fund (EFRE/FESR) 4<sup>th</sup> Call (2019-2022), **Role:** Team Member.
- *SENSLAB: Sensing Laboratory*, European Regional Development Fund (EFRE/FESR) (2012-2020), **Role:** Team Member.

## • SUPERVISION OF JUNIOR RESEARCHERS

- Supervision and co-supervision of 6 PhD students, and 3 Post-Docs, at the Free University of Bozen-Bolzano (Italy) and at the University of Modena and Reggio Emilia (Italy).
- Supervision and co-supervision of >10 postgraduate student, at ETH Zurich (2013-18) and at the Free University of Bozen-Bolzano (dal 2018).

## • TEACHING ACTIVITIES

- Physics:
- Course Title: *Fundamentals of Physics*, B.Sc., SSD FIS/03, Academic Year: 2019-20, 2020-21, 2021-22, Free University of Bozen-Bolzano (Italy);
  - Course Title: *Physics I*, B.Sc., SSD FIS/01, Academic Year: 2022-23, Free University of Bozen-Bolzano (Italy);
  - Course Title: *Physics*, B.Sc., SSD FIS/01, Academic Year: 2022-23, University of Modena

and Reggio Emilia (Italy).

- Course Title: *General Physics*, B.Sc., SSD FIS/03, Academic Year: 2022-23, 2023-24, 2024-25, University of Modena and Reggio Emilia (Italy).

Electrical engineering:

- Course Title: *Sensor and Biosensor for Food Processing*, M.Sc., SSD ING-INF/01, Academic Year: 2019-20, Free University of Bozen-Bolzano (Italy).

Reference Lecturer for the B.Sc. in *Electronics and Cyber-Physical Systems Engineering*, Year: 2022, Free University of Bozen-Bolzano (Italy).

#### • MEMBERSHIPS IN BOARDS & REVIEWING ACTIVITIES

- 2024 Guest Topic Editor of *MRS Advances*, Special Issue on "Progress in Unconventional Electronics and Sustainable Flexible Sensing Technologies"
- 2024 Guest Topic Editor of *IEEE Journal on Flexible Electronics (J-FLEX)*, Special Issue on "Circular, Sustainable, and Green Electronics"
- August 2021 Guest Topic Editor of *Frontiers in Electronics*, Special Issue "Flexible Oxide Semiconductor Based Thin-Film Transistors and Circuits"
- Since 2021 Italian Society of Electronics (SIE) membership.
- Since 2021 IEEE Membership, IEEE Electron Devices Society membership.
- Since 2020 Associate Editor of *Frontiers in Electronics*
- Since 2019 Guest Editor of *MDPI Electronics*, Special Issue "Environmentally Friendly Electronics Devices"
- Since 2019 Guest Editor of *MDPI Sensors*, Special Issue "Flexible and Stretchable Electronic Sensors"
- Reviewer for Publications >40 scientific journals including: ACS Appl. Mater. & Inter.; Adv. Funct. Mat.; Adv. Mater. Inter.; AIP Adv.; Appl. Phys. Lett.; IEEE Electron Device Lett.; IEEE Trans. Electron Devices; IEEE Journ. of the Elect. Dev. Soc.; IEEE Trans. on Nanotechnology; IOP Semic. Sci. and Tech; Solid State Electronics; etc.

#### • ATTENDANCE AND ORGANIZATION OF CONFERENCES

- 2014 Publication Chair at the *11<sup>th</sup> International Conference on Wearable and Implantable Body Sensors Networks 2014 (BSN2014)*, 16<sup>th</sup> – 19<sup>th</sup> June 2014, Zürich (Switzerland)
- 2015 Poster presentation at the *581. WE-Heraeus-Seminar: Flexible, Stretchable and Printable High Performance Electronics*, 12<sup>th</sup> – 14<sup>th</sup> January 2016, Bad Honnef (Germany). Poster title: *Wrinkle formation on PDMS substrate for wavy IGZO-TFTs*
- 2015 Speaker at the "*11<sup>th</sup> International Thin-Film Transistor Conference (ITC15)*", 26<sup>th</sup> – 27<sup>th</sup> February 2015, Rennes (France). Presentation title: *Wrinkled IGZO-TFTs on Flexible PDMS Substrate*
- 2016 Speaker at the "*Trends in Nanotechnology International Conference (TNT2016)*", 5<sup>th</sup> – 9<sup>th</sup> September 2016, Fribourg (Switzerland). Presentation title: *Highly stretchable electronic devices using non-standard geometries*
- 2016 Poster presentation at the "*12<sup>th</sup> International Thin-Film Transistor Conference (ITC16)*", 25<sup>th</sup> – 26<sup>th</sup> February 2016, Hsinchu (Taiwan). Poster title: *Tunable wrinkle formation of PDMS for stretchable IGZO TFTs*.

- 2017 Speaker at the "13<sup>th</sup> International Thin-Film Transistor Conference (ITC17)", 23<sup>th</sup> – 24<sup>th</sup> February 2017, Austin (Texas, USA). Presentation title: *Highly stretchable electronics using non-standard substrate geometry*
- 2017 Poster presentation at the "Swiss E-Print", 26<sup>th</sup> – 27<sup>th</sup> February 2017, Basel (Switzerland). Poster title: *Design and fabrication of engineered substrate for highly stretchable electronic devices*
- 2018 Speaker at the "IEEE International Flexible Electronics Technology Conference 2018 (IFETC 2018)", 7<sup>th</sup> – 9<sup>th</sup> August 2018, Ottawa (Canada). Presentation title: *Flexible Green Perovskite Light-Emitting Diodes*
- 2021 Speaker at the "28<sup>th</sup> International Conference Mixed Design of Integrated Circuits and Systems (MIXDES 2021)", 24<sup>th</sup> – 26<sup>th</sup> June 2021, Lodz (Poland). Presentation title: *Mechanical and Electrical Design Strategies for Flexible InGaZnO Circuits.*
- 2022 Invited Speaker at the "IEEE Nanotechnology Council (NTC) Student Chapter ", 21<sup>st</sup> April 2022. Presentation title: *Flexible Electronics: Physics, Materials and Devices for a new Technological Paradigm.*
- 2022 Invited Speaker at the "4<sup>th</sup> IEEE International Flexible Electronics Technology Conference (IFETC) 2022", 21<sup>st</sup> – 24<sup>th</sup> August 2022, Qingdao (China). Presentation title: *Flexible, Scalable and Buckled Electronics based on Oxide Thin-Film Transistors*
- 2022 Technical Program Committee (TPC) Member at "IEEE International Conference on Emerging Electronics (IEEE ICEE) 2022", 11<sup>th</sup>-14<sup>th</sup> December 2022, Bangalore (India)
- 2022 Invited Speaker at the "17<sup>th</sup> International Thin-Film Transistor Conference (ITC) 2022", 14<sup>th</sup> – 16<sup>th</sup> September 2022, Surrey (United Kingdom). Presentation title: *Large-area Circuits and Strain-Resistant Devices based on Oxide Thin-Film Technology*
- 2023 Invited Speaker at the "SCDT – FlexE Center Webinar Series", 11<sup>th</sup> April 2023, online. Presentation title: *Unconventional Electronic Devices: from Flexible to Circular Devices and Circuits.*
- 2023 Invited Speaker at the "5<sup>th</sup> IEEE International Flexible Electronics Technology Conference (IFETC) 2023", 13<sup>th</sup> – 16<sup>th</sup> August 2023, San Jose (USA). Presentation title: *Unobtrusive Thin-Film Devices and Sustainable Green Electronics*
- 2024 Symposium Organizers at the "European Materials research Society (E-MRS) Spring Meeting", 27<sup>th</sup> – 31<sup>st</sup> May 2024, Strasbourg (France). Symposium title: *Progress in Unconventional Electronics and Sustainable Flexible Sensing Technologies*
- 2024 Tutorial & Short-Courses Chairs at the "6<sup>th</sup> IEEE International Flexible Electronics Technology Conference (IFETC) 2024", 15<sup>th</sup> – 18<sup>st</sup> September 2024, Bologna (Italy).

I have presented the results of my research to the community in 48 conferences as invited speaker, main speaker and co-author, including: ITC 2022, IEEE IFETC 2022, MIXDES 2021, IEEE EDTM 2021, TMS 2021, CAD-TFT 2020, IEEE ISCAS 2020, IEEE FLEPS 2019, ISFOE 2019, IEEE IFETC 2019, COMCAS 2017, ITC 2015, 2016 and 2017, ESSDERC 2016, IEEE Sensors 2015, IEDM 2014 and 2017, IEEE EMBS 2015.

- **PRIZE AND AWARDS**

- 2016 Poster Paper Award at the "11th International Thin-Film Transistor Conference 2016 (ITC16)", 26<sup>th</sup> – 28<sup>th</sup> February 2016, Hsinchu (Taiwan)
- 2018 Outstanding Student Paper Award at the "IEEE International Flexible Electronics technology Conference 2018 (IFETC 2018)", 7<sup>th</sup>-9<sup>th</sup> August 2018, Ottawa (Canada)

- **OTHERS**

- Since 2023 Member of the *PhD Program in Physics and Nanoscience*, University of Modena and Reggio Emilia (Italy)
- 2022 ASN National Qualification as Associate Professor – Sector: 09/E3 – Electronics
- 2021 German Language Certificate B1 - Inlingua Sprachcenter Tyrol.
- Since 2020 Member of the *Advanced System Engineering (ASE) PhD Committee*, 2020-22 – Free University of Bozen/Bolzano (Italy)
- 2020 ASN National Qualification as Associate Professor – Sector: 02/B1 – Experimental Physics of Matter
- Since 2015 Newspapers and journals about Giuseppe Cantarella:
- 1) Interview for [www.electronicsforu.com](http://www.electronicsforu.com). Language: ENG.  
*Hybridisation and Thin-Film Sensors Key Enablers of Flexible Electronics Today*.  
Link : <https://www.electronicsforu.com/technology-trends/hybridisation-thin-film-sensors-key-enablers-flexible-electronics-today/2>
  - 2) News on the Joint project between the group of Giuseppe Cantarella (at the Free University of Bozen-Bolzano, Italy) and ETH Zurich (Switzerland). Language: DEU. Website: [www.dervinschger.it/de/](http://www.dervinschger.it/de/).  
*Forschungspartnerschaft mit der Schweiz: Erste drei Projekte genehmigt*.  
Link: <https://www.dervinschger.it/de/news/forschungspartnerschaft-mit-der-schweiz-erste-drei-projekte-genehmigt-7007>
  - 3) News on the Joint project between the group of Giuseppe Cantarella (at the Free University of Bozen-Bolzano, Italy) and ETH Zurich (Switzerland). Language: ITA. Website: [www.gazzettadellevalli.it](http://www.gazzettadellevalli.it).  
*Ricerca, partnership Alto Adige-Svizzera: approvati i primi tre progetti*  
Link: <https://www.gazzettadellevalli.it/attualita/ricerca-partnership-alto-adige-svizzera-approvati-i-primi-tre-progetti-292413/>
  - 4) Podcast/Interview for *Deutschlandfunk* on paper "Laser-Induced, Green and Biocompatible Paper-Based Devices for Circular Electronics". Language: DEU. Website: [www.deutschlandfunk.de/](http://www.deutschlandfunk.de/)  
*Dank Laserbehandlung leitfähig. Gedruckte Elektronik aus Obstabfällen*  
Link: <https://www.deutschlandfunk.de/dank-laserbehandlung-leitfaehig-gedruckte-elektronik-aus-obstabfaellen-dlf-2c70b445-100.html>
  - 5) Interview for the *University of Bozen-Bolzano (Italy)* on paper "Laser-Induced, Green and Biocompatible Paper-Based Devices for Circular Electronics". Language: ITA/DEU.  
Link (ITA): <https://www.unibz.it/en/home/newsroom/press-releases/elektronikkomponenten-aus-obstabfaellen>  
Link (DEU): <https://www.unibz.it/de/news/article/elektronikkomponenten-aus-obstabfaellen>
  - 6) Interview for *Il Sole 24 ore* (national Italian newspaper) on the ongoing research in the field of green and circular electronics and on the paper "Laser-Induced, Green and Biocompatible Paper-Based Devices for Circular Electronics". Language: ITA.

7) Book for secondary school *Tecnologia Verde* (Zanichelli, ISBN: 978.88.08.95075.8 ) reporting the results of the paper "Laser-Induced, Green and Biocompatible Paper-Based Devices for Circular Electronics". Language: ITA.

## 2. Major scientific achievements (last 5 years)

### • RESEARCH ACTIVITIES and EXPERTISE

I am working on the design, fabrication and characterization of devices, sensors, active electronics (transistors, analog and digital circuits) and systems, based on different technologies (thin-film, printing and others), using polymeric and plastic foil as mechanically flexible substrates. This expertise requires the use of a large variety of equipment for **physical, morphological and structural characterization of materials** (i.e. Raman Spectroscopy, Scanning Electron Microscope, Atomic Force Microscope, Ellipsometer, Focus Ion Beam, Transmission Electron Microscope, profilometer, Sheet resistance set-up, reflectometer, optical microscope), **material deposition** (Physical Sputtering, thermal and electron-beam evaporation, Plasma Enhanced Chemical Vapor Deposition (PECVD), Atomic Layer Deposition (ALD), for vacuum-based technology; spray coating, screen printing, dispense printing, for printing technology), **structuring methods** (Photolithography, shadow masking, dry and wet etching, lasing), and **device characterization** (optical, electrical, mechanical and chemical). The flexibility of the employed substrate, in combination with the functionality of the electronic devices, allowed me to work on a broad range of applications, varying from smart agriculture, wearables, robotics and green devices. My research is focused on three main topics:

**Highly-Flexible thin-film devices and circuits:** development of engineered substrates and fabrication methods, to achieve functional thin-film sensors, transistors and circuits on stretchable substrates, based on inorganic technology, for unobtrusive, epidermal and imperceptible electronics.

**Flexible Systems and Large-area electronics:** design, fabrication and characterization of thin-film analog and digital circuits for large-scale ( $> 1 \text{ mm}^2$ ) and high-complexity (number of transistors  $> 30$ ) electronics on plastic and flexible foils. In addition, integration between different technologies, including oxide-based thin-film devices, Perovskite-based Light Emitting Diodes (LEDs) and giant magnetoresistive (GMR) sensors, has been achieved and reported in different of my peer-reviewed publications.

**Green Systems and Smart Robotics:** employment of novel, functional, green and biocompatible materials, in combination with low cost and large area fabrication methods, for the realization of dissolvable and environmentally-friendly electronics and smart microrobotics.

This research activity is demonstrated by peer-reviewed journals and conference proceedings in collaboration with different research institutes:

- the California Institute of Technology (Caltech) (USA);
- the University of Sussex (United Kingdom);
- Imperial College of London (United Kingdom);
- Technical University of Munich (TU München) (Germany);
- Stanford University (USA);
- Technical University of Dresden (TU Dresden) (Germany);
- the Leibniz Institute for Solid State and Materials Research Dresden (IFW Dresden, Germany);
- ETH Zurich (Switzerland);
- University of Nottingham (United Kingdom);
- the University of Padua (Italy);
- Italian Institute of Technology (IIT) (Genova, Italy).

## • PUBLICATIONS

In total >90 peer reviewed publications in journals and conference proceedings:

N. of citations: 2485 (Google Scholar)	H-index: 25	i10-index: 41
First author: 10	Conference proceedings: 37	Journals: 59
Last/corresponding author: 9	Invited review papers: 5	

Recent cover pages featuring my research:



## • MOST IMPORTANT PUBLICATIONS

- G. Cantarella, C. Vogt, R. Hopf, N. Münzenrieder, P. Andrianakis, L. Petti, A. Daus, S. Knobelspies, L. Büthe, G. Tröster, and G.A. Salvatore. Buckled thin-film transistors and circuits on soft elastomers for stretchable electronics. In *ACS Applied Materials & Interfaces*, pp. 28750–28757, DOI: 10.1021/acsami.7b08153, 2017.
- G. Cantarella, N. Münzenrieder, L. Petti, C. Vogt, L. Büthe, G.A. Salvatore, A. Daus, and G. Tröster. Flexible In-Ga-Zn-O thin-film transistors on elastomeric substrate bent to 2.3% strain. In *IEEE Electron Device Letters*, pages 781–783, DOI: 10.1109/LED.2015.2442271, 2015.
- N. Münzenrieder, G. Cantarella, C. Vogt, L. Petti, L. Büthe, G. A. Salvatore, Y. Fang, R. Andri, Y. Lam, R. Libanori, D. Widner, A. R. Studart, and G. Tröster. Stretchable and Conformable Oxide Thin-Film Electronics. In *Advanced Electronic Materials*, vol. 1, pp. 1400038, DOI: 10.1002/aelm.201400038, 2015.
- G. Cantarella, V. Costanza, A. Ferrero, R. Hopf, C. Vogt, M. Varga, L. Petti, N. Münzenrieder, L. Büthe, G.A. Salvatore, A. Claville, L. Bonanomi, A. Daus, S. Knobelspies, C. Daraio, and G. Tröster. Design of engineered elastomeric substrate for stretchable active devices and sensors. In *Advanced Functional Materials*, pp. 1705132, DOI: 10.1002/adfm.201705132, 2018.
- G. Cantarella, K. Ishida, L. Petti, N. Münzenrieder, T. Meister, R. Shabanpour, C. Carta, F. Ellinger, G. Tröster, and G.A. Salvatore. Flexible In-Ga-Zn-O based circuits with two and three metal layers: simulation and fabrication study. In *IEEE Electron Device Letters*, pp. 1582–1585, DOI: 10.1109/LED.2016.2619738, 2016.
- G. Cantarella, S. Kumar, C. Vogt, S. Knobelspies, A. Takabayashi, J. Jagielski, N. Münzenrieder, A. Daus, L. Petti, G. Salvatore, P. Lugli, C. J. Shih, and G. Tröster. Flexible Green Perovskite Light Emitting Diodes. In *IEEE Journal of the Electron Devices Society*, pages 769–775, DOI: 10.1109/JEDS.2019.2913765, 2019.
- F. Catania, H. Oliveira, M. A. Costa Angeli, M. Ciocca, S. Pané, N. Münzenrieder and G. Cantarella. The Influence of Climate Conditions and On-Skin Positioning on InGaZnO Thin-Film Transistor Performance. In *Frontiers in Electronics*, DOI: 10.3389/felec.2021.786601, 2022.
- G. Cantarella, J. Costa, T. Meister, K. Ishida, C. Carta, F. Ellinger, P. Lugli, N. Münzenrieder, L. Petti. Review of recent trends in flexible metal oxide thin-film transistors for analog applications. In *Flexible and Printed Electronics*, 5 (3), 033001, DOI: 10.1088/2058-8585/aba79a, 2020.
- L. Petti, N. Münzenrieder, C. Vogt, H. Faber, L. Büthe, G. Cantarella, F. Bottacchi, T.D. Anthopoulos, and G. Tröster. Metal oxide semiconductor thin-film transistors for flexible electronics. In *Applied Physics Reviews*, 3(2), page 021303, DOI: 10.1063/1.4953034, 2016.
- G. Cantarella, N. Münzenrieder, L. Petti, K. Ishida, T. Meister, C. Carta, F. Ellinger and R. Hopf. Mechanical and Electrical Design Strategies for Flexible InGaZnO Circuits. In *28<sup>th</sup> International Conference Mixed Design of Integrated Circuits and Systems 2021 (MIXDES)*, 24<sup>th</sup> – 26<sup>th</sup> June 2021, DOI: 10.23919/MIXDES52406.2021.9497560, 2021.
- F. Catania, H. Oliveira, P. Lugoda, G. Cantarella\* and N. Münzenrieder\*. Thin-Film Electronics on Active Substrates: Review of Materials, Technologies and Applications. In *Journal of Physics D: Applied Physics*. DOI: 10.1088/1361-6463/ac6af4, 2022. \*Corresponding authors.