

CV Prof. Marianna Ivashina

A. PROFESSIONAL PREPARATION

- Postgraduate and Graduate university: MSc. exam: Date of approval: 25.05.1997. PhD. exam: Date of approval: 25.05.2001. Dept. of Electrical Engineering and Telecommunication, Sevastopol National Technical University (SNTU), Ukraine.
- Post-doc department(s): The European Space Research and Technology Centre of the European Space Agency, The Netherlands (NL). 2001-2002.
- Post-doc department(s): The Netherlands Institute for Radio Astronomy (ASTRON), Research and Development Division, Dwingeloo, 2001-2004.

B. APPOINTMENTS AND SABBATICALS

- (Full) Professor in Antenna Systems, The Head of the Antenna Group, Department of Electrical Engineering (E2), Chalmers, Gothenburg, Sweden. Since Jan. 2017.
- Assoc. Professor in the Antenna Group of the Signals and Systems Department (S2), Chalmers. 2012-2016.
- VINNMER – EU FP7 Marie Curie Actions International Fellow, Department of Earth and Space Sciences, Chalmers.
- Senior Scientist, ASTRON, NL, 2004-2010.
- Guest Scientist, Brigham Young University, Department of Electrical & Computer Engineering, Utah, USA. Host: Prof. K.F. Warnick. Spring 2010.
- Guest Scientist, Pennsylvania State University, Dept. of Electrical Engineering, Electromagnetic Communication LAB, State College, USA Host: Prof. R. Mittra. Summer 2007.
- Guest Scientist, The Commonwealth Scientific and Industrial Research Organization (CSIRO), Sydney, Australia, November 2003. Host: Prof. P. Hall. Fall 2003.

C. TUTORING EXPERIENCE

Number of PhD's graduated and PhD students in progress as MAIN supervisor: 7 in total, including Y. Zhang (2020-01-02 - now); Lic.D J. Flygare (2018-12-01 - 2019-12-01); W.-Ch. Liao (graduated in 2021-12-07); A. Elsakka (2016-12-22 - 2022-03-01); A. Roev (graduated in 2021-09-30); PhD. O. Iupikov (graduated on 2017-06-02); and PhD. C. Bencivenni (graduated on 2017-05-31). Number of PhD's graduated and PhD students in progress as CO-supervisor: 5 in total, including PhD. A. Young (graduated on 2012-12-10); PhD. T. Beukman (graduated on 2017-05-31); PhD. D. Prinsloo (graduated on 2014-01-14); and N. Amani (graduated in 2021-11-05), D. Kruglov (2020-2024, non-formal supervision).

D. RESEARCH LEADERSHIP (10+ YEARS)

Prof. Marianna Ivashina heads a research group of Antenna Systems at Chalmers that has done internationally recognized work on innovative antenna technologies for the Square Kilometre radio telescopes (SKA) and mm-wave antenna technologies for 5G applications and systems, having published several award-winning publications at the international conferences where she or her students and employees have received a total of 7 awards over the past three years at IEEE conferences or by IEEE and EurAAP societies. The list of awards includes Best Paper at IEEE APS2018 (Abbas Vosoogh); Best Paper at IEEE ISAP2017 (Abbas Vosoogh); Best PhD thesis EurAAP2019 Award (Abbas Vosoogh); TICRA-EurAAP at EuCAP2018 (Jonas Flygare); Best Paper at IEEE ISAP2018 (Jing Ling); Best Paper at Swedish EMB Conf. 2018 (Sadegh Mansouri Moghaddam); Honorable Mention at IEEE APS2018 (Carlo Bencivenni); Best Paper at IEEE COMCAS2019 (Marianna Ivashina); Best Paper Award nominations at the EuCAP2021 and ISAP2020.

The details about the activities at the Antenna Systems group are available at Antenna systems | Chalmers (updated webpage including the THz chamber info).

M. Ivashina is the Co-Director of the VINNOVA Competence Centre ChaseOn (Chalmers Antenna Systems), 2017-2022 that is the largest collaborative academic-industrial initiative in the area of antenna systems in Sweden. She is currently one of two Directors of the continuation Center (GHz++ChaseOn).

M. Ivashina is the PI and coordinator of the following on-going research projects/programmes at the Antenna Group: (i) **SSF Sweden-Taiwan strategic collaboration framework project 'Antenna Technologies for beyond 5G future applications'**, 30 MSEK, in collaboration with KTH (Prof. J. Oberhammar). Period: 2020-2025. Total budget is 10 MSEK. (ii) **MyWave – 'Efficient Millimetre-Wave Communications for mobile users'**, The EU Horizon 2020 MCA Innovative Training Programme. Period: 2019-2023. Total budget is ~13 MSEK for 4 PhD students at Chalmers. (The PI/coordinator of the whole EU project with ~40 MSEK budget and 15 PhDs is Prof. Bart Smolders); (iii) **mm-wave / THz antenna measurement chamber project**, Period: 2019-2021. Total budget: 13 MSEK for the design, development and integration of three customized antenna measurement systems at mm-wave/THz frequencies; (iv) **EUREKA EURIPIDES2 InnoStar - Innovative Systems and Automated Design for 5G/6G Connectivity and Radar Applications**. Period: 2022-2024. Total budget: 24 MSEK. InnoStar partners will develop: Automated, i.e. no-human-in-the-loop, design tools for the complete integrated mm-Wave systems (Ericsson and Chalmers); 100+GHz over-the air testing methods and platforms (Bluetest and Chalmers); and Energy-efficient heterogeneous antenna-IC integration solutions for 100+GHz (Gotmic, NXP Sweden and Chalmers); (v) **Over-The-Air antenna measurement and testing research program** funded by Ericsson Period: 2019-2023; (vi) **VINNOVA Smartare elektroniksystem program's project ENERGETIC** - Energy Efficient, Beamforming Antenna-IC Integration Solutions for future 100+GHz telecommunication systems and services. Period: 2021-2023, and **project BACSCAD - Back-scattered Field Overmoded Waveguide Measurement Chamber for Integrated Antennas at 100+GHz**. Period: 2021-2022.

E. INTERNATIONAL ACTIVITIES OF IMPORTANCE

1. Since 2017, an Associate Editor of the IEEE Transactions on Antennas and Propagation
2. Since 2017, a Board member of the PhD-level European School of Antennas (ESoA).
3. Since 2021, the (elected) Delegate of the European Association of Antennas and Propagation (EurAAP) for Region 6: Iceland, Norway, and Sweden.

F. IMPACT FOR SCIENTIFIC COLLEGUES AND ACADEMICS IN OTHER FIELDS:

1. The results of her research on innovative focal plane array technologies for radio astronomy have led to new types of radio telescopes, such as APERTIF (NL, <https://www.astron.nl/telescopes/wsrt-apertif>) and ASKAP (Australia). Accordingly, she was responsible for the design of the APERTIF Phased Array Feed.
2. The results of her research on innovative antenna technologies for radio telescopes have led to new discoveries in radio astronomy: By connecting two of the biggest radio telescopes in the world, astronomers have discovered that a simple binary wind cannot cause the puzzling periodicity of a Fast Radio Burst after all. The bursts may come from a highly magnetized, isolated neutron star. The radio detections also show that Fast Radio Bursts, some of the most energetic events in the Universe, are free from shrouding material. That transparency further increases their importance for cosmology. The results appeared in Nature on August 25 2021.
3. Ivashina's and her collaborator's contributions to the field of active array antennas have been included in the IEEE standards, namely the IEEE Standard Definitions of Terms for Antennas (see IEEE Std 145), and has resulted in a new textbook: <https://c-uas.org/sites/c-uas.org/files/Warnick%20flyer%20%28004%29.pdf>.

G. SELECTED MERITS OF RELEVANCE

4. 2007. IEEE Guest Lecture '*Wideband Focal Plane Arrays for a New Generation Radio Telescopes*', organized by Swedish IEEE MTT and AP chapter, CHALMERS, Gothenburg, Sweden (February 27, 2007). ~20 attendees.
5. 2008. Best Paper Award (category Best Team Contribution as Project Leader and main author) at the ESA Workshop (2008) for the paper '*Characterization of Efficiency, System Noise Temperature and Sensitivity of Focal Plane Array Systems*'.
6. 2008. Keynote Speaker at International Workshop '*Deep Surveys of the Radio Universe with SKA Pathfinders*', Perth, Australia (March 31 - April 4, 2008). '*Dutch Focal Plane Array progress*'. ~100 attendees.

7. 2009. The European FP7 Marie Curie Actions International Fellowship (2009) for the Research Project '*Antenna Systems for the SKA Next Generation Radio Telescope*'.
8. 2010. Swedish VR Young Scientist Research Project Grant (2010-2014).
9. 2010. Keynote Speaker at the VINNOVA Competence Centre Charmant Day, '*Design and Optimization of Beam-Forming Array Antenna Systems*', ~100 attendees.
10. 2011. Keynote Speaker at the IEEE 2011 South African IEEE AP/MTT/EMC Conference, Stellenbosch, South Africa. '*Analysis of the Noise Performance and Sensitivity of Receiving Array Systems*', ~50 attendees.
11. 2019. Invited Plenary Talk '*Joint Design and Co-integration of Antenna-IC Systems*', The European Conf. on Antennas and Propagation, EuCAP 2019, Krakow, Poland. 1200 attendees.
12. 2019. The Best Paper Mini-Circuits Harvey Kaylie Award for the paper '*A 1-D Steerable Beam Slotted Waveguide Antenna Employing Non-Conventional Aperiodic Array Architecture for mm-wave Line-Of-Sight MIMO*', at the International IEEE Conference on Microwaves, Communications, Antennas and Electronic Systems, Tel-Aviv, Israel, 4-7 November 2019. In collaboration with COMSYS, Gapwaves, and Bluetest.

The full list of publications is available at [Marianna Ivashina - Google Scholar](#)
[Marianna Ivashina | Chalmers](#)