

ILARIA NASSO

CURRICULUM VITAE

EDUCATION

April 2023 – September 2023

PhD visiting student at the Microwave and Integrated Systems Laboratory, University of Birmingham (UK), headed by Prof. M. Cherniakov

Supervisor: Prof. Michail Antoniou

Co-supervisor: Prof. Christopher Gilliam

November 2020 – November 2023

PhD in Radar and Remote Sensing

Department of Information Engineering, Electronics and Telecommunications - Sapienza University of Rome, Italy

Supervisor: Prof. Debora Pastina

Co-supervisor: Dr. Fabrizio Santi

6 – 8 September 2021

Seminar: Cognitive/Bioinspired radar, held by Dr. Andrea Balleri, Cranfield University, UK.

26 – 28 July 2021

Online seminar: Multidimensional SAR techniques for Earth observation, held by Dr. Marco Lavallo, NASA Jet Propulsion Laboratory California Institute of Technology.

5 – 8 July 2021

International Summer School on Radar/SAR, Wachtberg, Germany, organized by the Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR.

2017 – 2020

Master's degree in Space and Astronautical Engineering

Sapienza University of Rome, Italy

Final mark: 110 cum laude / 110

Dissertation: Target position and velocity estimation with a GNSS-based multistatic radar for maritime surveillance applications

Advisor: Prof. Debora Pastina

2014 – 2017

Bachelor's degree in Aerospace Engineering

Sapienza University of Rome, Italy

Final mark: 102 / 110

Dissertation: Combustion chamber cooling technologies of the endoreactors

Advisor: Prof. Diego Lentini

RESEARCH ACTIVITY

Ilaria Nasso carries on his research activity with the Radar Remote Sensing and Navigation (RRSN) group – Department of Information Engineering, Electronics and Telecommunications, Sapienza University of Rome. The RRSN group employs include two Full Professors, an Associate Professor, an Assistant Professor, some Postdoctoral researchers and PhD students in Information and Communications Technologies. The RRSN group has a consolidated experience in the field of radar remote sensing systems design and signal processing and it is involved in national and international scientific collaborations and research projects funded by government organizations and radar industries.

RESEARCH TOPICS

Ilaria Nasso focused her PhD in the fields of radar systems and signal processing, with specific regard to multistatic radar systems and techniques. Main research topics include:

- Multistatic synthetic aperture radar (SAR)/ISAR systems and techniques
- Target kinematic state estimation with multistatic radar systems
- Satellite-based passive multistatic radar systems

PUBLICATIONS

Publications in international journals

- [J3] I. Nasso, F. Santi, "Maritime moving target detection and localisation technique for Global Navigation Satellite Signals-based passive multistatic radar," *IET Radar, Sonar & Navigation* 1–14, 2023, doi: <https://doi.org/10.1049/rsn2.1243814>.
- [J2] I. Nasso and F. Santi, "A Centralized Ship Localization Strategy for Passive Multistatic Radar Based on Navigation Satellites," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022, Art no. 4026805, doi: 10.1109/LGRS.2022.3204169.
- [J1] I. Nasso, F. Santi and D. Pastina, "Maritime Targets Velocity Estimation in Space-Based Passive Multistatic Radar Using Long Integration Times," in *IEEE Access*, vol. 9, pp. 163764-163779, 2021, doi: 10.1109/ACCESS.2021.3133708.

Publications in international conference proceedings

- [C2] I. Nasso, F. Santi, "A Centralized Approach for Ship Target Detection and Localization With Multi-Transmitters GNSS-Based Passive Radar," *IET Radar 2022 International Conference on Radar Systems*, Edinburgh, UK, 24-27 Oct. 2022, doi: 10.1049/icp.2022.2316.
- [C1] I. Nasso, F. Santi and D. Pastina, "Ship target velocity estimation with multi-transmitter GNSS-based passive radar exploiting long integration times," *2021 21st International Radar Symposium (IRS)*, 21-22 Jun. 2021, pp. 1-10, doi: 10.23919/IRS51887.2021.9466191.

International Workshops

- [W1] I. Nasso, F. Santi and D. Pastina, "GNSS-based multistatic passive ISAR," presented at the 9th Multistatic PCL Focus days, Bonn, Germany, 17-18 October 2023.

RESEARCH PROJECTS

September 2021 – August 2022

Target motion estimation with active and passive multistatic radar system: advanced processing techniques. Sapienza Research calls 2021 (Principal Investigator).

September 2022 – August 2023

Ship target imaging with active and passive multistatic radar system via ISAR approaches. Sapienza Research calls 2022 (Principal Investigator).

PROFESSIONAL ACTIVITIES

EDITORIAL ACTIVITY

July 2022 – present days

Reviewer for *IEEE Sensors Journal*

September 2022 – present days

Reviewer for *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*

January 2023 – present days

Reviewer for *IEEE Transactions on Aerospace and Electronic Systems*

CONFERENCES

Presenting author of

- W1 at 9th Multistatic PCL Focus days, Bonn, Germany, 17-18 October 2023, oral presentation;
- C2 at IET Radar 2022 International Conference on Radar Systems, Edinburgh, UK, 24-27 Oct. 2022, oral presentation;
- C1 at the International Radar Symposium (IRS) 2021, 21 – 22 June 2021, online event, oral presentation.

AWARDS

- Author of the Best Student Paper awarded at the 2022 IET Radar Conference (Edinburgh, UK, Oct. 2022): A centralized approach for ship target detection and localization with multi-transmitters GNSS-based passive radar, by I. Nasso, F. Santi.
- Young Scientist Award received during the 2021 International Radar Symposium (Berlin, Germany, June 2021) as author of the paper "Ship target velocity estimation with multi-

transmitter GNSS-based passive radar exploiting long integration times”, by I. Nasso, F. Santi, and D. Pastina.

LANGUAGES

- Italian: mother tongue
- English: B2
- Spanish: A1

COMPUTER SKILLS

- Programming: Matlab, Simulink, Fortran (basic)
- Software: Geomatica, QGIS, Catia, Solide-Edge, STK, Snap, Office, Latex
- Computer skills and competence: Windows, Mac, OS