International Radar Symposium 2021

Conference Report

Prof. Dr. Peter Knott
IRS 2021 Symposium Chairman

After the COVID-19 pandemic forced the organisers to switch to a purely virtual conference format, more than 130 delegates and radar experts from 22 different countries attended the 22nd International Radar Symposium (IRS), which took place online from 21 to 22 June 2021.

The German Institute of Navigation (DGON) and the Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR have organised this year's International Radar Symposium (IRS) 2021. Following a very successful sequence of Radar Symposia started in Germany 1998, it was originally planned to be held in Berlin. But unfortunately, the pandemic situation and worldwide travel restrictions made it impossible to realize a regular or even hybrid type of a conference. So, the decision was made to go for a purely "virtual" edition of the IRS in 2021 and, in a short time, the required infrastructure (like website, video repository, account access, etc.) was built-up so that the IRS could finally go online.

Due to the rapid development of technologies, radar is still an expanding technical and economical field with many practical applications both in civilian and military areas. In response to the call for papers, the Technical Program Committee prepared a substantial and interesting conference program with more than **70 papers** from **22 different countries**, including many special sessions for different applications (e.g. automotive radar for automated driving, counter-drone detection, forward scattering radar). Three compelling keynote presentations were given on future challenges of radar seen from the different perspective of speakers from industry, academia and research.

Due to the virtual implementation, there were some changes this time: A video recording of all presentations was made in advance, which was also available for streaming after the official presentation date, thus alleviating the problem of time overlaps. A get-together could only take place in front of the screen, but the participants nevertheless met in the evening for casual conversation. Also new was an online panel discussion in which recognized experts shared their views on "Impact of Artificial Intelligence on Radar."

An important highlight was the **Christian Hülsmeyer Award** presented for outstanding contributions in radar system design and development as well as educational achievements. The award was given to **Prof. Joachim Ender**, retired from Fraunhofer FHR in Germany.

Prof. Joachim Ender FHR, Galina Lange DGON

In the Closing Session, the IRS 2021 Best Paper Award and Young Scientist Award were presented to:

- **Best Paper Award**

  paper entitled:
  Experimental results for a Passive Forward Scatter Radar based on OFDM waveforms of opportunity

  authored by:
  Fabiola Colone, Carlo Bongioanni, Pierfrancesco Lombardo, University of Rome "La Sapienza", Italy

- **Young Scientist Award**

  paper entitled:
  Ship target velocity estimation with multi-transmitter GNSS-based passive radar exploiting long integration times

  authored by:
  Ilaria Nasso, Fabrizio Santi, Debora Pastina, University of Rome "La Sapienza", Italy

Due to the pandemic conditions and the virtual format, the number of participants and presentations this year was, as expected, slightly lower than in previous editions of the symposium. However, the organisers and the TPC were more than satisfied with the high quality of the contributions and were able to offer an interesting conference, nonetheless.

The chairmen and the whole conference organization team are looking forward to the next International Radar Symposium which will be held in Gdansk, Poland, from May 9-11, 2022, where hopefully we can all meet again in person!

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