



Integrated Sensing and Communications Technical Working Group Semi-Annual Report

*Kumar Vijay Mishra
Chair, ISAC TWG*

*AESS Board of Governors Meeting – Spring 2026
15-16 May 2026
Phoenix, AZ, USA*

AESS ISAC TWG Aims to foster research, innovation, and collaboration in integration-interaction-interplay of sensing, communications, and allied systems.

- ❑ **Established: 2023**
- ❑ **Chair:** Kumar Vijay Mishra (kvm@ieee.org)
- ❑ **Webpage:** <https://ieee-aess.org/technical-committee/integrated-sensing-and-communications-technical-working-group#committee>

Representation

- **Gender**
 - Male: 23
 - Female: 4
 - **Geographic Regions**
 - Americas: 13
 - Europe: 9
 - Asia-Pacific: 5
 - **Work-sector**
 - Academia: 18
 - Government/Retired*: 6
 - Industry: 3
 - **AESS Panels**
 - RSP: 10 (8 current, 2 former)
 - ASP: 1
 - NSP: 1
 - GTSS: 1
 - CSP: 1
 - Non-panel: 13
- Highly diverse technical expertise in ISAC
 - TWG meets online every month

*Includes individuals who are either formerly government sector or work predominantly with the government sector with complimentary academic positions

- ❑ **Members (27, including Chair and Past Chair)**
 - Elias Aboutanios, UNSW Sydney [RSP]
 - Ravi Adve, U of Toronto [RSP]
 - Bill Blackwell, MIT LL
 - Eric Blasch, AFRL [CSP rep]
 - Batu Chalise, NYIT
 - Fabio DAVIS, Politecnico di Torino [NSP rep]
 - Ahmet M. Elbir, Istinye U
 - Sandeep Gogineni, ISL
 - Kazuya Kobayashi, Chuo U, Japan
 - Visa Koivunen, Aalto U [RSP, former]
 - Jungah Lee, Aura, Inc.
 - Marco Lops, U of Naples Federico II, Italy [RSP, former]
 - Patrick McCormick, KU [RSP rep]
 - Justin Metcalfe, OU [RSP]
 - Eric Mokole, NRL [Retired] [RSP Chair]
 - Ivan Petrunin, Cranfield University [ASP rep]
 - Neeli Prasad, SmartAvatar, The Netherlands
 - Raghu G. Raj, NRL
 - Shobha Sundar Ram, IIIT Delhi [RSP]
 - Sumit Roy, UW
 - Brian Sadler, UT Austin
 - Md Saquib, UT Dallas
 - M. R. Bhavani Shankar, U of Luxembourg
 - Cosimo Stallo, ESA [GTSSP rep]
 - Joseph Tabrikian, Ben Gurion U

Best Readings Committee: Ahmet Elbir, Batu Chalise, Kumar Vijay Mishra

Seasonal School Organization Committee: M. R. Bhavani Shankar, Kumar Vijay Mishra, Visa Koivunen

2026 ISAC Tri-Society Conference Steering Committee/TPC Members: Maria Sabrina Greco, Visa Koivunen, Kumar Vijay Mishra, Elias Aboutanios, Patrick McCormick

Webinar Committee: Kumar Vijay Mishra, Md. Saquib, Brian Sadler

Publications Committee: Sumit Roy, Kumar Vijay Mishra

Panel Reps: Eric Blasch (Cyber Security Panel), Fabio Dovis (Navigation Systems Panel), Patrick McCormick (Radar Systems Panel), Ivan Petrunin (Avionics Systems Panel), Cosimo Stallo (Glue Technologies for Space Systems Panel)

2026 AESS-ComSoc-SPS Tri-Society ISAC Conference

- Location: Lisbon, Portugal
- Webpage: <https://isac2026.isac-ieee.org/>
- Dates: 16-18 November 2026
- AESS TWG involvement:
 - Steering Committee: Maria Sabrina Greco, Visa Koivunen, Kumar Vijay Mishra
 - General Co-Chair [AESS]: Olexander Yorovoy
 - TPC Co-Chair [AESS]: Elias Aboutanios
 - Special Sessions Co-Chair: Patrick McCormick
 - Tutorials Co-Chair: Igal Bilik
- Status: CfP published, keynotes and panels finalized. Currently accepting special session and tutorial proposals
- Each society is expected to draw in 100-150 participants

2026 AESS-ComSoc-SPS Tri-Society ISAC Conference



Authors ▾

Committees

Program ▾

Registration ▾

Hotel & Travel ▾

Patrons & Exhibitors

About ▾



IEEE ISAC 2026

Lisbon, Portugal

16 - 18 November 2026



ORGANIZING COMMITTEE

General Co-Chairs

Luis M. Correia,
IST – Univ. Lisbon, PT

Alexander Yarovoy,
Delft Univ. Technology, NL

Zhi Tian,
George Mason Univ., USA

Technical Chairs

Rodrigo C. de Lamare,
PUC-Rio, BR // Univ. York, UK

Fan Liu,
Southeast Univ., CN

Elias Aboutanios,
Univ. New South Wales, AU

Weijie Yuan,
Southern Univ. Science Tech., CN

Patrick M. McCormick,
Univ. Kansas, USA

George C. Alexandropoulos,
Natl. Kapodistrian Univ. Athens, GR

Igal Bilik,
Ben-Burion Univ., IL

Gerhard Fettweis (ComSoc)

Sumei Sun (ComSoc)

Tsung-Hui Chang (SPS)

Christos Masouros (SPS)

Visa Koivunen (AESS)

Kumar Vijay Mishra (AESS)

Important Dates

Tutorial Proposals
2026 May 4th

Special Session Proposals
2026 May 4th

Papers Submission
2026 June 1st

Notification Papers Acceptance
2026 September 11th

Final Manuscript and Registration
2026 October 9th

IEEE Integrated Sensing and Communications

16-18 November 2026 // Lisbon, Portugal

CALL FOR PAPERS

Technical Program

The IEEE Conference on Integrated Sensing and Communications 2026 (ISAC) is the first large event dedicated to integrated sensing and communications and its applications, which is sponsored by the IEEE Communications, Signal Processing and Aerospace and Electronic Systems Societies. The organizing committee invites the international community to contribute with state-of-the-art developments in the field. IEEE ISAC 2026 will feature plenary talks by leading researchers in the field as well as special and regular technical sessions with presentations by the participants.

Welcome to Lisbon!

Research Topics

Authors are invited to submit papers on topics including, but not limited to:

- Radar Centric ISAC and Communication-Centric ISAC
- Fundamental information theoretical limits for ISAC
- Target detection, estimation, and classification in ISAC systems
- Target Tracking in ISAC systems
- Edge computing/computing offloading for ISAC
- Network architectures/transmission protocols/frame designs for ISAC
- ISAC for distributed radar and sensor networks
- Antennas and propagation for ISAC
- Sensor arrays for ISAC
- Spectrum analysis and management of ISAC
- Resource allocation/management for ISAC and legacy radar systems
- Electromagnetic modelling, interference and clutter mitigation techniques
- Modulation/waveform/precoding/receiver design for ISAC
- Security and privacy issues for ISAC and DFRC
- Machine learning methods in ISAC
- Multiple-antenna systems for ISAC
- Intelligent reflecting surface (IRS or RIS)/Holographic surfaces for ISAC
- Waveform design, waveform diversity and ambiguity function analysis
- Millimetre wave/THz technologies for ISAC
- ISAC for 6G vehicular-to-everything (V2X) network
- Standardization progress of ISAC
- Wi-Fi sensing/positioning/detection, PNT for ISAC
- Communications-aided and dual-function synthetic aperture radars
- Electronic Warfare in ISAC
- Experimental demonstrations, testbeds and prototypes

Application areas

- Cellular networks
- Internet of things and sensor networks
- Local area networks
- Satellite networks
- Underwater networks
- Vehicular and UAV networks
- Passive and opportunistic radar and sonar
- Remote sensing, geosensing, GNSS reflectometry
- Airborne, space, automotive radar systems

Submission of papers – Prospective authors are invited to submit full papers, with up to 6 pages of technical content.

Special sessions proposals – Proposals should be submitted by e-mail to the Technical Program Chairs and the Special Sessions Chair and include a topical title, rationale, session outline, contact information and list of invited speakers.



Submit a paper: <https://edas.info/N34268>

<https://isac2026.isac-ieee.org>

2026 ISAC Summer School

- Location: University of Luxembourg
- Webpage: <https://www.uni.lu/snt-en/research-groups/sparc/2026-summer-school-on-integrated-sensing-and-communications-a-sensing-centric-approach/#day-2-isac-architectures-and-algorithms>
- Dates: 30 June-03 July 2026
- 4-day comprehensive course/tutorials by leading AESS ISAC researchers
- Course modules, poster presentations, panel discussions, industry talks, and a social event
- AESS TWG involvement:
 - General Co-Chair: M. R. Bhavani Shankar
 - TPC: Visa Koivunen, Kumar Vijay Mishra
- Status: AESS funding received along with additional support from government and industry; registration open (40 confirmed registrations, as of 10 May 2026)

2026 ISAC Summer School



Registrations are now open!

2026 SUMMER SCHOOL INTEGRATED SENSING & COMMUNICATIONS (ISAC)

Shaping the future of wireless systems across land, air, and space

30TH JUNE - 3RD JULY 2026

Register now!



University of
Luxembourg
(Kirchberg)



Bhavani Shankar M R,
Assistant Professor,
University of Luxembourg

Björn OTTERSTEN
Professor,
University of Luxembourg



30TH JUNE - 3RD JULY / UNIVERSITY OF LUXEMBOURG (KIRCHBERG)
**2026 SUMMER SCHOOL
INTEGRATED SENSING &
COMMUNICATIONS (ISAC)**
Shaping the future of wireless systems across land, air, and space
Registrations are now open!

Speakers

Prof. Lee Swindlehurst	Prof. Shannon Blunt	Prof. Fabiola Colone	Prof. Maria Sabrina Greco	Prof. Moeness Amin	Dr. Perry Wang	Prof. Sumit Roy	Dr. Kumar Vijay Mishra

What you'll learn

- ISAC architectures & waveforms
- Spectrum sharing & physical-layer design
- 6G, radar & autonomous systems
- Industry & research perspectives

Who is it for?

PhD students, early-career researchers & engineers in:
Wireless communications
Radar & sensing
Signal processing
6G & future networks

Why ISAC?

ISAC is transforming wireless engineering by integrating sensing and communication for future 6G systems. This summer school offers a sensing-centric exploration of ISAC architectures and applications.

Co-chairs

Bhavani Shankar M R Assistant Professor, University of Luxembourg	Björn OTTERSTEN Professor, University of Luxembourg

Register now!



T-AES ISAC Technical Area

- New technical area on ISAC established in T-AES
- 2 Lead SEs with 6 AEs

Integrated Sensing and Communications (ISAC)

Integrated Sensing and Communications Senior Editors

Kumar Vijay Mishra^{USA}

The University of Maryland, College Park

Sumit Roy^{USA}

University of Washington, Seattle

Integrated Sensing and Communications Associate Editors

Monika Aggarwal^{IND}

Indian Institute of Technology

Gayan Amarasuriya Aruma Baduge^{USA}

Southern Illinois University

Nitin Jonathan Myers^{NLD}

TU Delft

Murat Torlak^{USA}

University of Texas at Dallas

Özlem Tuğfe Demir^{TUR}

Bilkent University

Rongqing Zhang^{CHN}

Hong Kong University of Science and Technology

T-AES ISAC Special Sections

- First SS approved: “Sensing-Centric ISAC”
 - CfP to be published in May-June 2026
 - 6 GEs:
 - Ahmet M. Elbir (Co-Lead), Istinye University, Turkey
 - Ajeet Kumar (Co-Lead), CNIT-RaSS National Laboratory, Italy
 - Abdulkadir Celik, University of Southampton, UK
 - Fabio DAVIS, Politecnico di Torino, Italy
 - Brian M. Sadler, The University of Texas at Austin, US
 - Joseph Tabrikian, Ben-Gurion University of the Negev, Israel
 - SS published: 2026
- Second SS approved: “Selected Papers from Tri-Society ISAC Conference”
 - CfP to be published in May-June 2026
 - 5 GEs
 - SS published: 2027

AESS ISAC Webinars

- Season 1 on “Signals of opportunity” launched in April 2026
- Speakers:
 - Ashutosh Sabharwal, Rice University: “Near-Ground Precipitation Sensing for Next-generation Wireless Networks”
 - Daniel Bliss, Arizona State University: “ISAC: Challenges and Technologies”
 - Sanyogita Shamsunder, GeoLinks: “The Network as a Sensor - Wireless Network for Positioning and Sensing”
 - Hagit Messer, Tel Aviv University: “Opportunistic ISAC for Weather Monitoring: Turning Wireless Communication Links into Environmental Sensors”
- All webinars are recorded and will be available via the TWG’s homepage

AESS ISAC History Column in M-AES

- Proposal approved by M-AES EiC
- 6-8 articles (bimonthly) to highlight long and rich history of ISAC in AESS
- Short articles; separate from existing History column
- Articles to be submitted by Q4 2026 - Q1 2027.

ISAC Tutorials in M-AES

- Proposal approved by M-AES EiC
- Long-form, including mathematical/analytical details, survey series by AESS researchers in M-AES
- 12-15 surveys (bimonthly)
- CfP later in 2026
- Whitepapers followed by full papers

AESS ISAC Webinars

- Season 2: Sensing-Centric ISAC Signal Processing [June-Jul 2026]
 - Speakers: Moeness Amin, Maria Sabrina Greco, Visa Koivunen, Athina Petropulu
- Season 3: Waveform Diversity in ISAC [Aug-Oct 2026]
 - Speakers: A. Robert Calderbank, Chandra Murthy, Emanuele Viterbo

AESS Best Readings

- 1st edition of Best Readings in ISAC from AESS publications have been finalized
- Publication: Summer 2026
- Topics included in this edition:
 - Waveform Design & Signal Processing
 - Information Embedding & Signaling Strategies
 - Resource Allocation & Network Optimization
 - Radio Frequency Interference (RFI) & Coexistence
 - Opportunistic ISAC
 - Hardware, Circuits & Accelerators
 - Surveys & Future Perspectives

Cross-Disciplinary Collaboration

- Explore cooperation/collaboration with URSI, ITU, MTTs, GRSS, and APS
- Chair Mishra has been invited to speak at MTTs ISAC TWG, 2026 RFSA ISAC panel at 2026 IMS, Boston conference, and at 2026 ICC ISAC Panel

Short Courses on ISAC

- Detailed 4-8 hour short-courses prepared by AESS researchers
- Available to view for payment
- Instructors could be paid honoraria to incentivize our AESS ISAC community

ISAC Standards

- To collaborate with RSP's Spectral Innovations Committee on ISAC standards development