

About the IEEE Aerospace & Electronic Systems Society Newsletter

Dear AESS Members,

Whether you have just returned from your well-deserved summer holiday, or have never stopped working, we hope that this new edition of the QEB will be an enjoyable read. As always, it features many interesting articles, from the *Story Behind the Success* of the Early Career Award winner Domenico Ciuonzo to the interesting story of Giovanni Ansaldo in the History Column.

Finally, we are happy to announce the winner of the AESS 50th anniversary logo contest (congratulations from us!), which gets us ready to celebrate this important milestone that AESS will reach next year!

We hope the upcoming season will be full of success and good news for all of you.

Have fun reading!

All the best,



Francesca Filippini and Philipp Markiton
Editors-in-Chief, AESS QEB

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A Special Message from the President

To the IEEE Aerospace & Electronic Systems Society -- Present and Future Members,

The year 2022 has been very rewarding in terms of new directions for AESS. The focus has been on developing an awareness of the Society in Region 9 (South America) and Region 10 (India) through development of Student Branches. New AESS Student members and Young Professionals are the future for the Aerospace Engineering Fields of Interest. Our Society's objective is to provide the opportunity and transition potential of emerging technologies for



furthering their careers in under-resourced communities. Our technical community is growing by strengthening Radar Summer Schools, Cyber Security, Fusion, Glue Technologies for Space Systems, and Navigation Systems Panels.

2023 is the Golden Anniversary of the AES Society, which was formed in January 1973. The Society was formed from Technical Groups of the Institute of Radio Engineering, based on the breakthrough in Space Systems, Global

Positioning Systems and the advent of Monolithic Integrated Circuits. These technologies have led to a significant growth in small sensors, high speed embedded signal processing, and military and civilian sensor and navigation applications. We will be celebrating this 50th Anniversary in February 2023 by focusing on the historic growth in AES Technical Innovation and providing the future applications for worldwide development of technologies through our Conferences and Publications.

In the past two years, we have been leveraging virtual conferences and Distinguished Lectures for the benefit of our Sections and Student Branches. Several workshops, technical competitions and short courses have provided beneficial Education for our Students and Young Professionals. We hope to accelerate these projects to provide an environment for more growth of benefits in system technology to our Members.

Please take a look at the new AESS Website at <https://ieeee-aess.org/> and plan on inviting your colleagues to join as new members in 2023.

Mark E. Davis
IEEE AESS President
2022-2023

The Story Behind the Success

Domenico Ciunzo received the [2022 IEEE AESS Early Career Award](#) for contributions to decentralized inference and sensor fusion in networked sensor systems.



"Behind each "success story," there is a mix of hard work, dedication, and no shortcuts. This makes no exception in my case, as I am here to tell a little bit about my academic path and how I ended up receiving the AESS early career award for "contributions to decentralized inference and sensor fusion in networked sensor systems" (or, to put it simply, "how I have applied known stuff from statistical signal processing to a very cool field").

I received both my bachelor's and master's degrees in Computer Engineering from the former Second University of Naples (now University of Campania L. Vanvitelli) in 2007 and 2009, and shortly after I was enrolled in the Ph.D. program within the same university (mostly unaware of the difficulties this could imply), under the supervision of F. A. N. Palmieri. My Ph.D. focused on the design of efficient and effective data fusion techniques with application to wireless sensor networks. I had a very slow start at the beginning, including many rejected papers and moments of discouragement. However, these events were very helpful to tune myself to a productive work routine and to learn to accept criticism with a positive attitude. Hence, at the end of my Ph.D., I was able to provide some good contributions to my research topic. This was thanks also (i) to my "informal" advisor P. Salvo Rossi and (ii) to my visiting period at UConn, working under the supervision of P. Willett and Y. Bar-Shalom. Therein I have learnt the dos and don'ts of recognized scientists." - Domenico Ciuonzo

[Full Story](#)

AESS Professional Networking and Mentoring Program

More information is available on the [AESS website](#). Mentors and mentees, it is easy to sign up for the program. Join us today!

[Sign Up](#)

AESS to Celebrate Its 50th Anniversary in 2023!



We would like to congratulate Zitela Mwale for his winning design for the 50th Anniversary Logo contest which concluded in April. Thank you to all of our members who participated.

Learn more about the upcoming 50th Anniversary and related activities [here](#).

2022 AESS Region 8 Chapter Summit



Pictured: 2019 AESS Region 8 Chapter Summit in Cologne, Germany. (October 17, 2019)

IEEE Regional Chapter Summits raise awareness of AESS member services and opportunities for local Chapters that interact with the greater AESS technical communities and leadership. This year's summit is organized for the AESS Chapters of IEEE Region 8 (Europe, Middle East and Africa) and will be held Sunday, 23 October 2022 in Edinburgh, UK, with the AESS Board Governors meeting, and just prior to Radar 2022 - The International Conference on Radar Systems also being held in that city.

At this summit, the AESS Board and Chapter Chairs can work together to better understand and serve our members with a combination of targeted presentations and interactive sessions from board members and Chapter leaders. Each Chapter in Region 8 should plan to participate with one in-person officer representative.

If you are an AESS Chapter Chair in Region 8 and would like to attend, please reach out via email to admin@ieee-aess.org.

The History Column: Giovanni Ansaldo and the Algebraic Equations in the XIX Century

Marco Frasca

MBDA Italia S.p.A., Roma

Alfonso Farina

Leonardo, Consultant BU Land and Naval Radar, Roma

Giovanni Ansaldo was an Italian entrepreneur, an engineer, an architect and an academic. He started the great tradition of Italian industry that has its greatest achievements in technology and defense. He was mostly interested in solving mathematical problems. We testified to this interest with an article which appeared on the site of the Foundation taking his name [1]. We briefly summarize the content of that article here.



Giovanni Ansaldo

In the first decades of the XIX century, there were some relevant problems on solving algebraic equations. For sure, there was the Abel-Ruffini theorem, stated by Paolo Ruffini (1765-1822) and definitively proven by Niels Abel (1802-1829) in 1824. This theorem states that algebraic equations of degree greater than four cannot be solved by simple operations involving at most radicals.

[Read More](#)

[End of an Era - The National Historic Electronics Museum](#)



For those of us who have had the opportunity to visit the Northrop Grumman facility in Linthicum, Maryland, or for those who have had the experience to travel to the Baltimore Washington International Airport or have even visited the area by the Amtrak train, I'm sure that many of you will remember with fondness the National Electronics Museum or, as it was formerly named, the National Historic Electronics Museum.

The museum was originally established in 1980 by Westinghouse employee Robert L. Dwight, who started the museum's collection in 1973 by conducting a "Family Day" exhibit to display his colleagues' work. Titled "Yesterday, Today, and Tomorrow," the exhibit showed examples of past and present Westinghouse work to represent the company's progress through the eras.

[Read More](#)

Member News

IEEE AESS Senior Members



Congratulations to the following AESS members who have been elevated to IEEE Senior Member Status. Senior Member is the highest grade for which IEEE members can apply. IEEE members can self-nominate, or be nominated, for Senior Member grade.

James Armitage	Michael Enders
Li-Ta Hsu	James Joseph Kennedy
Chaoyong Li	Natalia Vargas Cuentas
Anne Young	Rene Sanchez

Current Senior Members

IEEE AESS Newly Elected Board of Governors



Congratulations to the following AESS members on being elected to the AESS Board of Governors for 2023-2025! They will begin their term on 1 January 2023.

William Dale Blair	Arik Brown
Joe Fabrizio	Francesca Filippini
Wolfgang Koch	Luke Rosenberg
Marina Ruggieri	George Schmidt

Newly Elected BoG

New J-MASS Editor-in-Chief



Hanwen Yu is the new Editor-in-Chief for the *IEEE Journal on Miniaturization for Air and Space Systems* (J-MASS).

Read more about J-MASS and the upcoming special issues [here](#).

2022 IEEE AESS Distinguished Lecturer Call for Nominations



The IEEE Aerospace and Electronics Systems Society (AESS) is seeking nominations for [Distinguished Lecturers](#). The program seeks to have a portfolio of eminent speakers with high-quality delivery who can both represent and strengthen the technical and geographic diversity of the Society's interests.

Candidates for AESS Distinguished Lecturer (DL) must be a Senior Member or Fellow and may be nominated by any current IEEE AESS member. (No self-nominations.) Please use the IEEE AESS Distinguished Lecturer [Nomination Form](#) which should provide a suitable biography, picture, and 1-3 topics that the candidate would be well qualified to speak on as a DL.

Nominations due 1 December 2022.

[Nomination Form](#)

2022 IEEE AESS Virtual Distinguished Lecturer Webinar Series



Upcoming Webinars

Dual-Function Radar Communication System With Communication and Radar Performance Tradeoff

Athina Petropulu - 5 October 12 PM ET/4 PM GMT

Radar Tomographic Imaging - Achieving High Resolution With Spatial Diversity

Hongbo Sun - 19 October 9 AM ET/1 PM GMT

Simulation of Radar Sea Clutter

Luke Rosenberg - 2 November 5 AM ET/9 AM GMT

Reinforcement Learning: Snake Oil or Good Idea?

Fred Daum - 16 November 12 PM ET/4 PM GMT

Gravity-Modeling Considerations in High-Integrity Inertial Systems

Michael Braasch - 30 November 12 PM ET/4 PM GMT

Cognitive Radars

Sabrina Greco - 14 December 12 PM ET/4 PM GMT

To view past webinars, click [here](#).

[Register for a Webinar](#)

Invite a Distinguished Lecturer to Your Next Chapter Meeting!

All AESS Chapters and IEEE Sections are encouraged to take advantage of the AESS Distinguished Lecturer and Tutorial Program for their regular or special meetings, which allows them to select from an outstanding list of truly distinguished speakers who are experts in the technical fields of the Society. For more information, please see the [AESS website](#).

You can also watch the 2020-2022 Virtual Distinguished lectures on the [AESS website](#).



The [AESS Short Course Program](#) has been running since 2017 as a means of providing training to our members, earning income for the local Chapters, and serving the local membership. While the desire is for short courses to be in-person and open to all members, they may be run virtually or exclusively to a specific company. To date, short courses have been run on four different continents, with a mixture of openly run in-person, virtual and exclusive offerings.

Check out the list of instructors and course titles available. We've added four new courses in 2022! If you have questions contact the Short Course Program Chair, [Luke Rosenberg](#).

[Learn More](#)

Queensland Chapter - 3D Radar Imaging of Non-Cooperative Targets



A long spell without face-to-face meetings came to an end on Thursday, 28 July, when the AESS Queensland Chapter was delighted to host a seminar by Prof. Marco Martorella of the University of Pisa. Marco is a frequent visitor to Australia (married to a Queenslander!). The title of the talk was "3D Radar Imaging of Non-Cooperative Targets." It was well received with a lively Q&A session following the talk.

[Learn More](#)

CAN Satellite Competition

The AESS Bombay Section Chapter put together a CAN satellite workshop as part of a mini-symposium initiative. There were a total of six teams and two teams were awarded the first prize. The first-place winners did something akin to a CAN satellite in the first phase. The Chapter is now guiding them for phase two. The ultimate aim is to create a launchable mini satellite through the students. Teams were awarded certificates and prize money. It is interesting to note that they are students who have not been physically at college due to the pandemic but were still able to create these. Below are the short videos of the joint first prize winning teams.

[Debris Detection](#) - Click to watch.

[Hall Sensor](#) - Click to watch.

IET Radar, Sonar & Navigation Call for Papers

The IET Radar Sonar and Navigation has set up a special issue on "**Radar Systems and Processing Methods for Space Situational Awareness.**"

Recently, research efforts have also been devoted to contriving an active space-based debris detection and tracking capability in the microwave region to complement current surveillance assets for an improved Space Situational Awareness (SSA). Within this framework, submissions are solicited that report recent progress in either ground based or in-situ remote sensing assets (e.g., radio frequency and microwave-based radars) along with signal processing methods and data fusion techniques to augment suitable inference for SSA.

Submission Deadline: 30 March 2023

[Call for Papers](#)

Conference News

AESS financially and technically sponsors and co-sponsors conferences addressing important aspects of our Field of Interest. The information below is current as of 22 August 2022. Please refer to each conference website for the most up-to-date information.

Call for Tutorials: 2023 IEEE Radar Conference

The [2023 IEEE Radar Conference](#) will be held 28 April - 5 May 2023, at the River Walk in San Antonio, Texas for the first time, jointly sponsored by the Aerospace & Electronic Systems Society (AESS) and the IEEE Lone Star Section with significant support from the Southwest Research Institute (SwRI) and Army Futures Command (AFC).

The 2023 conference will celebrate a Fiesta of Radar Innovations involving the latest radar technologies through plenary talks, special sessions, tutorials, and the radar summer school. Tutorial submissions are due 30 October 2022. Review the [call for tutorials](#) for more information.

[Call for Tutorials](#)

Call for Papers: Signal Processing Symposium (SPSympo-23)

The [Signal Processing Symposium](#) is a biannual international conference that brings together students, researchers, and scientists representing a broad spectrum of computer science and radio electronics disciplines to present their latest findings and to discuss new trends shaping future research directions in science and technology. After 20 years since its first edition in 2003, SPSympo has become a well-established and an excellent forum for active participation in workshops, lectures, and scientific discussions in technical and evening sessions. In 2023, the conference will be organized in Karpacz, Poland, on 26-28 September 2023.

Abstract Submission Deadline: 2 December 2022

[Call for Papers](#)

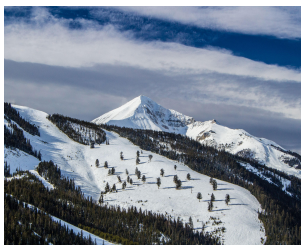
Flagship Conferences



DASC 2022

Portsmouth, VA, USA
18-22 September 2022

[Register](#)



AEROCNF 2022

Big Sky, MT, USA
4-11 March 2023

[Register](#)



RadarConf'23

San Antonio, TX, USA
28 April - 5 May 2023

[Call for Papers](#)

[Call for Tutorials](#)



FUSION 2023

Charleston, SC, USA
27-30 June 2023

[Conference Website](#)



2023 IEEE AUTOTESTCON

National Harbor, MD, USA
28-31 August 2023

[Call for Papers](#)

Technically Co-Sponsored Conference Listing:

[International Radar Symposium \(IRS 2022\)](#)

Gdańsk, Poland | 12-14 September 2022

[2022 International Symposium on Measurement and Control in Robotics \(ISMCR 2022\)](#)

Virtual | 28-30 September 2022

[IEEE International Symposium on Phased Array Systems and Technology \(PAST 2022\)](#)

Waltham, MA, USA | 11-14 October 2022

[Sensor Data Fusion: Trends, Solutions, Applications \(SDF 2022\)](#)

Bonn, Germany | 11-14 October 2022

[9th International SpaceWire and SpaceFibre Conference \(ISC 2022\)](#)

Pisa, Italy | 17-19 October 2022

[International Radar Conference \(RADAR 2022\)](#)

Edinburgh, Scotland | 24-27 October 2022

[2022 9th International Workshop on Tracking, Telemetry and Command Systems for Space Applications \(TTC 2022\)](#)

Noordwijk, Netherlands | 28 November - 1 December 2022

[2023 IEEE Radio and Wireless Symposium \(RWS 2023\)](#)

[2023 IEEE/ION Position, Location and Navigation Symposium \(PLANS 2023\)](#)

Monterey, CA, USA | 24-27 April 2023

Do you have a conference you'd like advertised in the AESS Quarterly Email Blast? Contact [Amanda Osborn](#) for details on how to have it included.

[View Full List of AESS Conferences](#)

[2022 AESS Officers](#)

[Board of Governors -- Members-at-Large](#)

[AESS YP & Student Representatives](#)

Publications

Founding Editors Named for New IEEE OJSE



W. Dale Blair of the Georgia Tech Research Institute (GTRI) was recently appointed to serve as the founding Editor-in-Chief (EiC) for the new *IEEE Open Journal of Systems Engineering* (OJSE). Ljiljana Trajkovic of Simon Fraser University was appointed to serve as the Associated EiC for IEEE OJSE.

[Learn More](#)

Special Issue on "Resilience in Systems Engineering"

This special issue initiates the formation of a well-established body of knowledge on resilience in systems engineering and aids in the pathfinding for innovative and long-term research. Papers in this issue are expected to be of interest for both researchers and practitioners. Papers are invited on all relevant topics including: conceptual and theoretical examinations of resilience and sustainability for the analysis of socio-technical systems; systematic approaches for resilience assessment of complex systems considering technical, human, and organizational factors; integration of risk with resilience; design for resilience approaches; uncertainty handling in resilience assessment; data-driven approaches for resilience assessment and monitoring; simulation methods; artificial intelligence for resilience; complexity science and resilience engineering; resilience coordination, decision-making, and governance; human factors considerations in the context of resilience; dynamic maintenance for resilience; and digital twins for reliability, risk and resilience engineering.

Manuscript submissions are due on 1 November 2022.

[Call for Papers](#)

Journal of Lightwave Technology Call for Papers

Announcing a Special Issue of the IEEE/Optica Publishing Group Journal of Lightwave Technology on: ***Guided Lightwaves for Sensors & Measurement Systems: Advanced Techniques and Applications***. This special issue is organized by the IEEE Instrumentation and Measurement Society. It will be the fourth special issue on the same topic following the previous three successful ones (2017, 2019 and 2021). It aims to highlight the advancement of guided lightwaves in applications to sensors, instrumentation and measurement.

Submission Deadline: 16 October 2022

[Call for Papers](#)

IEEE Aerospace and Electronic Systems Magazine

The *IEEE Aerospace and Electronic Systems Magazine* is a monthly magazine that publishes articles concerned with the various aspects of systems for space, air, ocean, or ground environments as well as news and information of interest to IEEE Aerospace and Electronic Systems Society members. [Call for Papers and Special issues, author information, and more can be found on our website.](#)

Recent Issues

[August 2022](#)

[July 2022](#)

[June 2022](#)

[May 2022](#)

[April 2022](#)

IEEE Transactions on Aerospace and Electronic Systems

IEEE Transactions on Aerospace and Electronic Systems (TAES) focuses on the

Recent Issues

organization, design, development, integration, and operation of complex systems for space, air, ocean, or ground environment. These systems include, but are not limited to, navigation, avionics, spacecraft, aerospace power, radar, sonar, telemetry, defense, transportation, automated testing, and command and control. [Call for Papers and Special issues, author information, and more can be found on our website.](#)

[August 2022](#)

[June 2022](#)

[April 2022](#)

[February 2022](#)

[December 2021](#)

Information and Communication Technologies (ICT) for a New Space Vision

This special section of IEEE TAES will be published in October 2022. Guest editors include: **Claudio Sacchi** (University of Trento, Italy), Fabrizio Granelli (University of Trento, Italy), **Mario Marchese** (University of Genoa, Italy), **Kar-Ming Cheung** (JPL, Pasadena, CA), and **Michael Noble** (L3 Technologies, New York, NJ).

Upcoming Special Sections in the *IEEE Transactions on Aerospace and Electronic Systems*:

[Special Section on Deep Learning for Radar Applications](#) -

Submissions window: 1 August 2022 - 1 October 2022

[Special Section on Automotive Imaging and Super-Resolution Radar Systems](#) -

Submissions window: 1 October 2022 - 1 November 2022

[Special Section on Machine Learning Methods for Aerial and Space Positioning and Navigation](#) -

Submissions window: 1 July 2022 - 1 December 2022

AESS Suggestions Welcome

We welcome suggestions from members on how the AESS can improve.

[Laila Moreira](#), 2022 VP Member Services

[Amanda Osborn](#), AESS Operations Manager

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