



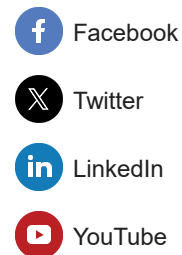
IEEE ULTRASONICS, FERROELECTRICS,
AND FREQUENCY CONTROL SOCIETY
— Newsletter —



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UFFC-S LEADERSHIP MESSAGES

President's Message

Hello. Welcome to the last President's message of 2021, and the last message of my term as UFFC-S President. It's certainly been an interesting two years of challenges, and it has forced a fundamental rethinking of what being a professional engineering society is in this new world. Many of the changes have, unsurprisingly, focused on providing our services in an online-only environment.



All six of our flagship conferences in 2020 and 21, as well as our Latin America Ultrasonics Symposium, were entirely online yet still provided excellent technical content to record numbers of attendees and experimented with innovative panel sessions and other educational content. Next year will see the return of in-person content of our symposia, yet we are committed to serving the new audiences who could not previously join our community due to travel or cost restrictions and be sure that an environmentally responsible option is available. As a society, we are in a strong financial position despite the last two tumultuous years and are investing heavily in digital tools to support our General Chairs in running the symposia for the coming years. It will be challenging but I'm sure we'll continue to adapt and innovate to grow with the times.

One of my goals throughout my Presidency has been the modernization of UFFC-S, not just in processes and technology, but changing the way we operate to encourage and bring forward volunteer leadership that more accurately represents the modern world. While we have never placed quotas for representation, in the last few years we've taken steps in better representing our membership in technical area, career stage, gender, ethnicity, employment type, and region. Much of this has been achieved through our open calls for positions, term limits, transparent selection processes, and our Volunteer Engagement committee's great work. One of the biggest changes in our thinking has been driven by our Diversity and Inclusion (D&I) committee which was initiated by former President Bassiri-Gharb less than four years ago, and now benefits every aspect of our society. It's become so important that it quickly moved from a temporary AdHoc, through permanent Standing committee, and I'm pleased to say that in our latest governing body (AdCom) meeting the D&I Chair became one of the 24 voting members – the first new voting position in over a decade. I was particularly pleased to see that in the secret ballot vote AdCom voted unanimously that D&I should be a voting member. While there is still a long way to go for us, and we need to be constantly working towards this, I'm confident we've put in place the structures needed, but more importantly have the culture and volunteer leadership that understands the importance of D&I, and that incoming President Schafer will be a strong leader here.

Perhaps the most rewarding aspect of leading UFFC-S has been the ability to help our students and early career members in realizing their potential and achieving their goals. The Networking & Mentorship committee has done an amazing job in the year since its founding, with a first cohort of 60 mentors and mentees, and an upcoming second cohort with over 200 applications, along with five online webinars. It's been my belief throughout my career that the only way we can progress as a society (and I mean that in the global sense), is that we each teach the next generation our knowledge faster than we learned it ourselves. UFFC-S not only offers us the opportunity to impart knowledge and

skills faster but to so many people at once. Our symposia are one example of this, but seeing the Special Topic Schools and how this is advancing our student's understanding, makes me confident we are making a difference. To quote a Greek proverb:

A society grows great when old men plant trees in whose shade they shall never sit.

There's a responsibility on each of us to leave this world better than we found it, even if we never see the direct benefits of our actions.

UFFC-S gives a way to do that that is hard to find anywhere else, and I encourage each of you to volunteer and join us in making a better future for everyone. Contact us [here](#), and be a part of that work.

Thank you for allowing me to be your President throughout 2020 and 2021, it's been both an honor and a privilege.

Paul Reynolds

President, UFFC-S, 2020/21

UFFC-S Constitution Update Notice

At its 10 October 2021 meeting, the Administrative Committee of the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society passed amendments to the Society's Constitution document.

Procedures require approval by the IEEE Technical Activities Board, which has already been secured, followed by a 30-day period for member objection. Publication here fulfills the latter portion of this approval requirement. The amendments are considered approved unless at least twenty members compel reconsideration by AdCom - by 15 December 2021. Please provide comments via e-mail to uffc-admin@conferencecatalysts.com. The amendments can be found in the following sections:

- Article 1, Section 1.4.
- Article 5, Section 5.1.2.
- Article 5, Section 5.1.3.
- Article 5, Section 5.1.5.
- Article 5, Section 5.1.8.
- Article 5, Section 5.2.2
- Article 5, Section 5.4.
- Article 5, Section 5.4.1.
- Article 5, Section 5.4.2.
- Article 6, Section 6.2.3.

- Article 6, Section 6.2.4.
- Article 6, Section 6.2.5.
- Article 6, Section 6.2.6.
- Article 7, Section 7.2.1.
- Article 7, Section 7.3.
- Article 8, Section 8.1.4.
- Article 8, Section 8.2.

You may view a tracked-changes version of the Constitution [here](#).

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SYMPOSIA

[IEEE UFFC-S 2022 Symposia Calendar](#)



2022 Joint Conference of the European Frequency and Time Forum & The IEEE International Frequency Control Symposium
24-28 April 2022
Hybrid - Paris, France and Virtual

[2022 IFCS Website](#)



2022 IEEE International Symposium on Applications of Ferroelectrics
27 June - 1 July 2022
Hybrid - Tours, France and Virtual

[2022 ISAF Website](#)



**2022 IEEE International
Ultrasonics Symposium**
10-13 October 2022
Hybrid - Venice, Italy and Virtual

[2022 IUS Website](#)

[IEEE UFFC-S 2021 Symposia Highlights](#)



International Symposium on Applications of Ferroelectrics (ISAF)

The [IEEE ISAF-IFIS-PFM 2021](#) Joint Conference was held virtually from 16 May to 21 May. Over 700 people registered for the conference, more than what was expected based on previous regular in-person meetings, and 100 people registered for the tutorials. The registered attendees contributed to more than 160,000 “pageviews” in total during the week of the conference! The virtual platform will be available until 16 June so that the attendees can continue searching and watching presentations of interest and discuss with the authors using the “conversation” tab.

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IEEE EFTF-IFCS 2021

2021 JOINT CONFERENCE OF EUROPEAN FREQUENCY AND TIME FORUM
& THE IEEE INTERNATIONAL FREQUENCY CONTROL SYMPOSIUM
July 7-17, 2021 // Virtual Conference

International Frequency Control Symposium (IFCS)

The [IEEE 2021 EFTF-IFCS](#) joint Conference was held virtually from 7 July to 17 July.

Conference organizers employed a dual virtual environment to foster the higher degree of interaction that is characteristic of in-person conferences. Attendees used the combined virtual platform of CONFLUX to access talks and Gather.town to engage with other attendees during live sessions, which included plenaries, award ceremonies, posters, and exhibit sessions. The live sessions were spread over three broad time zones (North America, Europe, and Asia) for global accessibility.

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International Ultrasonics Symposium (IUS)

The 2021 [IEEE International Ultrasonics Symposium](#) was held from 11 September to 16 September.

Over 1,900 attendees from 40+ countries registered for the online symposium. The event opened with a Plenary talk by Katherine Ferrara, and there were technical lectures and poster sessions held in parallel each day. The program

also included industry panels, student events, Women in Engineering, invited speakers, awards, patron webinars, and more.

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Latin America Ultrasonics Symposium (LAUS)

The 2021 [IEEE-UFFC-S Latin America Ultrasonics Symposium](#) (LAUS 2021) was virtually held on 4-5 October, with a student competition session held separately one day before the event. The event aimed to reinforce existing networks and promote emerging opportunities to the ultrasonics and acoustics community in Latin America in connection with the rest of the world. The UFFC-S offered complimentary memberships to registrants from Low-to-Middle-Income countries to continue supporting the region.

[READ MORE](#)

[Women In Engineering "She Leads @ IUS" panel at 2021 IUS](#)

Contributed By: Muyinatu Bell, UFFC-S Ultrasonics WIE and Diversity Chair



Approximately 60 women engineers gathered virtually for the She Leads @ IUS event at IEEE IUS this year. The event was co-organized by Hong Chen (Associate Professor of Biomedical Engineering and Radiation Oncology at Washington University in St. Louis) and Muyinatu Bell (John C. Malone Assistant Professor of Electrical and Computer Engineering, Biomedical Engineering, and Computer Science at Johns Hopkins University).

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EDUCATION

[Latin America Webinar Series](#)

We would like to invite you to attend the fifth webinar in the UFFC-S America Latina em/en Foco Webinar series from the [IEEE UFFC-S Latin America Outreach Initiative](#) featuring the topic, A Look at the History of Internationally Recognized Colombian Time Scale UTC (INM) and Optical Clocks with Trapped Ions.

The webinar will take place on **19 November 2021 at 11:00 AM EST (UTC -5:00)** and will feature the following two talks:

Talk 1

Liz Catherine Hernandez Forero

"A Look at the History of Internationally Recognized Colombian Time Scale UTC (INM)"

Talk 2

Milena Guevara Bertsch

"Optical Clocks with Trapped Ions"

Attendance for this webinar is completely free and will be limited to the first 300 attendees.

[Register Here](#)

After registering, you will receive a confirmation email containing information about joining the meeting.

Industrial Engagement Leadership Development Workshop Series



IEEE UFFC-S Industrial Engagement Committee

The IEEE UFFC-S Industry Engagement Committee invites you to participate in the [leadership development workshop series](#) by Nancy Schumann, CEO and Chief Coach for Authentic Leadership Strategies. In this workshop, you will gain insights, practice communication skills, and receive feedback regarding communicating and building your impact & presence as a technical leader. This interactive workshop is focused on those currently engaged in industry and is open to all UFFC-S members.

The workshop series will take place via zoom on **Thursday, 18 November and 2 December from 10:00 to 11:30 AM EST**. This is a two-part workshop on two different days, by registering for this workshop, you are committing to attending both of the sessions.

Session I: Communication & Connection for Technical Leaders

Thursday, 18 November | 10:00-11:30 AM EST (UTC -5:00)

What does it mean to communicate and connect as a technical leader? This session will share a framework for communication, explore how leaders communicate to connect and inspire, as well as provide the opportunity to reflect and examine your communication practices.

Session II: Building Your Impact and Presence as a Technical Leader

Thursday, 2 December | 10:00-11:30 AM EST (UTC -5:00)

How do we present ourselves as technical leaders? How do we know we have an impact? This session will examine success factors for leaders and the building blocks of personal brand. We will see how our values allow us to

differentiate ourselves and make an impact as leaders.

Attendance to this workshop is free of charge and entry is limited to the first 30 attendees. Industry members will be prioritized. Please fill out the registration form to reserve your spot.

[Register Here](#)

[Networking & Mentorship Workshop 1 \(Session 2\)](#)



IEEE UFFC-S
**PROFESSIONAL NETWORKING
& MENTORING PROGRAM**

Session Title:

How to Apply for and Start a New Job
21 November 2021 | 10:00 AM EST | Zoom

Speaker:

Alaina G. Levine
Author, *Networking for Nerds* (Wiley, 2015)
Columnist, *Your Unicorn Career*, *ScienceCareers/Science Magazine*
President, Quantum Success Solutions

[Link to Join](#)

[Virtual Lecturer Education Series](#)

We are excited to announce the launch of our UFFC-S Virtual Lecturer Education Series. The series will be presented via Zoom on **7 December 2021, 1 February 2022, and 1 March 2022**. Registration is free and will be limited to the first 300 registrants per event. For information on each of the talks in the series and to register for each talk, please see below.

Lecture One

Cold Sintering of Functional Materials: A Path to a Possible Sustainable Future
Clive Randall | Pennsylvania State University
7 December 2021 | 11 AM EST (UTC -5:00)

Lecture Two

Precision Metrology with Photons, Phonons and Spins: Answering Major
Unsolved Problems in Physics and Advancing Translational Science
Michael Tobar | University of Western Australia
1 February 2022 | 8 AM EST (UTC -5:00)

Lecture Three

Advances in Development and Applications of Piezoelectric Materials
Ahmad Safari | Rutgers University
1 March 2022 | 11 AM EST (UTC -5:00)

[More Details Here](#)

Summary of the 2021 Special-Topic School on Waves and Transducers



In October, the IEEE UFFC-S Special-Topic School on Waves and Transducers took place. We had thirty participants who all shared a common interest in ultrasound technology. The group was a nice mixture of people coming from

Canada and South America with backgrounds varying from astrophysics to biomedical ultrasound, from theoreticians to experimentalists, from academia to industry.

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PUBLICATIONS

[A Brief Update from the T-UFFC Editor-in-Chief](#)

Contributed By: Peter Lewin, T-UFFC Editor-in-Chief

IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL

The readers of T-UFFC who received the illustrated Table of Contents of the October issue of the T-UFFC may have noticed that the last paper of this issue, ends on page 3257. So, with two more issues coming in 2021, and 72 papers awaiting publication in Early Access, it looks like the T-UFFC will end 2021 with ~4000 pages. This is a record; at least it is for the past 10 years, during which period the T-UFFC has averaged only about 2400 pages a year. Bottom line: with the 2021 page count of about 67% higher than the average of the previous 10 years the Journal is doing well and all our recent promotion and marketing efforts resulted in remarkable payoff - the T-UFFC has grown nicely while also maintaining high quality.

No doubt this positive development will continue under the skillful stewardship of the upcoming Editor-in-Chief Professor Alfred Yu.

[OJ-UFFC Call for Papers: Special Issue on
Micromachined Ultrasonic Transducers](#)



Micromachined Ultrasonic Transducers

Open Journal IEEE UFFC
Special Issue



The IEEE Open Journal on Ultrasonics, Ferroelectrics, and Frequency Control (OJ-UFFC) invites submission of manuscripts on Micromachined Ultrasonic Transducers that fall within the scope of the UFFC Society. This special issue seeks contributions from authors who are engaged in any aspect of micromachined transducers design, implementation, and use. Review articles and original contributions are sought in a wide range of topics including, but not limited to, the following:

- Analytical and numerical modeling
- Microfabrication and packaging technologies
- Characterization
- Electronic integration and custom electronic design
- Imaging and therapy in 2D and 3D
- Applications: immersion, airborne, and solid contact

Submission deadline: 31 March 2022

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AWARDS

2021 Ultrasonics Awards

Contributed By: Jafar Saniie, UFFC-S IUS Awards Chair

The Rayleigh Award

Armen Sarvazyan

Citation: "For innovative and impactful contributions to the field of ultrasound tissue characterization and invention of shear wave elastography"

IEEE Carl Hellmuth Hertz Ultrasonics Award

Kathryn R. Nightingale

Citation: "For pioneering contributions to the field of radiation force imaging and measurements"

IEEE Ultrasonics Early Career Investigator Award

Amelie Hagelauer

Citation: "For outstanding contributions to the design and characterization of acoustic wave devices for wireless communications"

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STUDENT MEMBERSHIP

A Brief Summary of 2021 IUS Student Events

Contributed by: Madeleine Hertel & Maryam Basij, IEEE UFFC-S Student Representatives



Student Social

The two Student Social events were organized on Monday, 13 September, and Wednesday, 15 September during the 2021 IEEE International Ultrasonics Symposium for the students from all time zones to be able to join the event. This was a casual social event that provided student attendees with a valuable opportunity to meet and get to know their peers on the first day and during the technical sessions. With the 2021 IUS being held virtually with a compressed schedule due to the COVID-19 pandemic, it became much harder for students to network as they usually might during an in-person conference; the goal of this event was to facilitate new connections between students that would not be

possible otherwise.

[READ MORE](#)

Student-Professional Networking

The Student-Professional Networking event was organized on Tuesday, 14 September during the 2021 IEEE International Ultrasonics Symposium. This event provided student attendees with the valuable opportunity to meet both academic professors and industry representatives. For students, one frequently-cited benefit of attending an academic conference such as the 2021 IUS is the chance to network with professionals and future colleagues, and/or employers. With the conference being conducted virtually this year due to the COVID-19 pandemic, this event helped facilitate new connections between students and professionals that would have likely not been otherwise possible.

[READ MORE](#)

Student Pitch Competition

The Student Pitch Competition was held on Wednesday, 15 September during the 2021 IEEE International Ultrasonics Symposium. The purpose of this competition was to give students an opportunity to showcase their skills in preparing and delivering a concise summary of their research. During this live event, the participants presented their work in a one-minute rapid-fire format, visually supplemented with a single PowerPoint slide. Pitches were judged based on four primary criteria: clarity of speech, clarity of results, slide layout, and overall impression.

[READ MORE](#)

Meet Your Student Representatives

The Meet Your Student Representatives was held on Thursday, 15 September during the 2021 International Ultrasonics Symposium. The purpose of this event was to introduce the society and its offers for student volunteers, as well as help students direct their questions about the society to the respective contact person.

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UFFC-S UPDATES

[Dragan Damjanovic Named UFFC-S Incoming President-Elect](#)



UFFC-S Incoming President-Elect

Dragan Damjanovic



Dragan Damjanovic has been named the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFC-S) President-Elect. As President-Elect, Damjanovic will serve a two-year term from 1 January 1 2022 to 31 December 2023. Following this term, Damjanovic will become President of the society, serving a two-year term from 1 January 2024 to 31 December 2025.

[READ MORE](#)

[Ongoing Calls for Volunteers](#)



UFFC-S VOLUNTEER OPPORTUNITIES



UFFC-S is seeking dedicated volunteers to offer their time and service in the following areas below. To apply please visit [here](#).

For more information, please contact the UFFC-S Operations Manager at uffc-admin@conferencecatalysts.com.

2022-2024 Elected AdCom Members Announced

A total of 414 ballots were returned to IEEE for the election of four IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society members to the Administrative Committee for the term 1 January 2022 – 31 December 2024. The votes have been counted and the following candidates have been elected to serve for the three-year term:

ULTRASONICS

Jessica Liu Strohmann

FERROELECTRICS

Hana Ursic

FREQUENCY CONTROL

Claudio E. Calosso

REGIONS 8 - 10 REPRESENTATIVE

Omar Elmazria

[UFFC-S New Website](#)

We are pleased to announce the launch of the new [UFFC-S website](#). With goals of a simpler, more efficient design, the new website is aimed at easing navigation with accessibility in mind from the beginning.

Please visit www.ieee-uffc.org to see the new site.

Summary of October AdCom Meeting

The third Administrative Committee (AdCom) meeting of 2021 was held on 10 October via Zoom.

Highlights from this meeting include the election of the new incoming President-Elect Dragan Damjanovic and the vote to approve the UFFC-S Diversity and Inclusion Chair as a voting member of AdCom.

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UFFC-S GOOD NEWS



[Kathy Ferrara Named Recipient of IEEE Biomedical Engineering Award](#)

Katherine Ferrara has been named the recipient of the 2021 IEEE Biomedical Engineering Award, for outstanding contributions to the field of biomedical engineering.

[READ MORE](#)

[Elisa Konofagou Elected to the National Academy of Medicine](#)

We are delighted to learn that Elisa Konofagou, Ph.D., Robert and Margaret Hariri Professor of Biomedical Engineering and Professor of Radiology (Physics), Columbia University, New York, NY, was elected as a member of the National Academy of Medicine (NAM).

[READ MORE](#)

[IET Achievement Medals 2021](#)



The IET Achievement Awards exist to celebrate the incredible talent within engineering and technology, with a wide range of categories to recognize people who have made a real impact in their industry. The IET Achievement Medals 2021 winners and finalists have been announced. Particularly notable for our society is the award made to John Fleming for his role in the development of the world's first obstetric ultrasound imaging device while working at Smith Industries in Glasgow in the 1950s and 1960s. Anyone visiting Glasgow can still see this Disonograph machine today where it is displayed in the University of Glasgow's Hunterian Museum.

[READ MORE](#)

[Combating Cancer with Contrast-Enhanced Ultrasound](#)



The University of Washington recently highlighted exciting research by bioengineering associate professor Mike Averkiou and his lab to develop contrast-enhanced ultrasound (CEUS) imaging techniques for diagnosing cancer. He offered to help after his colleague, Barry Lutz, was diagnosed with Stage IV colon cancer. The article describes how Averkiou and his collaborator, Manjiri Dighe in UW Radiology, used CEUS imaging to determine that a mass in Lutz's liver was metastatic and evaluate the immunotherapy of the tumor. Lutz, who is now cancer-free, credits the CEUS imaging sessions with saving his life. A great example of innovative ultrasonics research in action!

[READ MORE](#)

[Ouwen Huang Recieved NIH F30 Award](#)

Ouwen Huang, Duke, received an NIH F30 award to apply deep learning methods to improve POCUS image quality. Moving closer to making ultrasound the next "stethoscope" that clinicians carry with them most of the time.

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[Alycen Wiacek selected as a 2022 Siebel Scholar](#)



Alycen Wiacek, a Ph.D. candidate in the Department of Electrical and Computer Engineering (ECE), has been selected as a Siebel Scholar for 2022, an award that recognizes her as being among the world's top graduate students in terms of academic performance and demonstrated leadership in the fields of business, bioengineering, computer science, and energy science. Siebel Scholars receive a financial award of \$35,000 to support their final year of studies.

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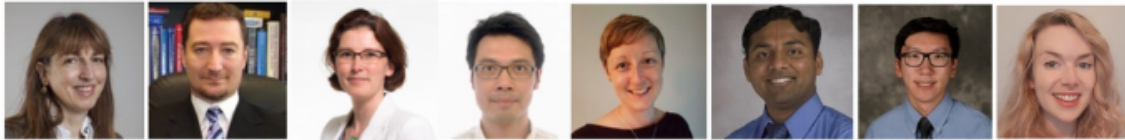
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KEEP IN TOUCH

[Please Tell Us Your Stories!](#)

Please contact any of the members of the UFFC-S newsletter team if you have news to share with the UFFC-S membership. We will get news onto the website as it occurs and include selected items in the quarterly highlight newsletters. Finally, in addition to the usual notices and updates we share, we're keen to promote good news and successes from across our society. If you or those you

work with have received an award, successfully defended their Ph.D. thesis, secured funding for an exciting new initiative, please get in touch! You can see all our news items on our web pages or by following our social media accounts.



[Lori Bridal](#), Newsletter Editor-in-Chief

[Erdal Oruklu](#), Ultrasonics Editor

[Julia Glaum](#), Ferroelectrics Editor

[Wei-Chang Li](#), Frequency Control Editor

[Helen Mulvana](#), Web Editor-in-Chief

[Arun Thittai](#), Newsletter Deputy Editor-in-Chief

[Derek Chan](#), Newsletter Deputy Editor-in-Chief

[Shelly Conroy](#), Publicity Chair

Social Media

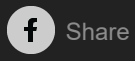
We're very keen to build our social media presence both to promote our society and to share news items with our community. Please add our pages to your networks and promote our posts so we can continue to reach as wide an audience as possible.

Whitelist UFFC-S Email

Please remember to whitelist the UFFC-S Administrator email address, uffc-admin@conferencecatalysts.com, to ensure that you are receiving the UFFC-S administrative email communication. For more information on how to whitelist an email address, click [here](#).



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