



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



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## PRESIDENT'S MESSAGE

Dear UFFC Members,

I hope this message finds everyone safe, well, and adapting at least somewhat to the new normal. It's been quite an intense few months for everyone working on UFFC projects, but we're beginning to adjust and work within this new set of constraints.



The biggest impact has been to our 2020 conferences, and last month saw the first of those, IFCS-ISAF 2020, take place. It was entirely shifted online. Despite this disruption, the General Chairs Dana Weinstein and Geoff Brennecka, Technical Chairs Brady Gibbons and Matteo Rinaldi, and the entire conference team, made a tremendous success of the conference, which had excellent

technical content, increased participation, and innovative interactive and social sessions like the Student Pitch competition and the Pub Quiz. Our society runs because of the efforts of volunteers, and we're tremendously grateful to everyone, especially Dana and Geoff, for their incredible achievement.

IEEE IUS 2020 has been moved to a fully virtual conference which will take place 6-11 September. This format allows us to still come together to learn, idea-share, and gain insight into the latest innovations within the ultrasonics field, and ensures that the current landscape does not hinder anyone's ability to participate. To try to make things available as globally as possible, technical sessions will be from early morning through lunchtime Pacific Time, with social and other events in the afternoons. Presenters with posters will also be able to take advantage of the ePosters platform, which allows for multimedia presentations and richer experience. Submissions are at an all-time high, both in number and quality, and we're looking forward to seeing our colleagues and their work, even if only over Zoom.

Now that we have a little breathing room, we've been looking at the long term consequences of COVID-19, and how to serve our members while keeping everyone safe. Our Distinguished Lecturer and Star Ambassador programs have previously paid for travel for our most experienced and promising members to promote their work around the world and in their local regions, however, this clearly has had to be put on hold. Instead, we're now working on an innovative online platform to promote their lectures to as wide an audience as possible, and hope to announce that in the coming months.

In a similar vein, we are also looking to take advantage of the increased number of high-quality video talks that are being given within our society. Both at the conferences and as part of lecture series such as those organized by Kyle Webber on Ferroelectrics, our members are rising to the occasion and delivering great content in new ways. Over the next few months, we will be working on a "YouTube" like platform to give members who wish to provide their work a curated and easily searchable means to educate and disseminate knowledge.

We're also dedicated to our long term goals of ensuring that our society leadership and membership better match that of society in general and that no-one feels they do not have a home with us. The UFFC Society was recently the first IEEE society to make a public statement in support of the goals of the Black Lives Matter movement, and stand in the belief that to be neutral is to support oppression. Words are the first step, and we must now back that up with concrete actions. Our D&I team is working to ensure that's at the top of our

agenda, that we have appropriate training and education, and opportunities to improve. While we still have a long way to go, I'm glad to see the progress we have made compared to even just a few years ago.

As always, every area of our society is looking for dedicated and passionate volunteers to make UFFC everything it can be. From students to retirees, we have amazing people who make our society better in small ways and large. If you are interested, please let the VPs in your technical area know, or to me as President, and we'll work to find a way to make you part of our team.

Please continue to stay safe and well.

**Paul Reynolds**  
*IEEE UFFC-S President*

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## UFFC-S UPDATES

### 2020 IEEE UFFC Society Election

*Contributed by Nazanin Bassiri-Gharb, UFFC-S Junior Past-President*



The [UFFC-S Administrative Committee member elections](#) are open! The voting period has been extended to 9 September 2020. Those elected will serve for 3 years beginning 1 January 2021.

**VOTE NOW** at <https://eballot4.votenet.com/IEEE>.

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### IEEE Milestone in honor of Walter Guyton Cady

*Contributed by Sidney Lang, History Chair*



An [IEEE Milestone in honor of Walter Guyton Cady](#) was approved by the IEEE Board of Governors on 6 December 2019. The Milestone is entitled: "Piezoelectric Quartz Oscillator, 1921-1923. The plaque will be placed at Wesleyan University, Middletown, CT where Cady did his research.

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## Leandra Pourcelot: Oral History

*Contributed by Sidney Lang, History Chair*



An interview about the personal history and professional achievements of Léandre George Pourcelot, born in France in 1940, has recently been conducted by Ayache Bouakaz and is published on the [Engineering and Technology History Wiki](#) and is shared in the [oral history section of the IEEE UFFC web site](#).

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### Share Your Talents!

Please feel welcome to get more involved in the UFFC organization. Current openings are announced on the [opportunities page](#) on our website. For more information, feel free to contact the UFFC President, the VP of your technical area, or any of the other [AdCom members](#).

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## PUBLICATIONS

### IEEE T-UFFC Call for Papers

*Contributed by Zhen Xu, Associate Editor in Chief IEEE T-UFFC*

*IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control* will organize a special issue entitled “[Histotripsy: approaches, mechanisms, hardware, and applications](#)” to create a library of peer-reviewed literature on different aspects of histotripsy from mechanisms, software and devices to preclinical and clinical studies.

Submission deadline: **31 October, 2020**

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### Impact Factor and Content Not to Miss in TUFFC

*Contributed by Peter A. Lewin, TUFFC Editor in Chief*

Clarivate Analytics has recently released the 2019 Journal Citation Reports (JCR), and the 2.812 impact factor for the IEEE Transactions on Ultrasound Ferroelectrics and Frequency Control indicates the journal's sustained excellence and prominence in the ultrasonics, ferroelectrics and frequency control communities.

For a list of articles that made it to the Highly Cited Articles list, click [here](#).

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## IEEE/OSA Journal of Lightwave Technology

*Contributed by Vincent Laude and Xueding Wang, UFFC representatives for JLT*

The [IEEE/OSA Journal of Lightwave Technology](#) (abbreviated J. Light. Technol or simply JLT) is a semi-monthly journal that is co-sponsored by seven IEEE technical societies, including UFFC, and The Optical Society (OSA). It has been publishing leading work in optical waveguide technologies and their applications since 1983, from integrated photonics to optical networks. Many of the highest cited papers in these fields have been published in this journal. JLT is also present on [LinkedIn](#). Click [here](#) for additional information.

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## COUNCIL SPOTLIGHTS

### IEEE Sensors Council

*Contributed by Brooke Johnson, Sensors Council Executive Assistant*



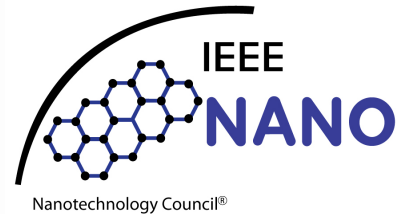
Regrouping 26 IEEE member societies working together in the multi-disciplinary technical area of Sensors, the [IEEE Sensors Council](#) focuses on the theory, design, fabrication, manufacturing and application of devices for sensing and transducing physical, chemical, and biological phenomena. With an emphasis on the electronics, physics, and reliability aspects of sensors and integrated sensor-actuators, the Council sponsors well-recognized, international conferences and publications.

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### IEEE Nanotechnology Council (NTC)

*Contributed by Zuleima Davis, NTC Administrative Assistant*

The IEEE Ultrasonics, Ferroelectrics, & Frequency Control Society (UFFC-S) is one of 23 member societies in the [IEEE Nanotechnology Council \(NTC\)](#), a multi-disciplinary group working to support the theory, design, and development of nanotechnology and



its scientific, engineering, and industrial applications. The UFFC-S President appointed two members to represent the UFFC-S in the NTC: Oluwaseyi (Seyi) Balogun. Northwestern University, and Lidai Wang, City University of Hong Kong.

The NTC has approximately 14000 participants, with 29 Chapters and 14 Student Chapters around the world. The Distinguished Lecturer Program is an important feature of the Council. Information on how to request talks by NTC Distinguished Lecturers can be found [here](#). Also, stay tuned for a new and improved [TryNano.org](#)! Information on their conferences and publications can be found [here](#).

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## AWARDS

### 2020 C.B. Sawyer Memorial Award

*Contributed by John Vig, AdCom Emeriti*



Congratulations to **Dr. Victor Plessky** for being awarded the 2020 C.B. Sawyer Memorial Award. More information on Dr. Plessky's achievements can be found [here](#).

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### Susan T. McKinstry named Evan Pugh Professor

*Contributed by Ahmad Safari, Rutgers University and UFFC AdCom Emeriti*

**Susan T. McKinstry** was recently named an [Evan Pugh Professor](#), an elite and prestigious distinction bestowed by the faculty of Pennsylvania State University.



Warm and well-deserved congratulations to Susan!

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## Jan Brown enters the IEEE TAB Hall of Honor

*Contributed by Paul Reynolds, President IEEE UFFC-S*



**Jan Brown** was added to the IEEE Technical Activities Board (**TAB**) **Hall of Honor** this month for leadership in improving fiscal management of conferences and conference publications.

Congratulations to Jan for this achievement and sincere thanks for her substantial contributions!

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## John Vig Wins the 2020 IEEE Richard M. Emberson Award

*Contributed by Lynn Frassetto, Senior Awards Presentation and Communications Specialist IEEE Corporate Activities*



The IEEE Vision, Innovation, and Challenges Summit & Honors Ceremony was held on-line for 2020 Medals and Recognitions. IEEE UFFC member **John Vig** won the 2020 IEEE Richard M. Emberson Award “for leadership, entrepreneurship, and perseverance in founding the IEEE Sensors

Council and associated technical journals.”

To learn more, watch: <http://ieeetv.ieee.org/ieeetv-specials/honors-2020-john-vig-wins-the-ieee-richard-m-emberson-award?rf=channels|9&>.

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## 2020 IEEE UFFC Society Ferroelectrics Awards

*Contributed by Marco Deluca, Ferroelectrics Newsletter Editor*

Hearty congratulations to the following [UFFC Society Ferroelectrics award winners!](#)



Fei Li

Beatriz Noheda

Jiri Hlinka

**Fei Li** from Xi'an Jiaotong University got the Ferroelectrics Young Investigator Award for “his outstanding contributions to the fundamental understanding of relaxor ferroelectric-lead titanate single crystals and ceramics”.

The Ferroelectrics Recognition Award went to **Jiri Hlinka** (Czech Academy of Sciences) for “his outstanding contributions to fundamental theoretical and experimental studies of ferroelectrics, relaxor ferroelectrics and multiferroics”.

Finally, the prestigious Robert E. Newnham Ferroelectrics Award was given to **Beatriz Noheda** (Zernike Institute for Advanced Materials, the Netherlands) for “her outstanding contributions to the understanding of the giant piezoelectricity in lead zirconate titanate and ferroelectric relaxors, based on her discovery of their low symmetry phases”.

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## 2020 IEEE UFFC Society Frequency Control Awards

*Contributed by Wei-Chang Li, Frequency Control Newsletter Editor*



Craig Nelson

Robert Lutwak

Victor Plessky

The [IFCS awards](#) this year, including the W. G. Cady Award, I. I. Rabi Award, and C.B. Sawyer Memorial Award, were announced by Dana Weinstein during IFCS-ISAF 2021.

The Cady Award was given to **Craig Nelson** for his leadership in the design



and development of state-of-the-art low noise oscillators and phase noise measurement systems.

The Rabi Award was given to **Robert Lutwak** for his pioneering technical contributions and engineering management leading to the development of the first commercial “chip-scale” atomic clock.

The Sawyer Award was awarded to **Victor Plessky** for his pioneering contributions to the development of SAW and micro-acoustic devices, including the prediction of Surface Transverse Waves (STM), the theory of the “leaky” SAW in periodic structures (i.e., the “Plessky equation”), and the invention of XBARs.

The awardees of this year will be presented with the awards in-person next year during the IFCS 2021 Conference.

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## Student Paper Awards of IFCS-ISAF 2020

*Contributed by Wei-Chang Li, Frequency Control Newsletter Editor and Marco Deluca, Ferroelectrics Newsletter Editor*

The [Student Paper Winners of the IFCS-ISAF 2020 Conference](#) were presented virtually during IFCS-ISAF 2020 on 22 July 2020.



### IFCS Student Paper Awards

The Academic Chair, Azadeh Ansari, presented the IFCS student paper awards and the winners are:

- Group 1: Sen Dai, Purdue University
- Group 2: Qianyi Xie, UC Berkeley
- Group 3: Jize Han, Tsinghua University and Romain Gautier, Systèmes de Référence Temps-Espace (SYRTE)
- Group 4: Tzu-Hsuan Hsu, National Tsing Hua University and Vageeswar Rajaram, Northeastern University
- Group 5: Benjamin Dix-Matthews, University of Western Australia
- Group 6: Robert Fasano, National Institute of Standards and Technology

### ISAF Student Paper Awards

The ISAF student winners are:

*Presentation Awards:*

- Mihail Slabki, Technical University of Darmstadt
- Shelby Fields, University of Virginia
- Sven Reitzig, Technical University at Dresden
- Rachel Broughton, North Carolina State University
- *Poster Awards:*
- Alexis Payne, North Carolina State University
- Benjamin Hirt, Case Western Reserve University

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## CONFERENCES

### IEEE IFCS-ISAF 2020



**Joint Conference of the IEEE International Frequency Control Symposium  
& IEEE International Symposium on Applications of Ferroelectrics**

*Contributed by Geoff Brennecka General Co-Chair IFCS-ISAF 2020, Wei-Chang Li, Frequency Control Newsletter Editor and Marco Deluca, Ferroelectrics Newsletter Editor, and UFFC-S Student Representatives*

The IEEE IFCS-ISAF 2020 Conference in conjunction with EFTF and PFM was held online on 19-23 July 2020. Despite the switch to an all-online format, the meeting was very successful. Nearly 700 people registered for the conference, more than were expected for the regular in-person meeting, and ~250 people registered for the tutorials, more than double the number of tutorial participants at previous IFCS and ISAF conferences! The registered attendees contributed almost 80K pageviews in total during the week of the conference!

The conference offered a total of 358 papers including the plenaries and tutorials by speakers from 35 countries with pre-recorded presentations through the on-demand virtual platform. In addition to asynchronous paper presentations, several live events were held via ZOOM, including the welcome ceremony, awards ceremony, live Q&A sessions for the plenaries, a panel discussion on emerging ferroelectric materials, and UFFC sponsored Women in Engineering (WIE) and student networking events. The live portion of the conference concluded with a live pub-quiz style celebration of the 100th anniversary of the discovery of the phenomenon of ferroelectricity.

The [Welcome Ceremony and IFCS Awards of IFCS-ISAF 2020](#) Conference took place online on 20 July. The General Co-chair, Dana Weinstein and Geoff Brennecka, and the IEEE-UFFC president, Paul Reynolds, provided a warm welcome to participants around the world.

The [IEEE Women in Engineering event](#) at the IFCS-ISAF 2020 Conference took place online on 21 July. The event was hosted by the Women In Engineering Chair, Laura Popa and Jody Julien from J2 Coaching & Consulting. Attendees at the event had the opportunity to discover more about their purpose-driven career choices through networking and exchanges on themes.

On Monday, 20 July, three simultaneous Zoom networking events provided opportunities for students, young professionals, and senior scientists to have friendly, social interactions with their peers during the first all-online IFCS-ISAF conference. Approximately 70 participants attended the events. These events consisted of: Zoom Chat Roulette, Student Professor Meet and Greet, and Student-Industry Networking Event. Find more details [here](#).

The 2<sup>nd</sup> [IEEE UFFC-S Student Pitch Competition](#) was held online during the IFCS-ISAF 2020 Conference on Wednesday, 22 July. Two individual juries of leading academic and industry representatives judged 60-second single slide presentations from 13 young scientists. Participants were judged on their single presentation slide, clarity of speech, time management, clarity of results, and the overall impression. The **1st place overall** was presented to **Gabriela Dominique Martinez** from the University of Colorado (CU) for her presentation: "[Toward a fully MEMS magneto-optical trap](#)". The **Academia's Choice Award** was awarded to **Abinash Kumar** from Massachusetts Institute of Technology (MIT) for his presentation: "*Relaxor ferroelectrics: No more a hopeless mess*". The **Industry's Choice Award** went to **Cosme Miles-Brault** from Luxembourg Institute of Science and Technology (LIST) for his presentation: "[Model antiferroelectrics](#)". Warm congratulations to the winners and big thanks to every participant!

On the last day of the IFCS-ISAF 2020 Virtual Conference, a [Pub Quiz event](#) on Ferroelectrics was held live. Over 30 people participated in this event, split across six teams. The game consisted of four rounds, each with a series of questions that fit into a theme (Ferroelectric Firsts, Crystal Chemistry, Fun Facts about Famous Ferroelectricians, and then the Final round where teams got to wager points based on confidence in their answers). The final result was a tie between two teams: Jones Group FUN (consisting of Jacob Jones and some of his students) and Cavalier Beavers (consisting of Jon Ihlefeld, Brady Gibbons, and a few of their students).

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## IEEE IUS 2020



### IEEE IUS 2020 - Now a Virtual-Only Event

The safety and well-being of our participants is our priority. With the continued resurgence of COVID-19 within the State of Nevada, in particular Las Vegas, along with the city's prohibiting large or even moderately-sized public gatherings, it makes it an impossibility to hold the in-person event as originally planned.

**The organizing committee is moving 2020 IEEE IUS to a fully virtual**

conference which will take place on September 6 - 11, 2020.

This format allows us to still come together to learn, idea-share, and gain insight into the latest innovations within the ultrasonics field, and ensures that the current landscape does not hinder anyone's ability to participate. Please consult the website for most of the details and logistics of the virtual meeting, and check back frequently for updates as arrangements are finalized. Please check [the website](#) for the latest updates, final program details, and COVID-19 travel advisories. Take a quick look at the [program which is now on-line](#).

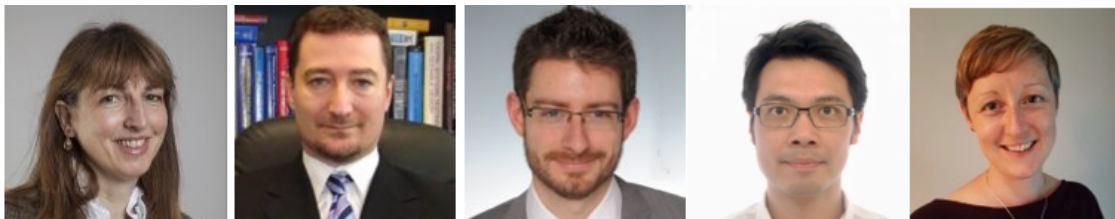
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## KEEP IN TOUCH

### 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 bi-annual highlight newsletters. You can see all our news items on our [webpages](#) or by following our social media accounts.



[Lori Bridal](#), Editor in Chief

[Erdal Oruklu](#), Ultrasonics Editor

[Marco Deluca](#), Ferroelectrics Editor

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

[Helen Mulvana](#), Publicity Chair

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### 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.



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