



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

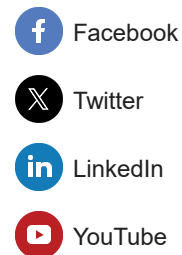


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## IN THIS ISSUE

[President's Message](#)  
[Interviews](#)  
[Conferences](#)  
[Publications](#)  
[Awards](#)  
[Student Membership](#)  
[Education](#)  
[UFFC-S Updates](#)  
[Keep In Touch](#)

## FOLLOW US



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## PRESIDENT'S MESSAGE

Dear UFFC Members,

Welcome to the first UFFC President's message of 2021, and I hope this message finds you well. Despite the uncertainty we still face over the next few years, the goal of UFFC - to advance technology for humanity - remains strong. However, our methods to do so, safely and effectively, have to change and adapt to new conditions and new technology. Much of the work UFFC volunteers are doing in 2021 ensures that our tools and methods will enable a successful 2022 and beyond.



One of these initiatives is to reach out to our colleagues in Latin America and encourage their participation in the UFFC community. During this time when our

meetings and symposia are all virtual, physical location should make no difference to participation. Historically many IEEE events have been located in North America or Europe and more recently, in Asia. We need to change our mindset to truly be a global organization and cover all continents. Our efforts will work to bring together the many world leading researchers and practitioners from Latin America and create a forum to support transversal collaborations within Latin America between the different countries, institutions, and fields active in UFFC-S related areas. The intent is to provide a blueprint to reach and support all those who can contribute to, and benefit from the UFFC-S, regardless of where they are in the world. You should expect to hear a lot more about this in the near future.

In the virtual world, we're finding many excellent ways to transfer technical information, but invaluable personal contact is limited. For those who are just entering the field, this is a tremendous disadvantage. Students and young professionals are facing unprecedented challenges at the start of their career that could impact them throughout their lives. To mitigate this, we are starting a [mentorship program](#), with a pilot group of roughly 40 paired mentors and mentees working together to provide support, contacts, and guidance that can continue even as in-person meetings begin again. This will be combined with a series of seminars on skills such as grant writing that will be available to all UFFC members.

We welcome two new volunteers to our Transactions Editorial Boards. Professor Alfred Yu has been named as the Editor in Chief Elect for the Transactions in UFFC. He will progressively integrate into this role while assisting the current Editor in Chief, Professor Peter Lewin. Professor Omer Oralkan has accepted the position of Editor in Chief for the new Open Access UFFC Transactions. Open Access is now mandated by funding agencies for many researchers and the Open Access Transactions will ensure that UFFC publications provide the best publishing choice for everyone in UFFC-related fields. The work of these new appointees will help maintain UFFC's high standards to keep publications timely, relevant, and eminent in the field.

Finally, I'd like to draw your attention to the call for members to stand for elected positions within UFFC-S AdCom. Elected members represent the society overall, and make up around half of the administrative committee. Their work is essential to ensuring that the society serves all members at the highest possible level. One of my goals for the remainder of my term as President is to engage and enable our elected members to implement more original initiatives to galvanize the UFFC-S community. Please consider standing as a candidate and making your mark in UFFC. The application is [here](#) and it closes on 22

March, so don't wait!

I once again wish you and everyone close to you a safe and healthy 2021.

Paul Reynolds

UFFC President 2020/21

[Back to Top](#)

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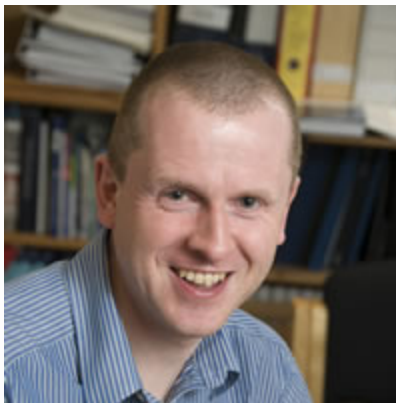
## Interviews

### Interviews with Newly Appointed Officers

*Contributed by Helen Mulvana, Web Editor-in-Chief, IEEE UFFC-S; Lori Bridal Newsletter Editor-in-Chief, IEEE UFFC-S*

In January 2021, Prof. Sandy Cochran completed his term as VP Ultrasonics with the society, to take up the position of VP Symposia. Meanwhile, Prof. Zhen Xu took on the role of VP Ultrasonics. We took the opportunity to ask them each about their contributions to IEEE UFFC-S and the roles in which they have been involved.

### Sandy Cochran - VP Symposia



#### **What's your current occupation?**

I'm Professor of Ultrasound Materials and Devices; Deputy Head of the James Watt School of Engineering, University of Glasgow; and Head of the Research Division of Systems, Power and Energy.

#### **Where are you based?**

Glasgow, Scotland.

**What excites you about the future of ultrasound?**

Even after almost 40 years working in ultrasound and ferroelectrics, lots of new topics are emerging, from new materials to machine learning, certainly enough to keep the Symposia very lively into the future!

**What opportunities led you to your current appointment to the UFFC-S AdCom?**

I've been invited to take a series of roles, first as a member of the International Ultrasonics Symposium Technical Program Committee, then as Chair of one of its Groups. I'm also a member of the same organisation for the International Symposium on the Applications of Ferroelectrics. After a few years as an IUS TPC Group Chair, I was asked to take up the role of Vice President for Ultrasonics and having seen some changes, I was excited to be offered the role of Vice President for Symposia.

**What do you hope to achieve in your current role?**

The pandemic has loosened up a lot of the framework that kept the UFFC-S Symposia running very effectively for quite some years. I particularly hope to help all the excellent volunteers and the support staff at Conference Catalysts to establish a new normal, with hybrid symposia expanding the opportunities for truly global participation, even where means are limited. I'd also like to explore how to extend the good work done by UFFC-S with its symposia to provide a broader range of events, though I expect this will take longer than I'll be VP Symposia to bring forth fully.

**What's the best piece of advice you've ever received?**

As I tend personally towards the approach of moving fast and breaking things, many people have told me to take care to be more diplomatic!

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**Zhen Xu - VP Ultrasonics**

**What's your current occupation?**

Professor of Biomedical Engineering

**Where are you based?**

University of Michigan, Ann Arbor MA, USA

**What excites you about the future of ultrasound?**

I am excited about the use of ultrasound for non-invasive therapy for many applications, including non-invasive surgery, drug delivery, immunotherapy, etc.

**What opportunities led you to your current appointment to the UFFC-S AdCom?**

I have served as the UFFC-S Publicity Chair, the Chair of Women in Engineering, and an Elected AdCom member before my appointment as the VP Ultrasonics.

**What do you hope to achieve in your current role?**

My two primary goals are to increase equity and diversity and to provide more educational benefit for the UFFC-S members in the Ultrasonics field.

**What's the best piece of advice you've ever received?**

It is the gradual change that lasts longer.

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## CONFERENCES

### [2021 ISAF-ISIF-PFM Joint Conference](#)

*Contributed by Brittian Parkinson, Conference Catalysts, LLC*



The [2021 ISAF-ISIF-PFM Joint Conference](#) will be held in a virtual format from **16-21 May**. This international conference aims to bring together leaders from academia, national laboratories and industrial research and development

sectors. The conference will cover the most recent advancements in the science and technology of ferroelectrics, electroceramics, thin films, dielectric materials and their applications.

The conference program will include 83 invited presentations, 65 talks by the Young Ferroelectric Investigator Invited Speakers and 697 contributed abstracts. Plenary presentations will be given by Beatriz Noheda, J.-M. Liu, Marin Alexe and Mark. S. Humayun. A special session celebrating the 100-year anniversary of the first publication on the ferroelectric behaviour of Rochelle salt is planned.

Visit the ISAF [conference website](#), for additional details.

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## [IEEE EFTF-IFCS 2021 Call For Papers](#)

*Contributed by Brittian Parkinson, Conference Catalysts, LLC*



Now Accepting Paper Submissions

EFTF-IFCS 2021 is now accepting paper submissions, for the virtual joint Conference of the European Frequency and Time Forum & International Frequency Control Symposium. The abstract submission deadline is **19 March 2021**.

Visit the [conference website](#) for more details and abstract submission.

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## [IEEE IUS 2021: Call For Papers](#)

*Contributed by Brittian Parkinson, Conference Catalysts, LLC*



# IEEE IUS 2021

International Ultrasonics Symposium  
Virtual Symposium | September 12 - 16, 2021

Papers are solicited for this conference describing original work in the field of ultrasonics. The abstracts should be submitted in electronic form according to the specific information posted on the conference web page.

Each abstract will receive careful review and evaluation by the Symposium Technical Program Committee. Evaluation criteria will include originality of the work, contribution to the state-of-the-art, and overall interest to the ultrasonics community. Submission of a conference paper, up to four pages, will be highly encouraged at a later date for authors whose abstracts are accepted at the conference.

The abstract submission deadline is **7 April 2021**.

Visit the IUS [conference website](#), for additional details.

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## [IEEE-UFFC Co-Sponsors the 15th Symposium on Piezoelectricity, Acoustic Waves and Device Applications](#)

*Contributed by Helen Mulvana, Web Editor-in-Chief, IEEE UFFC-S*



The 15th Symposium on Piezoelectricity, Acoustic Waves, and Device Applications, to be held **16-19 April 2021** in Zhengzhou China is co-sponsored by:

- [IEEE UFFC](#)
- [The Chinese Society of Theoretical and Applied Mechanics](#)
- The Acoustic Society of China

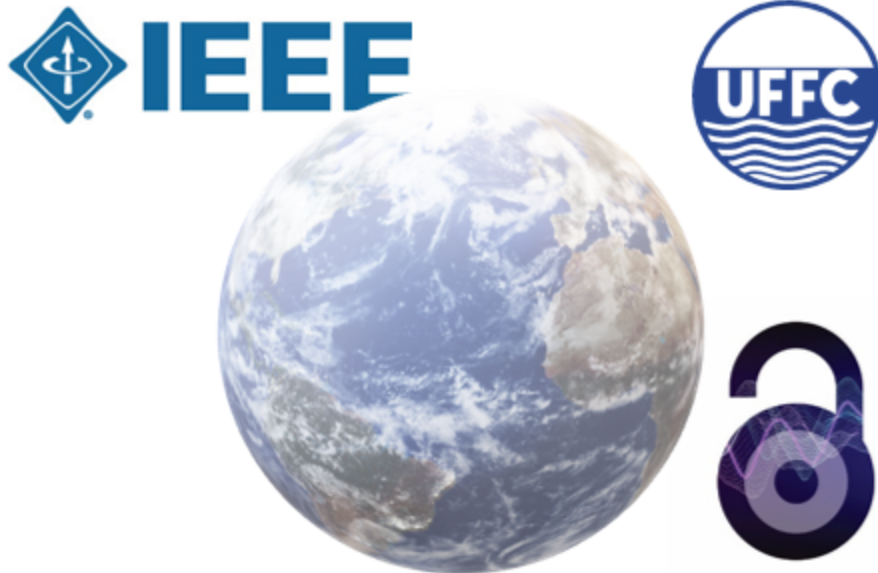
The first call for papers and other information is available [here](#).

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## PUBLICATIONS

### [Announcing the new IEEE Open Access Journal of Ultrasonics, Ferroelectrics and Frequency Control - Submit a paper today!](#)

*Contributed By - Omer Oralkan, Editor-in-Chief IEEE OJ-UFFC, IEEE UFFC-S*



In keeping with IEEE's continued commitment to providing options to support the needs of all authors we have launched the new [IEEE Open Access Journal of Ultrasonics, Ferroelectrics and Frequency Control](#) (OJ-UFFC).

Submit a paper today to the premier new open access journal in Ultrasonics, Ferroelectrics and Frequency control.

The IEEE Open Access Journal of Ultrasonics, Ferroelectrics and Frequency Control currently has an open call for Editorial Board Members. Interested



individuals should contact the EiC at: [omer.oralkan@ncsu.edu](mailto:omer.oralkan@ncsu.edu) or visit the call [page](#) for more details.

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## Note From Peter Lewin, T-UFFC Editor-in-Chief

We are excited to share that the [March Issue of T-UFFC](#) has just arrived.

The cover page with the list of contents should offer an easy overview of the published papers. The categories of the papers reflect well the scope of the Journal and range from Medical Ultrasonics, Transducer and Transducer Material, Sensors, NDE and Industrial Application, Bulk and Surface Acoustic Waves to Frequency Control. With four high quality review papers and nine original contribution articles, the Ferroelectrics category enjoyed an abundant exposure in the Special Issue of Women in Ferroelectrics published last month. This issue also included a pensive *In Memoriam* of Helen Megaw and her outstanding contributions to this field.

What else is new? We have refined the cover image and extended its caption to offer a stand-alone description of the work described in the manuscript. We hope this new presentation will help introduce a new generation of scholars to the area, promote interdisciplinary aspects of research and draw attention to new fields of applications. The caption now addresses the background and motivation for the research and summarizes the key findings and their potential ramifications.

We are also keen to take the opportunity to recognise the continued support from those of you who donate your expertise and time to maintain the standards of our journal through the provision of peer review or as associate editors. This has been particularly valuable over the last year when many have faced unprecedented challenges balancing work and home commitments.

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## AWARDS

### [Final Call for Nominations - UFFC Achievement and Distinguished Service Awards](#)

*Contributed by Jan Brown, Award Committee Chair, IEEE UFFC-S*

Honoring our UFFC Society members is a privilege. Each member can get involved in the process by submitting award nominations.

The two society-wide awards are the UFFC Achievement Award and the UFFC Distinguished Service Award. Previous Award winners may be found [here](#). Nominations are due by **31 March 2021**. Nomination instructions are available [here](#).

[Back to Top](#)

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## **2021 IEEE IFCS: Award Nominations**

*Contributed By - Wei-Chang Li, Newsletter Editor Frequency Control, IEEE UFFC-S*

The nomination process for the [2021 International Frequency Control Symposium Awards](#) is now open for candidates of the W. G. Cady, I. I. Rabi, and C. B. Sawyer Awards. The nomination deadline is **26 March 2021**. The Award Chair, Dr. James Camparo, will be handling the nomination and selection process.

The awardees lists of the past years can be found [here](#). The nominees cannot be previously selected for the award. However, the individual who has been selected previously for one award (e.g., the Cady Award) can be nominated for a different award (e.g., the Rabi Award). The candidates who were not selected in prior years can be re-nominated.

The nomination procedure and award definitions can be viewed [here](#). A nomination template for 2021 IFCS will be provided [here](#).

The three IFCS awards were presented at the 2020 IFCS Virtual Conference:

- Mr. Craig Nelson – W. G. Cady Awardee
- Dr. Robert Lutwak – I. I. Rabi Awardee
- Dr. Victor Plessky – C. B. Sawyer Awardee

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## **UFFC-S Members Honored with 2021 Fellow Selection**

*Contributed by Lori Bridal, Newsletter Editor-in-Chief, IEEE UFFC-S*

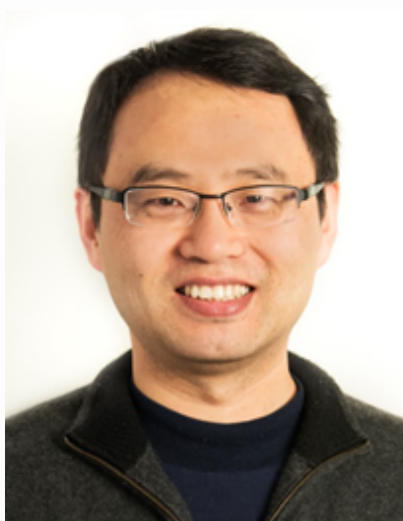
The IEEE Fellow Committee selects a prestigious few each year to be elevated to the grade of IEEE Fellow. This is a very high honor that is awarded annually to less than one-tenth of one percent of the total IEEE membership.

The IEEE Board of Directors designated three, UFFC-S members recommended by UFFC to become new [IEEE Fellows as of 1 January 2021](#).



**Hong Wang**

For development, integration, and commercialization of novel dielectric ceramics and composites for passive integration.



**Shujun Zhang**

For contributions to the development of advanced piezoelectrics for transducers.



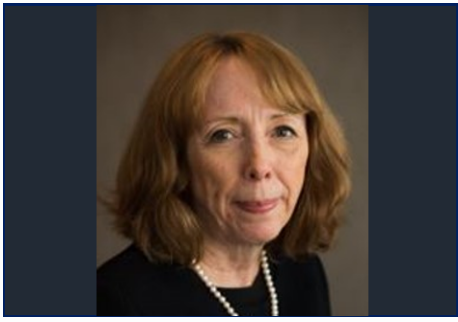
**David Allen**

For contributions to timing systems, and precision clocks.

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## [Kathy Ferrara Receives the IEEE Biomedical Engineering Award](#)

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



Congratulations to Katherine Ferrara, Professor of Radiology at Stanford, Fellow of the IEEE and member of the UFFC-S, who has received the [2021 IEEE Biomedical Engineering Award](#).

This award recognizes her exceptional achievements and outstanding contributions to the field of biomedical engineering "for the integration of ultrasound and engineered vesicles in the diagnosis and treatment of cancer."

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## [Nazanin Bassiri-Gharb Elected to the AIMBE College of Fellows](#)

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



Congratulations to Nazanin Bassiri-Gharb, Professor of George W. Woodruff School of Mechanical Engineering, past IEEE UFFC-S President, who has been elected by the [American Institute for Medical and Biological Engineering \(AIMBE\) to its College of Fellows](#) for “outstanding contributions to development of innovative sensor materials applicable in personalized medicine and biomedical engineering applications.”

The AIMBE College of Fellows is comprised of the top two percent of medical and biological engineers in the country. Dr. Bassiri-Gharb will be inducted into the College of Fellow at a ceremony during the AIMBE’s 2021 Annual Event on 26 March.

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## **UFFC-S Member Accomplishment**

*Contributed By - Brittian Parkinson, Conference Catalysts, LLC*



Congratulations to Joel Harley, UFFC 2020 Student Advisor, for being selected as the UF Herbert Wertheim College of Engineering 2020-21 [Undergraduate Teacher of the Year!](#)

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*Editor’s note: UFFC-S occasionally publishes news of accomplishments by UFFC-S members. Please do not hesitate to share major member news with the UFFC-S Newsletter Editor-in-Chief or one of the UFFC-S Newsletter Editors. Items must be of exceptional significance in the judgement of the UFFC-S Newsletter Editor-in-Chief to be published.*

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# Student Membership

## New Student Representatives

*Contributed By - Brittian Parkinson, Conference Catalysts, LLC*

Introducing the new [UFFC-S Student Representative Advisor and the new UFFC-S Student Representatives](#) who will be serving in 2021 and 2022. Each year, up to three PhD students are appointed to the role of Student Representative by the UFFC-S President. During their two-year term, these students help plan student events at symposia, actively participate in AdCom meetings, and bring their fresh perspectives to student outreach.



**Andreja Erbes**

Student Representative Advisor  
Huawei Technologies  
[erbes.andrea@gmail.com](mailto:erbes.andrea@gmail.com)



**Maryam Basij**

Junior Student Representative, Ultrasonics  
Biomedical Engineering Department, Wayne  
State University  
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**Federica Benes**

Junior Student Representative, Ferroelectrics  
Materials Center Leoben Forschung GmbH  
[federica.benes@mcl.at](mailto:federica.benes@mcl.at)





## Etienne Batori

Junior Student Representative, Frequency Control  
Université de Neuchâtel, Switzerland  
[etienne.batori@unine.ch](mailto:etienne.batori@unine.ch)

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## Student Membership

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



Effective as of December 2020 any new or renewing student member can use the promotion code **FUTURE50** to receive 50% off their [IEEE student membership dues](#). Any student who has already joined or renewed at full price and would like to take advantage of the discount may get a credit toward next year's renewal by reaching out to the [Contact Center](#).

The IEEE Board of Directors approved this discount in response to the student membership decline. The intent is to provide relief to students whose student branch experience has been compromised, stop the decline in student membership, and fuel student branch activity.

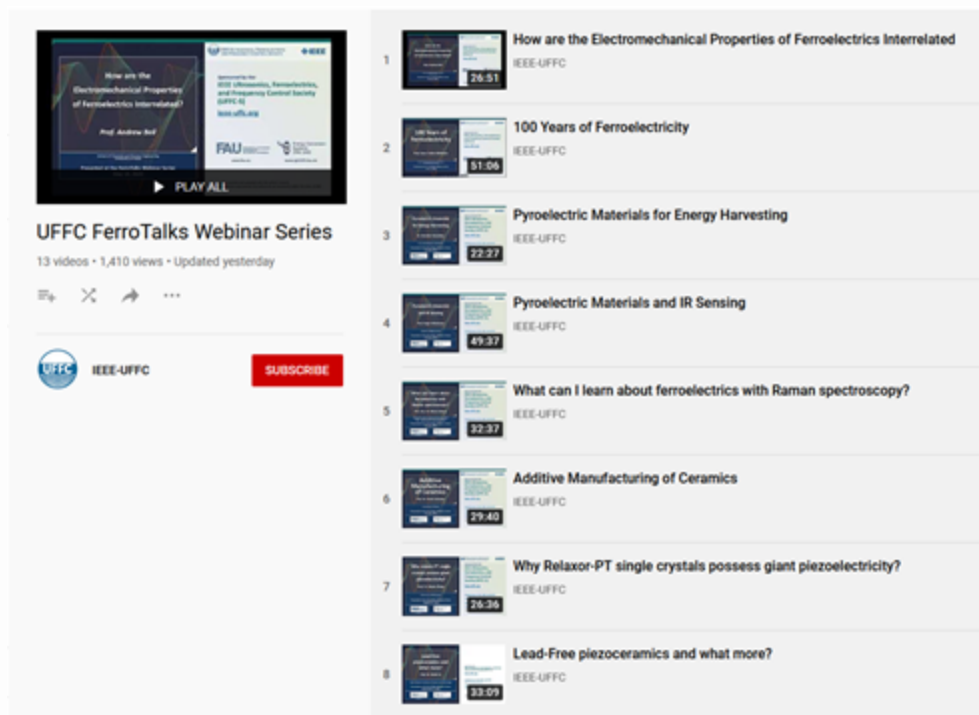
Student members are the pipeline to professional members, and swift action is needed to offset future losses. We encourage you to communicate this exciting and critically important initiative to your student members.

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## Education

### UFFC FerroTalk Webinar Series on YouTube

*Contributed By - Julia Glaum, Ferroelectrics Newsletter Editor, IEEE UFFC-S*



The [FerroTalks Webinar series](#) was launched in May this year to provide a digital platform to help the ferroelectrics community keep connected during the uncertainties of the pandemic. Since then, colleagues from all around the globe have met up 13 times to discuss fundamental topics around processing, characterization and modeling of ferroelectrics. With attendees numbering up to 300 per session the webinar series clearly answered a need within the community. We would like to thank all speakers for their contributions and especially Kyle Webber for initiating and organizing the series.

In case you have missed some sessions, all presentations are available on the [IEEE-UFFC YouTube channel](#).

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## [Introductory Course on Piezoelectric Materials, Properties, and Devices by Dragan Damjanovic on YouTube](#)

*Contributed By - Julia Glaum, Ferroelectrics Newsletter Editor, IEEE UFFC-S*





Dragan Damjanovic from EPFL, Switzerland made his graduate course on Piezoelectric Materials, Properties, and Devices available on [YouTube](#). It gives a great overview of the piezoelectric field, covering a broad range of topics from fundamental properties and definitions to various applications such as sensors, actuators and SAW devices. The content is split up in 29 lectures of 15-30 min each.

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## UFFC-S Updates

### [Nominations Sought for VP Ferroelectrics](#)

*Contributed By - Jacob Jones, VP Ferroelectrics, IEEE UFFC-S*

The IEEE UFFC Society's Ferroelectrics Standing Committee invites nominations (including self-nominations) for consideration as Vice President (VP) for Ferroelectrics. Interested candidates please see the [call for the VP Ferroelectrics nominations](#).

The VP for Ferroelectrics serves as the Chair of the Ferroelectrics Standing Committee (FerroCom) and is the primary liaison between FerroCom and the UFFC Society's Administrative Committee (AdCom). The VP for Ferroelectrics informs AdCom of developments which may affect its operations and plans, and prepares written and oral reports for presentations to the AdCom at its meetings.

The VP of Ferroelectrics gathers information from IEEE, from other IEEE Societies, from non-IEEE sources, where appropriate, to establish a point of reference for the Society's operations, and in general, to remain aware of the status of the Society within its sphere of Ferroelectrics.

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### [Summary of February AdCom Meeting](#)

*Contributed By - Brittan Parkinson, Conference Catalysts, LLC*

The first Administrative Committee (AdCom) meeting of 2021 was held on 21 February via Zoom.

Paul Reynolds, President of IEEE UFFC-S 2020-21, led the meeting. The Society is in good financial health and continues to work towards maintaining a healthy budget and best manage the impact of the COVID-19 pandemic.

Financial stability and value to members are key points within the strategic plan of UFFC-S.

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## UFFC-S Professional Networking and Mentoring Program

Contributed By - Brittian Parkinson, Conference Catalysts, LLC



The IEEE UFFC-S Mentorship & Networking Committee will launch its pilot Professional Networking and Mentoring Program later this month.

Mentorship pairs have been assigned based on mentee needs and mentor expertise.

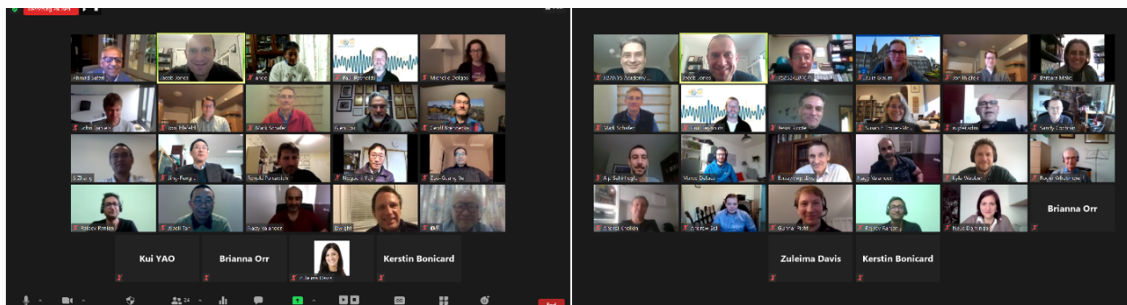
An excellent core of distinguished international members distributed across industry, academia, and government, who are experts in their field, are willing to share their time and experience to develop future leaders within the UFFC.

If you'd like to participate in future programs please email Brittian Parkinson, UFFC-S Operations Manager, at [uffc-admin@conferencecatalysts.com](mailto:uffc-admin@conferencecatalysts.com).

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## IEEE-UFFC Ferroelectrics Standing Committee - First Meeting in 2021

Contributed By - Julia Glaum, Ferroelectrics Newsletter Editor, IEEE UFFC-S



The first meeting of the IEEE-UFFC Society Ferroelectrics Standing Committee (FerroCom) in 2021 was held on January 14th/15th, 2021. It was the first time

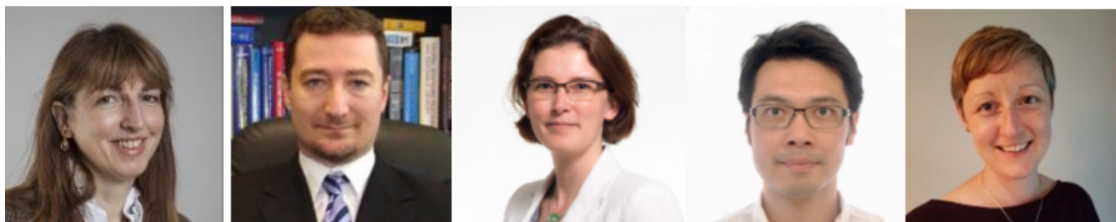
that the meeting was held asynchronously at two different times to make it possible for members from all time zones to join. Both meetings were chaired by Jacob L. Jones, the Vice President for Ferroelectrics in the UFFC Society. Holding the meetings online allowed the President of the UFFC Society, Paul Reynolds, as well as the President-Elect, Mark Schafer, to attend the FerroCom meeting together for the first time. It was a very positive experience for the participants to run the meeting in two rounds asynchronously and to be able to meet and discuss with colleagues around the world. View meeting highlights [here](#).

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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. You can see all our news items on our [webpages](#) 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](#), 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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