

# American Society of Thermal and Fluids Engineers (ASTFE) Newsletter

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## Fall 2018 Newsletter

Welcome to ASTFE's first newsletter! This being the first newsletter, there is more information about the society's structure and messages from board members. In the future we want to include your stories, research and updates from academia and industry. Watch this space and get in touch if you would like to contribute to ASTFE newsletters.

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Contact us

# 1. Letter from the President

The American Society of Thermal and Fluids Engineers (ASTFE) was founded in 2014 with an objective of bringing researchers and engineers in the areas of thermal sciences and fluid mechanics together and to bring in a strong component of international and industrial collaboration and interaction. It was visualized as an agile organization that would focus on meeting the grand challenges in these areas by emphasizing new and emerging applications, while also including traditional topics of research.

An interesting element that has been introduced by ASTFE in its conferences is TEC (Technology Entrepreneurship Communication) talks. These talks are given by engineers working in applied areas in industry, private business, national labs or academia and focus on innovation, entrepreneurship and communication. The talks on the Society's web site for access to the members.

The Society has expanded the Begell House digital library to include the papers presented at these conferences and has published special issues of archival journals. Several Begell House journals are affiliated with the Society and authors are encouraged to submit their papers to these journals. Special courses and workshops have also been sponsored by ASTFE.

The Society will soon introduce the level of Fellow to honor people with impressive achievements and contributions. Other awards and honors are expected to follow.

The Society encourages interested students, educators, engineers and researchers to become members. It is expected that the Society will expand its reach and impact with greater international collaborations, additional workshops, focused conferences, special courses and greater interaction with industry.



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Yogesh Jaluria

President

## 2. How you can get involved!

### Become a member

The benefits of joining ASTFE include:

- Reduced registration fees to attend ASTFE sponsored conferences
- A direct path for your technical conference papers to be submitted to Begell House journals ([Publications](#)) through the review process conducted by identified journal editors
- Advanced membership grades, including senior member, and election into the ASTFE Fellow grade
- Leadership roles on ASTFE committees (see [Committees](#) for a complete list)
- Society level awards and recognitions

The introductory annual membership fee is \$25 for students and \$50 for professionals for a calendar year and those interested can join at [Membership](#).

### Want to lead a university chapter?

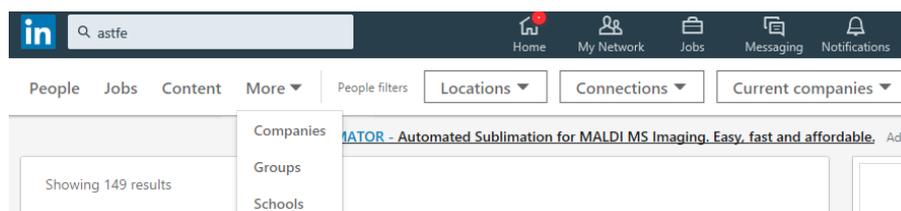
We are looking for volunteers to start university chapters of the society. There is NO job description because you can be as creative and imaginative as you like!

Get in touch either on the LinkedIn group or email the society.

### Join the LinkedIn group to kick-start interesting conversations

[Click here to join the ASTFE LinkedIn Group](#)

To find the group, type "ASTFE" in the LinkedIn search box and select "Groups" by clicking "More" below the search box



How to find the group after joining

- In the upper RH corner of your LinkedIn home page, you will see this



- Select the “Work” icon.

- Then you will see a drop-down list. Select the “Groups” icon.



- Next, select “My Groups”.



- You should then see ASTFE.

## 3. Board of directors

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### Officers

Yogesh Jaluria, *President*

Yong Tao, *Senior Vice President*

Francine Battaglia, *Vice President – Treasurer*

Yaroslav Chudnovsky, *Vice President – Secretary/Programs*

Anna Berlinova, *Managing Director*

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### Executive directors

*Membership:* Michael Plesniak

*Awards and honors:* SA Sherif

*Conferences and events:* Sumanta Acharya

*Industrial relations:* Wayne Strasser

*Fundraising and outreach:* Vish Prasad

*International collaborations:* James Klausner

## 4. Awards and honors



It is my pleasure and honor to serve ASTFE in this capacity. We have been busy in our efforts to establish guidelines for the selection of qualified candidates for the ASTFE Fellow membership grade. The ASTFE Board of Directors (BOD) approved the establishment of a Fellow Review Council (FRC) that would perform this function. The FRC will be chaired by Professor Frank Kulacki of the University of Minnesota and will have membership of several prominent researchers from within the thermal/fluids engineering community. The FRC will report to the Executive Director of the Honors and Awards Committee. The individual holding that position is also a member of the ASTFE BOD. The BOD will have the ultimate authority in approving the recommendations of the FRC.

On another front, we are also working on establishing awards that would recognize outstanding achievements in "Thermal and Fluid Science and Engineering." Approval by the BOD should be forthcoming in the near future.



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Dr. S.A. Sherif

Executive Director, Honors and Awards Committee

### **Best paper award at the 3<sup>rd</sup> TFEC**

Congratulations to Alexandros Charogiannis, Fabian Denner, Berend G.M. vanWachem, Serafim Kaliadasis and Christos N. Markides for winning the best paper award at the 2018 TFEC!

Paper title: A combined experimental and computational study of the heat transfer characteristics of falling liquid-films.

Affiliation: Imperial College London. Chemical Engineering Department, Mechanical Engineering Department

## 5. Industrial relations

### Partnering opportunities

Networking opportunities abound through attending conferences, presenting lectures and panels, participating in special courses, and using our LinkedIn ASTFE Group to reach out to the community. However, there are five more focused and strategic partnering methods:

1. **Exclusive exhibition space:** The cost for a standard booth with a table and a banner is only \$1,200. This includes one full-access registration pass for the conference and food.
2. **Company-named 'Award Lecture':** You would designate the title, topic, amount (\$2K minimum per lecture), and annually recurring nature. A representative from your company would be invited to present the award at our awards banquet and hold a special symposium or panel discussion on the topic of your interest.
3. ***Thermal and Fluids Engineering Award Lectures:*** Your company name would be listed among the sponsors (\$2K minimum per sponsorship) for these annual awards designated by the society and presented at our awards banquet.
4. **Advertising in our Newsletter:** You can post an open position or other company announcement in our annual newsletter for \$2K (full-page) or \$1K (half-page).
5. **Advertising on our Website:** You can post an open position or other company announcement on our Website for \$4K.

Further details for exhibiting or sponsoring can be found here:

<https://www.astfe.org/tfec2018/exhibitors>



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Wayne Strasser

Executive Director, Industrial Relations Committee

## 6. Conferences and events

ASTFE has hosted two short courses in *Computational Techniques for Multiphase Flows* in 2017 and 2018. This short course has been led by Professor Pratap Vanka from Univ of Illinois at Urbana-Champaign (UIUC) and has been co-taught by Professors Gretar Trygvasson from John Hopkins University, Farzad Mashayek from Univ of Illinois at Chicago (UIC) and Caleb Brooks from UIUC. In 2017 (July 17-19). This course will be repeated in the future.

At the 2019 TFECE, two short courses are being offered on April 13, 2019:

(1) *Introduction to Finite Element, Boundary Element, and Meshless Methods* co-taught by Professors Darrel Pepper (UNLV), Alan Kassab (Univ of Central Florida), and Eduardo Divo (Embry-Riddle Aeronautical Univ) and

(2) *Physics-Based Compressible Flow Network Modeling for Design Applications* taught by Dr. Bijay Sultanian from Takaniki Inc (formerly at GE, Siemens and Allison Gas Turbines).

For more info: <http://www.astfe.org/courses/>



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Sumanta Acharya

Executive Director, Conferences and Events Committee

### Future conferences

ASTFE co-sponsors a large number of international conferences. Additional information on past, current and future conferences can be found on <http://www.astfe.org/conferences/>.

[12th International Conference on Thermal Engineering: Theory and Applications](#)

Gandhinagar, Gujarat, India

February 23 – 26, 2019

[4th Thermal and Fluids Engineering Conference \(TFEC\)](#)

Westin Las Vegas Hotel & Spa, Las Vegas, NV, USA

April 14 – 17, 2019

[14th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics](#)

Powerscourt Hotel Resort & Spa, Wicklow, Ireland

July 22 – 24, 2019

JSME/KSME/ASTFE

Hyatt Regency Maui Resort & Spa, Maui Island, Hawaii, USA

December 13 – 17, 2019

5th Thermal and Fluids Engineering Conference (TFEC)

Sheraton hotel, New Orleans, LA, USA

April 5 – 8, 2020



4<sup>th</sup> Thermal and Fluids Engineering  
Conference



**ASTFE**

American Society of Thermal and Fluids Engineers



4<sup>TH</sup> THERMAL AND FLUIDS  
ENGINEERING CONFERENCE

The banner features a background image of the Las Vegas skyline at dusk, with the Flamingo Las Vegas hotel and the Flamingo Zouze tower prominently visible. The text is overlaid on the image.

Westin Las Vegas Hotel & Spa, Las Vegas, NV, USA

14-17  
APRIL

2019

Las Vegas  
NV, USA

[www.astfe.org/tfec2019/](http://www.astfe.org/tfec2019/)

The 2019 American Society of Thermal and Fluids Engineers (ASTFE) Conference will be held April 14-17, 2019 in the Westin Hotel, Las Vegas, NV, USA. ASTFE is the premier international society by and for professionals within the thermal and fluids science and engineering community. The 2019 ASTFE conference provides an international forum for the dissemination of the latest research and knowledge in the thermal and fluid sciences.

- Advanced Energy Systems
- Aerospace Applications
- Atomization
- Combustion, Fire and Fuels
- Computational Methods/Tools in Thermal-Fluid Systems
- Cryogenics
- Electric, Magnetic, Flow and Thermal Phenomena in Micro and Nano-Scale Systems
- Energy and Sustainability
- Energy Storage Systems
- Energy-Water-Food Nexus
- Engineering Equipment and Environmental Systems
- Engineering Fundamentals and Methodology
- Experimental Methods/Tools and Instrumentation in Fluid Mechanics and Heat/Mass Transfer
- Flow and Heat Transfer in Biological Systems
- Flow and Heat Transfer in Materials Processing Science and Manufacturing
- Flow in Internal Multiphase Flows
- Flow Instability
- Fluid Flow and Heat Transfer in Industrial and Commercial Processes
- Fluid Flow and Heat Transfer Multiphase Phenomena
- Fluid Measurements and Instrumentation
- Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids
- Fuel Cells
- Fundamentals in Fluid Flow and Heat/Mass and Momentum Transfer
- Heat Exchangers: Compact, Novel, Networks
- Heat Pipes
- Heat Pumps
- Heat/Mass Transfer Enhancement Techniques
- Industry Problems: CO2 Capture
- Material Issues, Ceramics, Low Thermal Conductivity
- Measurement and Modeling of Environmental Flows
- Multiphase Flow
- Nano and Micro Fluids Applications
- Natural and Built Environments
- Plasma Physics and Engineering
- Refrigeration, Air Conditioning Systems, and Refrigerants
- Solar Energy Equipment and Processes
- Thermo-economic Analysis of Energy Systems
- Thermo-Fluid Education
- Transportation
- Turbulent Flows
- Wind Turbines Aerodynamics and Control

### ORGANIZATION COMMITTEE

**Conference Chair:** Darrell W. Pepper, University of Nevada, darrell.pepper@unlv.edu  
**Conference Co-chair:** Wayne Strasser, Eastman Chemical Company, strasser@eastman.com  
**Technical Program Chair:** Lorenzo Cremaschi, Auburn University, lzc0047@auburn.edu  
**Technical Program Co-chair:** Dr. Nesrin Ozalp, UMD, nozalp@d.umn.edu

### OUTSTANDING PLENARY SPEAKERS



#### Susan N. Coppersmith

Robert E. Fassnacht and Vilas Professor of Physics, University of Wisconsin-Madison. Susan Coppersmith, a theoretical physicist at the University of Wisconsin, Madison, has applied her talents across this span, from modeling the assembly of mollusk shells to programming quantum computers. Coppersmith was elected to the National Academy of Sciences in 2009, and in her Inaugural Article she describes and models the surprising intersecting lines and folds that appear in compressed monolayers of gold nanoparticle.



#### TD Barnes

Thornton D. "TD" Barnes, author, and entrepreneur, grew up on a ranch at Dalhart, Texas. Barnes's career includes serving as a field engineer at the NASA High Range in Nevada for the X-15, XB-70, lifting bodies and lunar landing vehicles; working on the NERVA project at Jackass Flats, Nevada; and serving in Special Projects at Area 51. Barnes later formed a family oil and gas exploration company, drilling, and producing oil and gas and mining uranium and gold. Barnes currently serves as the CEO of Startel, Inc., a landowner, and is actively mining landscape rock and gold in Nevada.



#### Essam E. Khalil

Professor of Mechanical Engineering, Faculty of Engineering, Cairo University, Chairman of National HVAC Code Committee, Ministry of Housing & Development, Coordinator For The National Energy Efficiency Code Committee For HVAC, Chairman National Ventilation Code Committee, Chairman Arab HVAC Code Committee, Consultant ASHRAE Members Council, AIAA Deputy Director International, USA, ASHRAE Director-Al-Large, Energy and HVAC Expert at AMG, President "Consulting Engineering Bureau" CEB, Cairo.



#### Christian Sattler

Head of Department Solar Chemical Engineering, German Aerospace Center (DLR), Professor for Solar Fuel Production at Technical University of Dresden, Germany. Christian Sattler works on technologies for using concentrated and non-concentrated solar radiation for thermochemical and photochemical processes. He is Vice-President of the Hydrogen Europe Research Association and member at large of the Energy Conversion and Storage Segment of the American Society of Mechanical Engineers (ASME).



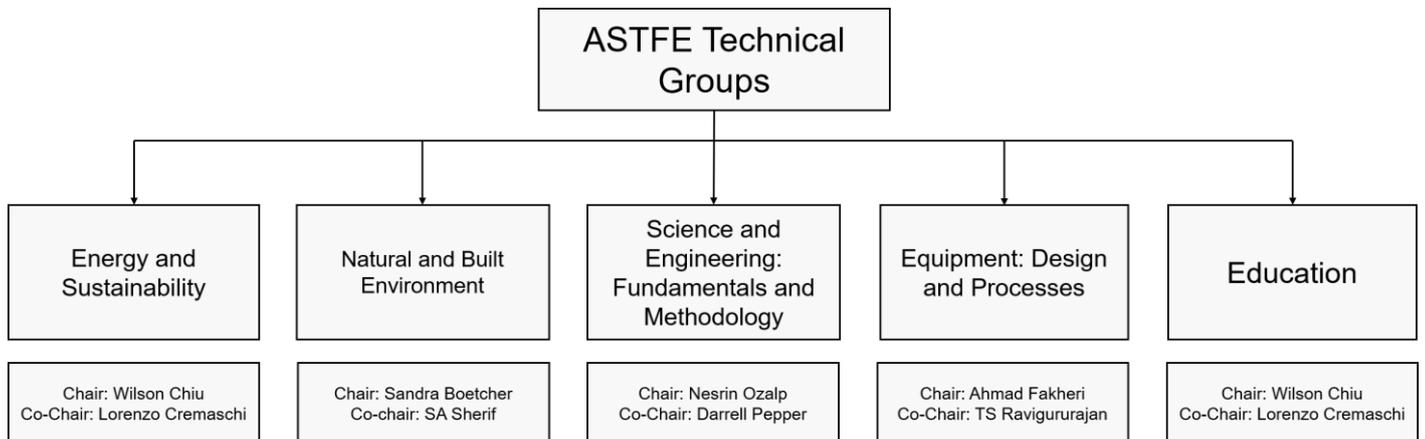
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## 7. Technical Groups

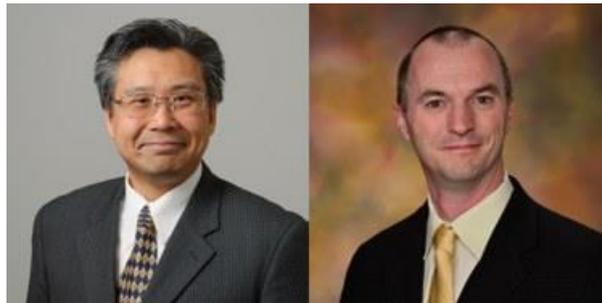


Technical groups are open for ASTFE members to join. Get in touch if you want to join!

Opportunities include planning and chairing conference sessions, networking and a lot of

## Energy and Sustainability

The Energy and Sustainability Technical Group encourages the development of new knowledge and the dissemination and application of existing knowledge in the areas of energy conversion, storage and sustainability. This technical group's efforts are focused on some of the most interesting and promising areas of research and technology development including heat and mass transfer in renewable and clean energy systems, energy and sustainability, advanced energy devices and systems, techno-economic and ecological analysis of energy systems, and the energy-water-food nexus.



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Wilson K. S. Chiu, Chair of technical group

Lorenzo Cremaschi, Co-Chair of technical group

## Science and Engineering Fundamentals and Methodology

The Science and Engineering Fundamentals and Methodology Technical Group focuses on the fundamentals of heat-mass-momentum transfer of single and multiphase flows in a wide spectrum of energy systems and processes. Group members include scientists, researchers, and engineers from academia, industry, and national laboratories that are working on experimental and numerical aspects of various thermal-fluids phenomena including determination of properties. The group welcomes new members who would like contribute in this area with their expertise and leadership.



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Nesrin Ozalp, Chair of technical group

Darrell Pepper, Co-Chair of technical group

## 8. Message from the Chair of the 3<sup>rd</sup> Thermal and Fluids Engineering Conference

More than 400 researchers from 40 countries presented their cutting edge research work at the conference. What made this conference unique was the industrial tech talks and panels featuring applications relevant to and resulting from the thermal and fluids engineering research. ASTFE is a volunteer-run non-profit Society. It puts members interests as the first priority as evidenced by the enthusiastic, successful involvement of members in conference organization and committee activities. We look forward the continuation of our efforts towards the next annual conference.

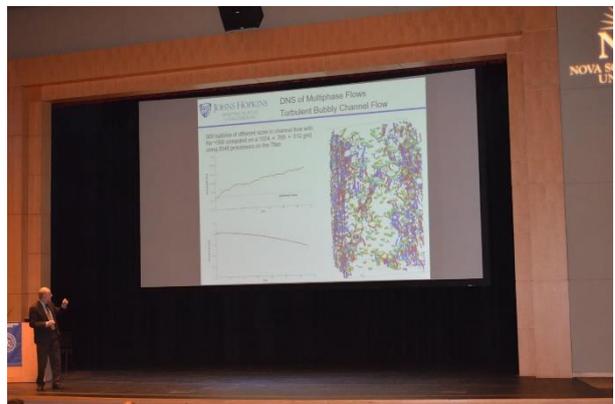


Yong X Tao

Conference Chair, 3rd TFECE 2018

## 9. TFECE 2018 Photos





For more photos <http://www.astfe.org/tfec2018/gallery/>

## 10. Thoughts from the editor

I hope you have enjoyed reading the society's first newsletter.

My vision is for this newsletter to become a regular must-read for society members. As the newsletter evolves over time I want to include more of your ideas, stories, research developments and events.

I can say from personal experience that the society has been extremely welcoming and eager for young members, both students and professionals, to be an integral part of the society. If you have any ideas for the newsletter or want to get involved, please get in touch.

Till next time!



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Kasturi Sukhapure

Member and Young Professional

## Contact us

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info@astfe.org

Visit us on the web at [www.astfe.org](http://www.astfe.org)

Contact with other members all around the world with the [LinkedIn group](#)



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