

Important Dates & Deadlines

GSNP Student & Postdoc Awards Session: Mon., March 4, 2:30pm, BCEC 256

GSNP Business Meeting: Tue., March 5, 5:45pm, BCEC 258C

Onsager, Kadanoff, & Dissertation Prize Session: Wed., March 6, 11:15am, BCEC 210C

Kadanoff & Onsager Prize and Fellowship nomination deadline: June 3, 2019

GSNP Dissertation Award nomination deadline: July 31, 2019

Message from the Chair

The 2019 March Meeting is almost upon us, and those going to Boston can look forward to oodles of exciting GSNP sessions. These sessions are made possible through your membership, so thank you! And a shout out to **Daniel Lathrop**, our GSNP Program Chair: his superb organization of, and attention to, our March Meeting sessions this year will be evident to all those attending. In the meantime, GSNP has been growing and thriving – we have added 465 new members, representing a 47% increase, since 2015. This growth has been fueled primarily by younger APS members, which attests to the present vitality of statistical and nonlinear physics. Increasing membership has a number of positive effects, among them more invited March Meeting sessions, and more participation in broader APS affairs. Please keep the pressure on your students, post-docs, and colleagues to join GSNP.

One of GSNP's highlights from last year was the creation of the **Leo P. Kadanoff Prize**, whose first winner (**M. Cristina Marchetti**) will be honored in Boston next month. It takes a hefty endowment to fund an APS Prize, however our funding goal was met in record time due to a great many generous donors. (Those who donated more than \$1000 are listed below.) Additional donations will go toward the design and production of the Kadanoff Medal, which will be presented to the winner along with the cash prize. (Nominations for the 2020 Kadanoff Prize are due at the beginning of June.)

\$100,000 and above: Anonymous

\$25,000 - \$99,999: Ruth Kadanoff, Marcia Kadanoff & Rich Mironov, Ashvin Chhabra

\$10,000 - \$19,999: Walter & Shirley Massey

\$5,000 - \$9,999: Betsy Kadanoff, Thomas F. Rosenbaum and Katherine T. Faber

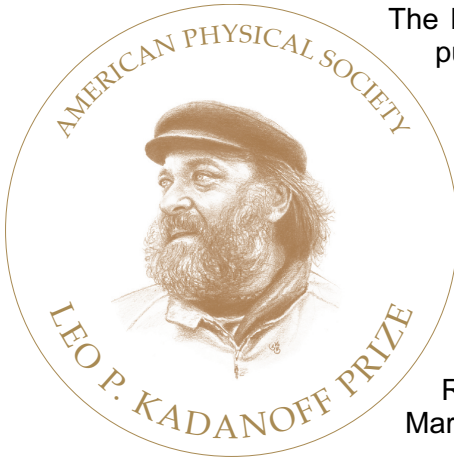


\$1,000 - \$4,999: Anonymous, Andrea Bertozzi, The Niels Bohr Institute, Michael Brenner, Susan Coppersmith, Predrag Cvitanovic & Sara A. Solla, Michal Ditzian and Ray Clemens, Todd Dupont, Jens Eggers, Yejun Feng, Raymond E. Goldstein, Amy J. Kolan, George E. Laramore, Forrest Meiere, Sasha Mironov, Eberhard Riedel, Myron Salamon, Boris Shraiman, Edward Witten

The March Meeting marks the annual shift in GSNP leadership as well. At the conclusion of the March Meeting, I will pass leadership of the group into the capable hands of **Daniel Lathrop**. Turnover on the Executive Committee means that **Mark Shattuck** becomes Chair Elect, **Thomas Witten** joins as Vice Chair, and Members-at-Large, **Danielle Bassett**, **Arshad Kudrolli**, **Lisa Manning**, and **Nick Ouellette**, will be joined by **John Bechhoefer** and **Daphne Klotsa**. Our new Secretary-Treasurer will be **Dvora Perahia**. **David Egolf**, who ends an impactful four-year run on the Chair-line, and **Chris Santangelo**, who finishes three pivotal years as Secretary-Treasurer, will be sorely missed. We also bid farewell to Members-at-Large **Aparna Baskaran** and **Laura Clarke**. If you get the chance, please thank all of these amazing people for their tireless efforts in leading our unit. And, finally, I'd like to thank you again, dear reader, for your continuing support of GSNP – it's what makes all of our efforts possible.

Best wishes for an exciting 2019,
Greg Huber

Leo P. Kadanoff Prize



The Kadanoff Prize, APS's newest major prize, was established in 2018 with the purpose of recognizing a scientist or scientists whose work has opened up new vistas in statistical physics and/or nonlinear science. The prize comes with \$10,000, the Kadanoff Medal, and a certificate. The inaugural Prize will go to **M. Cristina Marchetti** of the University of California, Santa Barbara, "for her original contributions to equilibrium and non-equilibrium statistical mechanics, including profound work on equilibrium and vortex systems, and fundamental research and leadership in the growing field of active matter." If you are attending the March Meeting, be sure to come to the joint Onsager-Kadanoff-Davisson-Germer Prize session on Wed., March 6, at 11:15am, in Room 210C, to offer your congratulations to Prof. Marchetti on her achievement.

Nominations for the 2020 Leo P. Kadanoff Prize are due by Monday, June 3, 2019. Please [nominate a deserving scientist or scientists](#), experimentalists, theorists or computationalists, who has or have pushed the boundaries of statistical physics or nonlinear science.



Lars Onsager Prize



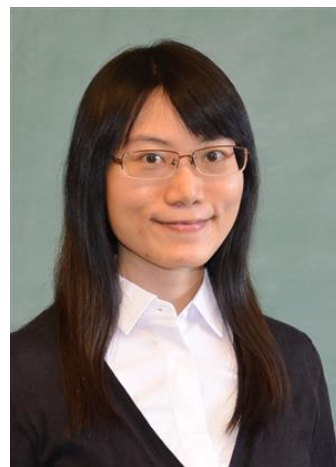
The Lars Onsager Prize was established to recognize outstanding research in theoretical statistical physics including the quantum fluids. The prize consists of \$10,000 and a certificate. The 2019 recipient is **Christopher Jarzynski** of University of Maryland, College Park, "for seminal contributions to non-equilibrium thermodynamics and statistical mechanics that have had remarkable impact on experimental research in single-molecule and biological physics, engendering whole new fields of theoretical, numerical, and laboratory research, as well as for groundbreaking work on the thermodynamics of small systems." The Onsager Prize will be award at Wednesday's joint Onsager-Kadanoff Prize session mentioned above. If you are at the March Meeting, please plan on coming to this session to celebrate Prof. Jarzynski's prize

Nominations for the 2020 Lars Onsager Prize are due by Monday, June 3, 2019, and we encourage all members of the GSNP to consider [nominating a deserving colleague](#).

GSNP Dissertation Award

This 2nd annual Dissertation Award in Statistical and Nonlinear Physics will also be awarded at the 2019 March Meeting. This award recognizes exceptional young scientists who have performed original doctoral thesis work of outstanding scientific quality in the area of statistical and nonlinear physics. The selection committee has chosen **Hong-Yan Shih** as the winner for 2019 "for an outstanding doctoral thesis that relates the transition to turbulence in pipe flow and the evolution of interacting populations through collective effects." Hong-yan earned her Ph.D. at the University of Illinois Urbana-Champaign working with her advisor, Prof. **Nigel Goldenfeld**. Please join me in congratulating Dr, Shih on her award.

This annual award consists of \$2000, a certificate, travel reimbursement (up to \$750 for North America or \$1500 for overseas), and a registration waiver to receive the award and give an invited talk at the March Meeting. Her invited talk will be on Wednesday during the previously mentioned Onsager-Kadanoff Prize session. [Nominations for next year's award](#) are due on July 31, 2019.



New APS Fellows

Each year, the GSNP Fellowship Committee reviews nominations for APS Fellowship and makes recommendations to the APS. The total number of APS Fellows who may be elected in a given year is limited to one-half of one percent of the total APS (non-student) membership. As a result, the selection process is highly competitive. This year's committee, chaired by Mark Shattuck, selected the following four Fellows:

Alexandre Arenas, Rovira i Virgili University, "For foundational research in network science and complex systems — including in community detection, synchronization, and multilayer networks — and his outstanding editorial and mentoring contributions."

Stefan Boettcher, Emory University, “For manifold contributions to the understanding of complex systems through creative algorithms and new mathematical methods that elucidate properties in systems as varied as spin glasses, granular materials, PT-symmetric devices and quantum algorithms.”

Timothy Halpin-Healy, Barnard College, “For seminal and sustained work in non-equilibrium kinetic roughening phenomena, stochastic growth & the equilibrium statistical mechanics of directed polymers in random media.”

Takashi Nishikawa, Northwestern University, “For seminal contributions to the study of nonlinear dynamics in complex systems and complex networks, including synchronization processes, asymmetry-induced phenomena, network optimization, and chaos in physical systems.”

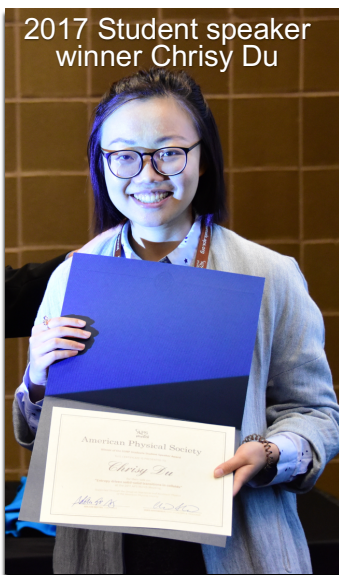
The nomination process is already open for the next class of APS Fellows, and the deadline is June 3, 2019. We encourage you to [nominate a deserving colleague](#).

Robin Selinger elected to APS Council of Representatives

We are happy to report that **Robin Selinger**, former Secretary-Treasurer of GSNP and long-time GSNP member, was elected to the APS Council for Representatives for a four-year term. She agreed to be nominated in part because she was eager to participate in decision making for APS at the highest levels. And high on APS’s list is the question of how to implement its [2019 Strategic Plan](#). We congratulate Robin on her election and look forward to working with her to better the future for Physics in our society.



Student and Postdoctoral Speaker Awards



2017 Student speaker winner Chrisy Du

Each year the GSNP awards a Student Speaker Award and a Postdoctoral Speaker Award for the best contributed talks at the March Meeting by a graduate student and a post-doc, respectively, in the area of statistical and nonlinear physics. Five finalists are chosen for each award, and all finalists receive travel support of \$500 to attend the March Meeting. The winner will also receive a \$1,000 award and each of the other four finalists will receive \$500 awards. Prizes will be announced at the GSNP Business Meeting. This year’s finalist selection committee, chaired by Chris Santangelo, has selected the following finalists:

Students:

Chantal Nguyen, University of California, Santa Barbara

Nidhi Pashine, University of Chicago

Jason Kim, University of Pennsylvania

Andrea Welsh, Georgia Tech

Jacob Carroll, Virginia Tech

Post-docs:

Michael Dimitriyev, Georgia Tech

Jorge GT Zanudo, Penn State

Yuanchao Hu, Yale University

Mauro Schiulaz, Yeshiva University

Skanda Vivek, Georgia Tech

If you make it to Boston, please join us for the finalists' talks on Monday, March 4, at 2:30pm in Room 256. We will honor the finalists and announce the winners at the GSNP Business Meeting on Tuesday evening.



2017 Postdoctoral speaker finalist Casey Bester

GSNP Executive Committee (March 9, 2019 – March 6, 2020)

Chair: Daniel Lathrop, University of Maryland, College Park, lathrop@umd.edu

Chair Elect: Mark Shattuck, City College of New York, shattuck@ccny.cuny.edu

Vice Chair: Tom Witten, University of Chicago, tten@uchicago.edu

Secretary/Treasurer: Dvora Perahia, Clemson University, dperahi@clemson.edu

Past Chair: Greg Huber, Chan Zuckerberg Biohub, greg.huber@czbiohub.org

Members-at-Large:

Arshad Kudrolli, Clark University, term ends March 2020

M. Lisa Manning, Syracuse University, term ends March 2020

Danielle Bassett, University of Pennsylvania, term ends March 2021

Nicholas Ouellette, Stanford University, term ends March 2021

John Bechhoefer, Simon Fraser University, term ends March 2022

Daphne Klotsa, University of North Carolina, term ends March 2022

2019 APS March Meeting

The March Meeting this year will take place on March 4-8 at the Boston Convention and Exhibition Center (BCEC). GSNP-sponsored Invited, Focus, and Contributed sessions span a large area of physics and allied sciences -- it is a Herculean task to put it all together (thanks again to Daniel Lathrop, our Program Chair, for his heavy lifting on this). The following list of the GSNP's Invited Sessions is small sample and a reflection of the variety of topics in our sessions:

A53: Geophysical Applications of Granular Flows Monday 8am BCEC 253C

B53: Disordered Networks: From Mechanical Properties to Failure Monday 11:15am BCEC 253C

C57: GSNP Student & Postdoc Speaker Award Session Monday 2:30pm BCEC 256

E53: Heineman and Oppenheim Award Session Tuesday 8am BCEC 253C

F53: Marginal Stability in Amorphous Materials and Beyond Tuesday 11:15am BCEC 253C

H53: Elasto-active Instabilities Tuesday 2:30pm BCEC 253C

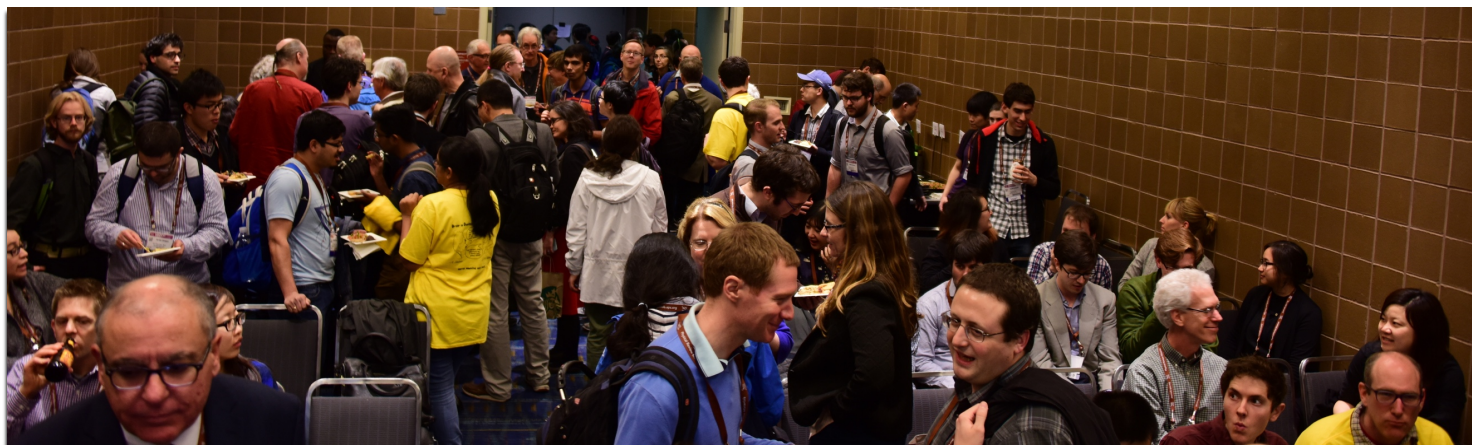
L44: Onsager, Kadanoff, Dissertation, & Davisson-Germer Prize Session Wednesday 11:15am BCEC 210C

R53: Flow Driven Pattern Formation in Wet Granular Media I Thursday 8am BCEC 253C

S53: 20 Years of Scaling and Dynamics in Complex Networks Thursday 11:15am BCEC 253C

Also, be sure to come to the GSNP Business Meeting to enjoy some refreshments, mingle with friends and colleagues, honor the new Fellows and award winners, and meet the Executive Committee members:

GSNP Business Meeting: Tuesday March 5, 5:45pm BCEC 258C



GSNP Membership Drive Continues (with t-shirts!)

Please encourage your colleagues, students, and post-docs to join the GSNP. A larger membership means more Fellows, more invited sessions, more funds to spend on our members, and greater visibility and influence within the APS. Anyone who joins at the March Meeting gets their first year for free. (Students and post-docs can join for free any time by contacting the GSNP secretary/treasurer.) Also, all GSNP members, new and old, can pick up a **free t-shirt** from the GSNP table outside the rooms in the 250 block of BCEC – while they last! See the banner at the top of page 1 of this Newsletter for a preview of the t-shirt design.