

GSNP Newsletter

Topical Group on Statistical and Nonlinear Physics

July 2001

Letter from the Chair

In four short years, the Topical Group on Statistical and Nonlinear Physics has grown to become the largest Topical Group in the American Physical Society. Combining the venerable subject of statistical mechanics with the newer area of nonlinear science creates an extremely interdisciplinary and exciting area of research. It is also a very natural synthesis as many of us who started work in nonlinear science came from a background in phase transitions and critical phenomena. Recently, a new field has emerged that uses many of the ideas of statistical mechanics to explore problems in “soft” condensed matter physics. I see this area of granular media, colloids, biomolecules, foams, emulsions, and polymers as comfortably fitting within the realm of interests that span our Topical Group. Of course, there is significant overlap with other Divisions and Topical Groups, but I see GSNP as having perhaps a broader perspective than the individual units and I would like to see scientists in these areas playing a larger role within our Topical Group. At the same time, we must continue to represent all aspects of statistical and nonlinear physics including pattern formation, chaos, equilibrium statistical mechanics, hydrodynamic instability and turbulence. I hope during the coming year to work with all of the communities within GSNP to make this a stronger and more vital Topical Group.

We continue to hold our annual meeting in conjunction with the APS March Meeting. This has the clear advantage of close association with the Divisions of Condensed Matter (DCMP), Materials Physics (DMP), Polymer Physics (DPOLY), and Biological Physics (DBP). On the other hand, the imposing size of the March Meeting is seen by some as a negative feature. I think it is crucial to maintain a presence in the mainstream physics community because the employment of members of our community in physics departments depends on the broad acceptance of our interdisciplinary

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approach and topical areas. It would also be advantageous to develop a presence at more specialized Divisional Meetings that overlap interests with GSNP; the Division of Fluid Dynamics Meeting, held annually in November, is one example. Finally, please take an opportunity to check the new GSNP website (<http://www.aps.org/units/gsnp>) that contains announcements of meetings and events of potential interest to GSNP members and other information about the Topical Group.

Robert E. Ecke
Chair, GSNP

Physical Review E

Much of the research represented by GSNP is published in APS journals including Physical Review Letters and Physical Review E. This year the long-time editor of Physical Review E, Irwin Oppenheim (MIT), has indicated his intention to step down. The APS is actively involved in a search for his replacement and any suggestions you might have would be gratefully accepted (email Marty Blume blume@aps.org). Before that happens, however, we want to take this opportunity to thank Irwin for a job well done and for his role in supporting and nurturing GSNP in the early days. So here is a hearty “Thank You” to Irwin for all his help and his effective leadership of Physical Review E.

Electronic Balloting for GSNP

Officers

Officers of the Topical Group on Statistical and Nonlinear Physics are elected in the fall of each year with terms beginning in March of the following year. The duties and terms of service for these positions are spelled out in the Bylaws of the GSNP (<http://www.aps.org/units/gsnp/bylaws>). Balloting is done by e-mail.

Minutes of 2001 GSNP Meeting

March 13, 2001 • Seattle, Washington

Attending: Guenter Ahlers, Eberhard Bodenschatz, David Campbell, Robert Ecke, Judy Franz, Ying-Cheng Lai, Herbie Levine, Jeff Urbach.

Election results: Vice Chair - **Robert Behringer** (Duke University); Secretary-Treasurer - **Jeffrey Urbach** (Georgetown University); Member-at-Large: **Randall Kamien** (Univ. Pennsylvania), **Daniel Lathrop** (Univ. Maryland).

Membership in the group has declined slightly, after several years of growth. Methods for attracting new members discussed include a pamphlet describing GSNP to be distributed at relevant meetings, and using newsletter to get members to encourage students to join.

Special thanks to Ying-Chen Lai for his fine job as Program Chair of the 2001 March APS Meeting.

Tips for Nominating APS Fellows

Each year, the GSNP Fellowship Committee will review nominations for APS Fellows and make 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 membership. Therefore, the selection process is quite competitive, and sponsors should be aware of this when preparing nominations.

It is particularly important for nominators to ensure that the cases that they prepare for the Fellowship Committee are well documented. Inclusion of a complete publication list is highly recommended. Information such as lists of invited talks, awards,

committee service, and organization of conferences is also very helpful. Reprints of papers are generally not useful. On the other hand, a detailed statement by both of the sponsors, discussing the candidate's "exceptional contributions" can aid the committee considerably. In general, the guidelines for the Fellowship Committee are to look for sustained contributions to the field over a period of time rather than a single, albeit brilliant, piece of research. Supporting letters evaluating the candidate's work are particularly helpful whereas the brief two-line endorsement on the nomination form does not provide enough information, especially if the candidate is not known to members of the committee.

Nominations may be made at any time during the year, but only those received by the deadline set by APS, currently April 2, will be considered for action in the same year. Nominations forms are available from Ken Cole, The American Physical Society, One Physics Ellipse, College Park, MD 20740-3844, Tel: (301) 209-3268 or electronically at <http://www.aps.org/units/gsnp/nominate.html>. The nomination form was modified for 2001 so get a current version. Completed forms should be returned to the APS Fellowship Program Office at the same address. Nominations on which no favorable action is taken are generally reconsidered the following year. Sponsors may, however, resubmit the nomination with updated supporting material prior to the deadline for the following year.

In 2000, 3 candidates were recommended by GSNP and selected for Fellowship in the American Physical Society:

Linda Reichl (University of Texas Austin) "For her original contributions to the field of quantum chaos.

Raj Roy (University of Maryland) "For pioneering studies of nonlinear dynamics and noise in optical devices."

Kurt Wiesenfeld (Georgia Institute of Technology) "For seminal theoretical contributions to nonlinear dynamics and complex systems theory, including co-discovery of self-organized criticality and for theories of stochastic resonance and Josephson-junction phase locking."

Call for Invited Speakers & Symposia Suggestions

The GSNP solicits suggestions for invited speakers and symposia for the 2002 March Meeting in Indianapolis. Your suggestions are essential input for organizing the GSNP invited symposia at the meeting.

All the information pertaining to a symposium should be completed on the form: correct names, addresses and e-mail addresses are essential. To improve chances for acceptance, follow these suggestions:

- Only one subject category should be checked.
- The majority of invited talks are in symposia. Therefore, the chances of your suggestion being accepted are much greater if you do the work of incorporating a set of talks into a symposium.
- Do not recommend a speaker who gave an invited talk the past year or a subject on which there was a symposium last year.
- Support a recommendation effectively. Tell what the suggested speaker did and describe how it fits into its field as well as its significance in advancing that field.
- Do not send reprints or preprints.
- Invited papers should be partly tutorial in order to afford those not working in that particular area the opportunity to learn about new developments. Recommend a good speaker.
- GSNP rules require that a single symposium have no more than one speaker from the same institution.

March Meeting Sorting Categories

The sorting categories for Statistical and Nonlinear Physics are different from past years reflecting the increasing breadth of GSNP interests. Also please note the Focus Sessions arranged by GSNP.

12 Statistical and Nonlinear Physics

- 12.1 Low-Dimensional and Quantum Chaos
- 12.2 Noise and Stochastic Resonance
- 12.3 Pattern Formation, Spatio-Temporal Chaos, and Turbulence
- 12.4 Systems Far from Equilibrium

Online Submission of Symposia Suggestions

Invited speakers & symposia can be electronically submitted through the GSNP home page (<http://www.aps.org/units/gsnp/invited.html>). Click on the link at the bottom of the page and fill out the online form. Please be sure to select Statistical and Nonlinear Physics as the organizing group. You will be required to provide your email address so that you can receive email confirmation of your nomination and for modifying your nomination later, if needed. The suggestions will be written/transmitted in "test only" format (no special characters) and must be confined to the allocated space. Online instructions should be sufficient to complete the form.

Online submission is the preferred way to make invited speaker/symposium suggestions. If not submitting suggestions electronically, mail to: The American Physical Society, Meetings Department, One Physics Ellipse, College Park, MD 20740-3844. Be sure to include all of the necessary information described in the accompanying column.

Submission deadline for suggestions for the March 2002 meeting is October 5, 2001.

- 12.5 Interfacial Instabilities
- 12.6 Granular Media
- 12.7 Statistical Mechanics
- 12.8 Dynamics of Complex Fluids
- 12.9 Colloidal Suspensions, Emulsions and Foams
- Special Focus Topics**
- 12.10.4 Jamming: From Glasses to Granular Media (GSNP)
- 12.10.5 Nonlinear Dynamics of Mixing (GSNP)
- 12.10.6 Coarsening in Pattern Forming Systems (GSNP)
- 12.10.7 Nonlinear Elasticity in Elastomers (GSNP)

GSNP Executive Committee 2001-2002*

Chair

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March Meeting Program Committee (2002)

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R. Kamien, D. Lathrop

Fellowship Committee (2002)

R. Behringer (Chair)

Nominating Committee (2002)

A. Liu (Chair), Robert Behringer.

Publications Committee

E. Bodenschatz

* Expiration Date for Position Noted after the Name