

SOLAR ENERGY DIVISION

Newsletter of the Solar Energy Division

Summer 2011

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State of the SED – Message from the Chair

Moncef Krarti, PhD, PE, LEED®AP



Since its establishment in 1966, ASME Solar Energy Division (SED) has promoted research development and application of solar related technologies as well as energy efficiency and conservation. Over the years, the activities of SED have been managed by dedicated members of the Executive Committee as well as the chairs of the Technical Committees. In addition to disseminating fundamental knowledge and engineering applications of a wide range of renewable energy and energy efficiency technologies (including wind, photovoltaics, solar thermal power, solar chemistry, bio-fuel conversion, solar heating and cooling, and energy conservation), SED continues to promote the involvement of students and young engineers through graduate student awards, student poster sessions, and career forums.

In the last two years, SED has extended its scope to cover new applications of renewable energy and efficiency technologies including sustainable communities and smart grid systems. In particular, the new Technical Committee on sustainable cities and communities has been very active and has organized 5 technical sessions with 27 papers during the 5th Energy Sustainability Conference (ES2011) to be held in Washington DC, August 7-10, 2011. Moreover, 6 technical sessions on smart grid systems, micro-grid concepts, and energy storage technologies are scheduled for ES2011.

SED continues to collaborate with the ASME Advanced Energy Systems Division (AESD) by organizing annual joint conferences. This year, the Energy Sustainable 2011 (ES2011) conference will be the 5th consecutive joint SED-AESD conference. ES2011 is concurrently organized with Fuel Cell conference and has attracted over 300 technical papers. ES2010 was co-located with American Solar Energy Society conference (SOLAR-2010) in Phoenix, AZ, and has attracted over 5,000 attendees. Since the first joint SED-AESD Energy Sustainability conference held at Long Beach, CA, in 2007, there is a growing interest in renewable energy research and applications, as attested by a significant increase in the number of technical papers from 137 in ES2007 to about 300 in ES2011.

Due to the success of Energy Sustainability conferences with high quality technical programs, especially over the last two years, SED has been able to improve its custodial fund. SED is now able to provide incentives to attract new members including students and young engineers through student awards, career forums, and student poster events. Moreover, workshops and training sessions have been organized during the last two Energy Sustainability conferences in an attempt to attract additional professionals. In the future, exhibits are planned to be organized during the Energy Sustainability conferences in order to attract and involve manufacturing companies into the SED activities. It is my believe shared by all members of the Executive Committee that tailoring SED activities and programs to attract students, new professionals, and manufacturing companies is the best avenue for SED to strengthen its programs and broaden its scope.

Office Bearers

Executive Committee Members

Jorge E. González, Past Chair, The City College of New York, New York, NY 10031, (212)650-5279, gonzalez@me.cuny.cuny.edu

Moncef Krarti, Chair, University of Colorado, Boulder, CO 80309, (303) 492-3389/7317, moncef.krarti@colorado.edu

Andy Walker, Vice-Chair, National Renewable Energy Laboratory NREL, Golden, CO, Andy.walker@NREL.gov

Christian Sattler, Secretary/Treasurer, German Aerospace Center DLR, Cologne, Germany, 49 (0)2203-601-2868, christian.sattler@dlr.de

Eduardo Rincón Mejía, Member, rinconsolar@hotmail.com

Division Technical Committee Chairs

Conservation and Solar Buildings Committee- Chair: **Ming Qu**, mqu@purdue.edu

Heating and Cooling Committee- Chair: **Alvaro Lentz**, solar_lentz@yahoo.com.mx

Sustainable Cities and Communities; Transportation- Chair: **Honxi Yin**, hyin@purdue.edu;
Co-chair: **Martin Vorum**, NREL, Martin.Vorum@nrel.gov

Photovoltaics Committee- Chair: **Ziqi Liang**, NREL, ziqi.liang@nrel.gov

Solar Chemistry and Bio-Conversion Committee- Chair: **Peter Loutzenhiser**, ETH-Zurich, Switzerland, peterloutzenhiser@ethz.ch

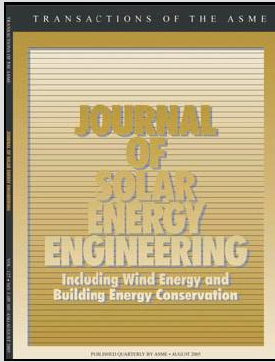
Solar Thermal Power Committee- Chair: **Allison Gray**, NREL, allison.gray@nrel.gov
Co-chair: **Nathan Siegel**, npsiege@sandia.gov

Wind Energy Committee- Chair: **Robi Robichaud**, NREL, robi.robichaud@nrel.gov

Smart Grid, Micro-Grid Concepts; Energy Storage- Chair: **Amip Shah**, HP, amip.shah@hp.com
Co-chair: **Maruthi Devarakonda**, PNL, aruthi.devarakonda@pnl.gov

Education Committee- **Allison Gray**, NREL, allison.gray@nrel.gov

Opportunities for Publication



Journal of Solar Energy Engineering

Including Wind Energy and Energy Building Conservation
Prof. Gilles Flamant, Editor

The **ASME Journal of Solar Energy Engineering** is published quarterly and is available in print as well as electronic media on-line at <http://scitation.aip.org/ASMEJournals/Solar/>

The Editorial Board includes international experts who are responsible for topical areas including fundamentals and theory, heating and cooling, solar optics, solar collectors, solar thermal power, photovoltaics, wind energy, solar space applications, solar chemistry and bioconversion, conservation and solar buildings, energy storage, testing and measurement, emerging technology and energy policy.

The Journal welcomes papers that include original work of permanent interest in all areas of renewable energy and energy conservation as well as discussions of policy and regulatory issues that affect renewable energy technologies and their implementation.

Papers that do not include original work but nonetheless present quality analysis or incremental improvements to past work may be published as Technical Briefs. Review papers are accepted but should be discussed with the Editor prior to submittal.

Papers can be submitted online at:

<http://journaltool.asme.org/Content/index.cfm>

For indexing information:

<http://journaltool.asme.org/Content/AbstractIndex15.cfm?notoolbar=1>

ASME Frank Kreith Energy Award

ASME Committee on Honors

ASME is soliciting nominations for the ASME Frank Kreith Energy Award. The award was established in 2005 by the Solar Energy and Advance Energy Divisions to honor Dr. Frank Kreith's contributions to the fields of heat transfer and solar energy. The award honors an individual in recognition of significant contributions to a secure energy future through innovations in conservation and/or renewable energy technology. Contributions may be through research, education, and/or practice.

Eligibility: Only candidates whose names have been submitted in nomination will be considered for the award. Criteria for the award will be based on, but not limited to any of the following:

1. Significant research contributions in energy conservation and renewable energy
2. Significant contributions to education related to energy conservation and renewable energy
3. Significant contribution to the practice of engineering through invention, design or implementation of innovations in the field of energy conservation and renewable energy
4. Significant service to society that has led to a more secure energy future.

Nominations: Nominations should be submitted using the standard ASME form for Society Awards that can be downloaded at

<http://files.asme.org/asmeorg/Governance/Honors/SocietyAwards/7758.doc> . The nomination package should also include a curriculum vita of the nominee, a statement of the candidate's research, educational and professional accomplishments, limited to two pages, and five recommendations. Recommendations should be on the ASME form that can be downloaded at <http://files.asme.org/asmeorg/Governance/Honors/SocietyAwards/7760.doc>.

The recommendations should provide detailed evidence of the candidate's contribution to a secure energy future through innovation(s) in conservation and/or renewable energy technology. An electronic copy (PDF format is preferred) of the candidate's package, including curriculum vitae, letters of recommendation, and the nomination form should be prepared and forwarded to the Chair of the ASME Frank Kreith Energy Award Selection Committee for review.

Deadline: All copies of the nomination package must be received no later than **December 1, 2011**.

Send nominations and inquiries to:

Catherine Mervyn
ASME
Three Park Ave
New York, NY 10016-5990
Telephone: (212) 591-7736
E-mail: MervynC@asme.org

ASME Solar Energy Division Yellott Award

The **Yellott Award** is presented to an outstanding individual that has contributed significantly to the organization of the Solar Energy Division sponsored symposia.

Solicitation for Nominations for the ASME John I. Yellott Award The John I. Yellott Award is a biennial award sponsored by the ASME Solar Energy Division. This award, in honor of the Division's first Chair, recognizes ASME members who have demonstrated sustained leadership within the Solar Energy Division, have a reputation for performing high-quality solar energy research and have made significant contributions to solar engineering through education, state or federal government service or in the private sector. Nominations are being solicited for the Award that is presented biennially. Nominees should:

- be a member of ASME and the Solar Energy Division
- have demonstrated outstanding leadership in ASME
- have a reputation for performing high quality research
- have made significant contributions to solar engineering through education, state or federal service, or in the private sector.

Previous Recipients of John I. Yellott Award

- 1992 William A. Beckman
- 1994 D. Yogi Goswami
- 1996 Robert L. Reid
- 2000 Frank Kreith
- 2002 Thomas R. Mancini
- 2004 Jane Davidson
- 2008 Aldo Steinfeld
- 2010 Robert Boehm

2012 NOMINATIONS ARE DUE MAY 11, 2012

For more information or to make a nomination, contact:

Prof. Moncef Krarti

University of Colorado, CEAE Department, Boulder, CO 80309 E-mail: krarti@colorado.edu Voice (303) 492-3389

Upcoming Event

6th International Conference on Energy Sustainability



CALL FOR PAPERS



Co-located with the 10th Fuel Cell Science, Engineering and Technology Conference, Summer 2012 San Diego, CA

If you work in the new energy economy as a researcher, engineer, scientist architect, consultant or policy-maker please participate in this exciting conference for exchange of innovative ideas, leading edge concepts, new technologies and devices, ongoing R&D efforts, prototype and demonstration projects, commercialization technologies and projects, and visions of the future related to the theme of **Energy Sustainability**. New technologies and systems-thinking offer a path forward from environmental and economic catastrophe to a clean energy future. At this critical time, it is essential for universities, industries, R & D laboratories & Government agencies to cooperate and share information to propel clean energy technology into the future. The conference will consist of plenary talks, invited talks, panel discussions, workshops, tutorials, technical sessions, poster presentations and exhibitions, thus providing a unique opportunity for communication and collaboration between academia, industry and planners in the areas of Solar Energy, Energy Efficiency, Renewable Energy, Hydrogen Energy Technology, Biofuels and Advanced Energy Technologies. The Conference will feature a special track for students interested in solar and energy efficiency.

Papers accepted for publication in the *ASME Energy Sustainability Conference Proceedings* may be submitted for dual-review for referral to the *ASME Journal of Solar Energy Engineering* or the *ASME Journal of Energy Resources Technology*.

A variety of topics/sessions are available for presentations as it allows flexibility to the authors. All sessions are quality driven.

Combined Energy Cycles, CHP, CCHP, and Smart Grids	Photovoltaics
Solar Buildings, including Solar Climate Control/Heating/Cooling	Micro and Nano Technology Applications and Materials
Fuels and Infrastructure, Biofuels and Energy Storage	Wind Energy Systems and Technologies
Thermofluid Analysis of Energy Systems, including Exergy and Thermoconomics	Geothermal, Ocean, and Emerging Energy Technologies
Low/Zero Emission Power Plants and Carbon Sequestration	Economic, Environmental, and Policy Aspects of Alternate Energy
Hydrogen Energy Technologies	Sustainable Cities and Communities, including Transportation
Concentrating Solar Power and Solar Thermochemistry	High Performance Buildings

More information soon at: www.asmeconferences.org/ESFuelCell2012

Technical Program Chair:

Dr. Ming Qu: mqu@purdue.edu

General Program Chair:

Dr. Christian Sattler: christian.sattler@dlr.de



ASME SOLAR SPLASH 2012 : **International Intercollegiate Solar/Electric Boat Competition**

Dear Former and Prospective Solar Splash Participants!

The **ASME Solar Splash**, the international intercollegiate solar/electric boat regatta, is planned for **JUNE 13-17 2012** – its 19th consecutive year!

The objective of the Solar Splash is to get student teams to construct a solar-powered boat within a school year at a reasonable cost, then compete against other college teams. The competition is designed to provide practical engineering experiences, encourage teamwork, and be fun --- without a major disruption to the students' academic schedule and at minimal cost. The Solar Splash helps students develop project and program management skills, and exposes them to a multitude of technical disciplines while teaching them the efficient use of energy and systems to create both a successful craft and a competitive team. This 'hands-on' project experience has made a significant contribution to many of the students' careers. More than two thousand students have participated in the previous 17 events, many for multiple years.

Many of the competing schools use their Senior Design course as the basis of their team, while other teams are 'non-credit' efforts. In order to help rookie teams get started, several of the veteran teams have volunteered to act as mentors for 'how, when and where' type issues. Also, all the Technical Reports, describing the boats and the power systems for last year's competitors, are available for future teams. A significant rule change will be made for 2012. Contact Splash Headquarters at the address below for details on the above topics.

If you are interested in learning more about the Year 2012 competition, please visit our web site www.solarsplash.com or contact the Solar Splash Headquarters office and you will receive a copy of the competition rules and our monthly newsletters. We hope you will be able to join us at Solar Splash 2011!

Solar Splash Headquarters
c/o Jeff Morehouse

Mechanical Engineering Dept; Univ. of South Carolina
Columbia, SC 29208

Phone: (803) 777-3017; -0106 (fax)

E-mail: more@enr.sc.edu



CARBON MANAGEMENT TECHNOLOGY CONFERENCE

CARIBE ROYALE HOTEL & CONVENTION CENTER
ORLANDO, FLORIDA, USA // 7-9 FEBRUARY 2012

The ASME along with seven other professional societies has organized a multidiscipline, multisociety technical conference that focuses on carbon and energy management. This inaugural conference draws professionals from all engineering disciplines to share their expertise and provide their perspective on the reduction of greenhouse gas emissions and adaptation to changing climate. The conference will focus on engineering perspectives regarding key issues, including technologies, strategies, policies, and management systems. Experts and practitioners will share their findings and experience with the readiness, effectiveness, and implementation of options involved in meeting the challenges posed by greenhouse gas emissions. Engineering expertise, experience, and perspective are critical to developing a viable path to meeting these challenges.

The conference organizers welcome engineers of all relevant disciplines, researchers and scientists, executives, agency personnel (international, federal, state and local), operations and maintenance engineers/managers, economists, academics, regulatory and legal professionals, suppliers of products and services, and project, technology and HSE managers to this inaugural conference.

The conference will feature presentations by keynote speakers, technical papers, poster presentations, panel discussions, workshops, and an exhibition of companies with services and products for greenhouse gas mitigation and adaptation.

Make your plans now so that you can be a part of this exciting conference!

Please see the conference web site at <http://www.carbonmgmt.org/>