

**2017/2018 Division & Class Report  
to the  
ACerS Board of Directors**

Division/Class: Basic Science Division

Current Division/Class Officers:

Chair: **Dunbar Birnie**  
Chair-Elect: **Paul Salvador**  
Vice-chair: **John Blendell**  
Secretary: **Kristen Brosnan**  
Secretary – Elect: **Yiquan Wu**

Counselor: **Bryan Huey**  
Counselor: **Shen Dillon**  
Counselor: **Xingbo Liu**

Incoming Division Officers:

Chair: **Paul Salvador**  
Chair-Elect: **John Blendell**  
Vice-chair: **Kristen Brosnan**  
Secretary: **Yiquan Wu**  
Secretary – Elect: **TBD**

Counselor: **Shen Dillon**  
Counselor: **Xingbo Liu**  
Counselor: **Dunbar Birnie**

**Summary of Meetings and Activities Held/To Be Held (from Oct. 2017 through Oct. 2018):**

The current membership of the BSD is 1,165 members.

BSD continued strong support of the MS&T annual meeting in 2017. We supported a number of registration waivers for symposia organized by BSD members, and supported registration waivers for presenters in the Sosman Symposium. The Sosman prize was awarded to Michael Hoffman in 2017 and Juergen Roedel was selected for the 2018 Award.

Graduate Excellence in Materials Science (GEMS) graduate student awards were again coordinated by John Blendell and funded by BSD (10 awards @ \$100 each). Grace X. Gu, Massachusetts Institute of Technology, Natalie Larson, University of California, Santa Barbara and Hadas Sternlicht, Technion received the Diamond awards in 2017 and Arezoo Emdadi, Missouri University of Science and Technology, Anagh Bhaumik, North Carolina State University, Ajay S. Pisat, Carnegie Mellon University, Chuancheng Duan, Colorado School of Mines, Siva Priya Jaccani, Rensselaer Polytechnic Institute, Wirat Lerdprom, Imperial College London, and Tiannan Yang, Pennsylvania State University received the Sapphire awards in 2017.

The Ceramographic contest overseen by Karren More of BSD was again a favorite of MS&T attendees. For MS&T 2017, 1<sup>st</sup> (\$75 award) and 2<sup>nd</sup> place (\$50 award) were awarded in both the SEM and TEM categories, with a \$1500 prize for the Roland B. Snow Award (2017: "Heavy Seas" by Kevin P. Anderson, Richard P. Vinci, and Helen M. Chan from Lehigh University). Support has been set aside for printing digital submissions in 2018 as well.

EAM 2018 (January 17-19, 2018) was also strongly supported by BSD working jointly with the Electronics Division. Wayne Kaplan and John Blendell represented BSD on the EAM organizing committee. Five symposia were sponsored by BSD members, one plenary supported by BSD, scholarships were provided to students for attendance and participation, full or partial registration waivers were provided for BSD invited speakers, and we continued to support the tutorial at EAM, this time on the topic of "Defect Chemistry in Perovskite Ceramics and Its Impact on Materials Processing and Properties", taught by Wolfgang Rheinheimer and Rachel Zucker. BSD also requested \$2500 in supplemental funds that in conjunction with division funds were used to support students to attend EAM (for a total of 17 student registration comps).

BSD continues to strongly support the GRC Solid State Studies in Ceramics biennial meeting. This took place on August 12-17, 2018 at Mount Holyoke College on "Exploiting Defects and Interfaces in Paradigm-Shifting Processing and Extreme Environments" (Chair: Jian Luo, Vice Chair: Ivar E. Reimanis). BSD provided financial support for this conference as well as the graduate student symposium leading up to the main GRC event.

MS&T 2018 (October 14-18, 2018) is strongly supported by BSD. BSD supported two 2018 MS&T registration for PCSA delegates (including current PCSA Liaison Michael Walden). In addition, there were 49 applications for the Graduate Excellence in Materials Science (GEMS) awards and nine finalists have been selected, Peter Meisenheimer, Carli Moorehead, Yiyu Li, Kai Gong, Pranjal Nautiyal, Michael Presby, Laura Turcer, Jiewei Chen, Shenli Zhang

#### Future Planned Meetings/Activities (from Nov. 2018 – October 2019):

Joint organization of EMA (January 23-25, 2019) with EDiv will be continued in 2019, with representation on the organizing committee for the BSD by John Blendell and Jeffrey Rickman. EMA 2019 features symposia focused on advanced characterization methods; processing, properties, and applications of advanced electronic materials; ferroic oxides; complex oxide films; mesoscale properties of electronic materials; complex oxide and chalcogenide semiconductors; superconducting and magnetic materials; structure-property relationships in relaxors; ion conductors; basic science and electronic applications in microstructure evolution; materials for 5G telecommunications; thermal transport; and material design.

BSD will continue strong support of the MS&T annual meeting in 2019 (September 29 – October 3, 2019). BSD plans to continue to support BSD organized symposia, the Ceramographic competition, GEMS, and the Sosman Symposium.

BSD will continue to support GRC Solid State Studies in Ceramics biennial meeting, with the next GRC meeting to take place in the summer of 2020 (Chair: Ivar E. Reimanis).

#### New Initiatives/Opportunities:

None.

Action Items for ACeRS Board Consideration at October 13, 2018 meeting:

None.

Issues/Concerns:

None.

Additional Items of Note:

None.

Financial Statement: (Including year-end summary of expenditures from the Division's Funds)

Attached.

Submitted By: Dunbar Birnie