2015/2016 Division & Class Report
to the
ACerS Board of Directors

Division/Class: __Electronics Division_____

Current Division/Class Officers: (complete as appropriate for your Division or Class)

Chair: Haiyan Wang
Chair-Elect: Geoff L. Brennecka
Vice-chair: Brady J. Gibbons
Secretary: Rick Ubic
Secretary-Elect: Jon Ihlefeld
Trustee: Winnie Wong-Ng
President's Council Student Advisors (PCSA) Representative to ED: Brian Donovan

Incoming Division Officers: (complete as appropriate for your Division or Class)

Note: most Divisions change officers at the ACerS Annual Meeting in October (MS&T). If your Division changes officers at another time, please indicate when incoming officers will begin their terms: _____N/A_____

Chair: Geoff L. Brennecka

Chair-Elect: Brady J. Gibbons
Vice-chair: Rick Ubic
Secretary: Jon Ihlefeld
Secretary-Elect: Alp Sehirlioglu
Trustee: Steve Tidrow
President's Council Student Advisors (PCSA) Representative to ED: Fred Marlton

Summary of Meetings and Activities Held/To Be Held (from Oct. 2015 through Oct. 2016):
1) ED Executive Committee Meeting held at MS&T15, Columbus OH, Oct.4, 2015
2) ED General Business Meeting held at MS&T15, Columbus OH, Oct. 5, 2015
3) ED Executive Committee Meeting at EMA 2016, Orlando FL, Jan. 22, 2016
4) ED Executive Committee Meeting to be held at MS&T16, Salt Lake City UT, Oct. 2016
5) ED General Business Meeting to be held at MS&T16, Salt Lake City UT, Oct. 2016

Future Planned Meetings/Activities (from Nov. 2016 – October 2017):

1) ED Executive Committee Meeting at EMA 2017, Orlando FL, Jan, 2017
2) ED Executive Committee Meeting to be held at MS&T17, Oct. 2017
3) ED General Business Meeting to be held at MS&T17, Oct. 2017

New Initiatives/Opportunities:
1) About EMA 2016 Meeting Report

EMA 2016 meeting received very positive response from colleagues in the electronic ceramic fields. We had record high attendees (more than 360 attendees), over $9000 external support from industry and federal government (3M, MTI, CINT and ARO). These funds allowed us to support record high numbers of student attendees and young professionals with registration waivers. We had 11 symposia covering a wide range of electronic ceramic materials for various functionalities. This meeting also had a large number of international attendees which reflects the international nature of the electronic and basic science ceramic research. We believe this meeting is growing mature and steady and has become our ED flagship meeting.

2) About EMA 2017 meeting planning update
EMA 2017 is shaping up to be the largest and broadest EMA meeting yet, with 16 symposia; abstract and attendee numbers are currently unknown, as the submission deadline is in mid-September. Much of the programming growth has come from members of the BSD, as members and related technical communities are finding EMA to be a friendly home and a natural fit for topics of mutual interest to ED and BSD. The meeting continues to strongly and actively support student and young professional participants.

3) About Award committee effort report
Four award competitions were held by the Electronics Division in 2015-2016: Best Student Poster Competition at the EMA meeting, Best Student Presentation Competition at the EMA meeting, the Edward C. Henry award, and the Lewis C. Hoffman Scholarship. Below summarizes the finalist selection, judging, and scoring criteria used for each award.

Best Student Poster Competition:
The EMA student poster competition provided a certificate and prize to the top three posters. The prizes were: $100 for 3rd place, $150 for 2nd place, and $250 for 1st place. All student poster presenters were automatically entered into the student poster competition at EMA 2016 resulting in 20 finalists. These 20 finalists were divided into groups of 4 with care taken to distribute presenters from the different symposia into different groups. Groups of three judges were assigned to each finalist group. The judges were assigned on the basis of avoiding institutional or academic conflicts of interest. Posters were judged on the following categories related to the poster content: aesthetics, graphics, introduction, methods, results, discussion, and conclusion and the following categories related to oral presentation of the poster: overview and responses to questions. The score assigned by each judge in each category was averaged and used to weight the score in that category for each finalist. This method was employed to help offset the potential for a judge to assign much higher or lower scores than other judges and artificially result in higher or lower scores for the finalists that they judge, thus putting the presenters that that judge scored at an advantage or disadvantage. The weighted scores for each category for each finalist were summed and ranked. The results of the poster competition were as follows:

First Prize: Daniel Long, North Carolina State University
Second Prize: Gerardo Rodriguez Hernandez, Oxford University
Third Prize: Dong Hou, North Carolina State University

Best Student Speaker Competition:
The EMA student speaking competition provided a certificate and prize to the top three student presenters. The prizes were $100 for 3rd place, $150 for 2nd place, and $250 for 1st place. Owing to the high number (68) of student speakers at the EMA meeting, a down-selection process was required to develop a group of finalists. Students presenting invited talks and those that were past winners were removed from the competition. This resulted in 60 candidates for the 8 finalist positions. Eight finalists were the practical limit owing to the limited amount of time available over the

Wednesday and Thursday lunch period for the competition. Abstracts were initially screened by the Chair of the Awards Committee on the basis of: grammar, technical details, and clarity. Fourteen abstracts were down-selected by this initial screening. A secondary ranking by two independent screeners was performed. These screeners included another member of the Electronics Division leadership team and the Division's PCSA delegate. By performing a similar weighting as described for the poster judging, eight finalists were selected and invited to present at the speaking competition. Six judges from six institutions were assembled for the speaking competition and the students were scored on the following aspects: slide layout, clarity, timing, introduction, experimental procedures, results, and conclusions/summary. The same weighting procedure used for the poster competition was employed for each speaker and each category. The results of the student speaking competition were as follows:

First Prize: Kyle Kelley, North Carolina State University
Second Prize: Jeffrey Braun, University of Virginia
Third Prize: Steven Brewer, Georgia Institute of Technology

Lewis C. Hoffman Scholarship Competition:
The Hoffman Scholarship is a $2000 scholarship award and plaque presented to a junior- or senior-level student that has at least 70 credit hours. The Hoffman Scholarship competition was conducted using the following criteria: student GPA, recommendation of faculty, and a 500 word essay on the topic of "Electronic Ceramics for Electrical or Electromagnetic Energy Control." To encourage a broad and deep pool of applications, the Electronics Division's Chair of the Awards Committee obtained a list of the faculty advisors of the Materials Advantage chapters from the ACERs PCSA group and sent an email soliciting applications as well as numerous emails from ACerS staff to Electronics Division members and advertisements in the Ceramic Tech Today bulletin. Targeted emails to professors active in Electronics Division meetings were also sent by the Chair of the Awards Committee to solicit applications. This year there were 10 applicants from 8 universities. The applications were judged on the basis of: prose, theme, technicality, recommendation letter strength, extracurricular activities, and GPA/test scores. Two judges, in addition to the Chair of the Awards Committee, performed the scoring. The top-scoring applicant and winner of the 2016 Hoffman Award was:

Mallory Purnell, Missouri University of Science and Technology

Edward C. Henry Best Electronic Ceramic Paper Competition:
The Edward C. Henry Award is presented to the authors of the best paper on the topic of electronics ceramics published in the *American Ceramic Society Bulletin* or the *Journal of the American Ceramic Society* in the preceding calendar year. Papers are eligible on the basis of nomination and by selection by the Chair of the Electronics Division's Awards Committee. The winners receive a framed certificate and a $500 prize. The Henry Award request for nominations was advertised by targeted emails from ACerS staff to Electronics Division members as well as postings in the Ceramic Tech Today bulletin. This year there was one nominated paper. To ensure an element of competition, the Chair of the Awards Committee selected three additional papers on the basis of weighted citations (citations divided by the number of months since publication) and overall quality of the paper and research. The Chair of the Awards Committee selected two additional scrutinizers, one of which was a university faculty member and one of which was a national laboratory staff member. Papers were judged on the following criteria: abstract, introduction, experimental procedures, results, discussion, conclusions, quality of figures, and grammar. The winner of this year's Edward C. Henry Award competition was:

Neamul H. Khansur, Tadej Rojac, Dragan Damjanovic, Christina Reinhard, Kyle G. Webber, Justin A. Kimpton, and John E. Daniels, "Electric-Field-Induced Domain Switching and Domain Texture

Relaxations in Bulk Bismuth Ferrite," Journal of the American Ceramic Society, 98(12), 3884-3890 (2015).

Action Items for ACerS Board Consideration at October 22, 2016 meeting:
N/A

Issues/Concerns:
N/A

Additional Items of Note: N/A

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

Submitted By: Haiyan Wang