**2013/2014 Division & Class Report**
**to the**
**ACerS Board of Directors**

Division/Class: Electronics Division

Current Division/Class Officers:

Chair: Steven C. Tidrow
Chair-Elect: Timothy J. Haugan
Vice-chair: Haiyan Wang
Secretary: Geoff L. Brennecka
Secretary-Elect: Brady J. Gibbons
Trustee: Winnie Wong-Ng

Incoming Division Officers:

Chair: Timothy J. Haugan
Chair-Elect: Haiyan Wang
Vice-chair: Geoff L. Brennecka
Secretary: Brady J. Gibbons
Secretary-Elect: Rick Ubic
Trustee: Winnie Wong-Ng

Summary of Meetings and Activities Held/To Be Held (from Oct. 2013 through Oct. 2014):

1) ED Executive Committee Meeting at MS&T'13, Montreal, Canada, Oct. 27, 2013
2) ED General Business Meeting at MS&T'13, Montreal, Canada, Oct. 28, 2013
3) ED executive committee meeting at EMA 2014, Orlando, FL, Jan. 22, 2014
4) ED executive committee meeting to be held at MS&T'14, Pittsburgh, PA, Oct.12, 2014
5) General ED business meeting to be held at MS&T'14, Pittsburgh, PA, Oct.13, 2014

Future Planned Meetings/Activities (from Nov. 2014 – October 2015):

1) ED executive committee meeting at EMA 2015, Orlando, FL, Jan. 21, 2015
2) ED executive committee meeting to be held at MS&T'15, Cincinnati, OH, Oct., 2015
3) General ED business meeting to be held at MS&T'15, Cincinnati, OH, Oct., 2015

New Initiatives/Opportunities:

The 5th Annual Electronic Materials and Applications conference (EMA 2014) was held jointly with Basic Science Division in Orlando, FL from January 22 to 24, 2014. While the number of symposia at EMA 2014 was reduced by 3 to a total of 13 from a record high 16 symposia at EMA 2013, several records were set: 1) number of abstracts submitted was 294, up 35 from a high of 259 (EMA 2013); attendance was the largest ever, 296, up 39 from 257 (EMA 2013); largest student attendance ≈100; largest financial support, >$20K up over $4K from $16K (EMA 2013); largest international participation, 33 countries, up 7 from 26 (EMA 2010).

In addition to increasing the overall funding level for EMA in 2014, ED continued the strategic initiative to attract increasing student participation through the student awards program and increased investment in students including $1000 toward awards with 1st, 2nd and 3rd receiving $250, $150 and $100 in each category, oral and poster, along with a certificate. ED also invested funding in the student oral presentation symposium by providing lunch and refreshments.

EMA 2014 Student Awards: ($1000)

| Place: | Oral: | Poster: |
|---|---|---|
| 1st | B. Foley | S. Kim |
| 2nd | B. Donovan | D. Seshadri |
| 3rd | R. Maier | L. Gao |

EMA 2014 Lunches for Student Presentations: ($1000 – sponsorship The University of Texas – Pan American)

ED also invested additional funding in students through registration waivers.

EMA Student Registration Waivers: ($1485)

| | | | |
|---|---|---|---|
| M. Burch | $135 | D. Seshadri | $135 |
| M. Woo | $135 | C. Cozzan | $135 |
| D. Song | $135 | T. Hang | $135 |
| L. Gao | $135 | J. Weiss | $135 |
| E. Yavuz | $135 | J. Ding | $135 |
| J. Ahn | $135 | | |

In addition, ED has increased investments to support students and others at MS&T2014 through budgeting $1080 for student registration waivers and $1000 for other registration waivers.

ED adjusted its membership strategy through significantly increasing investments in youth. Through such an ED strategy, membership grew from 713 to about 890 (≈25%) or about 150 members which resulted in the largest growth rate in a decade, about 3X greater than any other year within the last decade, that resulted in the largest overall ED membership in at least the last decade. Significant reduction in the average membership age occurred through ≈25% members being students. In addition, a significant number of these youth are international as well as represent minority groups not yet well represented in science, technology, engineering and mathematics (STEM) disciplines, especially, Hispanics and females. ED supported the ACerS President's, Dr. Green's, Latin American strategy through addition of two Material Advantage Chapters, one from Brazil with 15 students and the other from Colombia with 19 students.

ED sponsored student membership and formation of about 6 (International) Material Advantage Student Chapters which are affiliated with the Electronics Division and electro-ceramic materials.

- Brazil – 15 Students (South Brazilian Chapter, University of Maringá)
- Colombia – 19 Students (Universidad Nacional de Colombia)
- Thailand – 85 Students
  - Suranaree University of Technology (25 students)
  - King Mongkut's Institute of Technology Ladraband (22 Students)
  - Chiang Mai University (14 Students)
  - Sakon Nakhon Rajabhat (6 Students)
  - Ubon Ratchathani (6 Students)
  - Naresuan University (5 Students)

Kon Kaen University (4 Students)
Mueang Nakhon Ratchasima (3 Students)

Action Items for ACerS Board Consideration at October 12, 2014 meeting: none

Issues/Concerns:
Significant growth in the number of student members in the Electronics Division requires a long-term strategy that continues to support students and the Young Professionals groups. Such strategies must include significant interactions that are a win for the youth, a win for the Young Professionals, a win for the Electronics Division and win for ACerS. By supporting young members through student and Young Professional levels, the majority of those members will remain ACerS members for life. Such a strategy may require reasonable investments that may at best be break-even in terms of funding that arrives due to youth membership income. Such growth will be difficult to maintain and sustain financially at the divisional level without an overall partnership and strategy among ACerS, the Electronics Division, other divisions, and likely external partners.

Divisions, like the Electronics Division, need to work hand-in-hand with the Ceramic and Glass Industry Foundation (CGIF), to cohesively attract sponsorship(s) from small and medium sized companies that can go to long-term outlays needed to grow membership and responsiveness of the division(s) in support of industry while CGIF attracts medium and larger company sponsorships that allow large special projects to grow membership and responsiveness of ACerS in support of industry. Currently, divisional funds are based on a $10 per member feedback from ACerS to the division. While such funding is generous, the levels are not high enough at least for the Electronics Division to reasonably support both the annual MS&T and EMA meeting if external funding were not obtained through grant proposals. Hence, without long-term outlays, through long-term or continuous external sponsorship, divisions may be in a precarious situation to support conferences and simultaneously maintain or grow divisional membership. Currently, the majority of funding presently supplied through feedback to ED by ACerS should be funneled toward youth, to entice membership through programs that provide strong support and membership value to especially newer members who may not yet fully appreciate the roles of professional societies for the common and greater good of the whole.

Additional Items of Note:

2014 Hoffman Scholarship Award Winner ($2000) and Plaque ($90): K. Talley
The Hoffman Scholarship consists of a $2000 tuition award to encourage academic interest and excellence among undergraduate students in the area of ceramics/materials science and engineering.

2014 Edward C. Henry Prize: ($500) and Plaques ($270): J.-C. M'Peko, J.S.C. Francis and Rishi Raj
The Edward C. Henry Prize is awarded to the provided annually to an outstanding paper reporting original work in the Journal of the American Ceramic Society or the Bulletin (during the previous calendar year) on a subject related to electronic ceramics. This year's Edward C. Henry Prize was for "Impedance Spectroscopy and Dielectric Properties of Flash Versus Conventionally Sintered Yttria-Doped Zirconia Electroceramics Viewed at the Microstructural Level" that appeared in the Journal of the American Ceramic Society, 96(12), (2013)3760-3767 as authored by J.-C. M'Peko, J.S.C. Francis, and Rishi Raj.

Financial Statement: attached

Submitted By: Steven C. Tidrow