

TC1 Meeting Minutes from the 63rd IEEE Holm Conference on Electrical Contacts

Sept. 12, 2017

- Jerry Witter, Chairman of TC1, opens the meeting by presenting the agenda ([2017 TC1 agenda](#)) and a motion to approve last year's minutes. Henry Czajkowski motions to approve last year's minutes.
- The conference chairman, Rod Martens, gave a brief overview of the conference.
 - 51 papers
 - 118 registered participants
 - Record sponsorship
- Intensive course director, Paul Slade, displayed a slide advertising the contact course at next year's combined international and Holm conference meeting in Albuquerque, NM the week prior to the conference ([International Conference and Contact Course](#)).
- John Shea, publicity chairman, gave a live demonstration of the conference website ([Holm Conference](#)) and requested attendees to promote the conference by providing information and a link to the conference on their LinkedIn account. Society name change from CPMT to EPS (Electronics Packaging Society) was discussed. Ron Coutu asked if attendee emails will be made available. The response was only if IEEE provides those emails.
- John McBride updated the meeting attendees on the CPMT transactions. Electrical contact related submissions are increasing. Reaffirmed that significant changes are necessary (essential a new paper) is an IEEE requirement to submit a conference paper to the transactions for publication. Jerry Witter stated IEEE very happy with Holm conference. He also recognized other associate editors Ron Coutu and John Shea.
- Paul Slade, US Representative for the International Contact Conference announced the 2018 International Contact conference Oct 14-18th 2018, in Albuquerque, NM. Conference hotel will be located in Old Town. Hot air balloon festival will be held the week before the conference (book hotel early) ([International Conference](#)).
- Volker Behrens presented ([EU Initiatives](#)) an update on RoHS, end-of-life vehicles (ELV), and REACH initiatives. No changes from last year.
- Updates on industry topics were presented by the following:
 - Henry Czajkowski discussed contactors in the NEMA market. Still a robust market for AgCdO contacts in legacy products. No imminent changes to materials in legacy products. New products will contain AgSnO2 contacts. Mentioned hybrid switches, electronic controls to reduce contact bounce, and device connectivity of power distribution components.
 - Roland Timsit gave an update on the current status of the high-speed connector field. Seeing increasing use of HF connections in data centers with increasing data rate transfers, streaming live TV on airplanes. Issues and areas for further investigation include connector design (surface roughness, plating, heating effects, corrosion, crosstalk). PCB connectors are being replaced with flat connectors.

Will optical connectors replace metal connectors – not presently due to cost and quality issues.

Don't see many HF connector papers at this conference – how to bring in more. Roland will look up papers and invite authors.

- Ron Coutu presented an update on MEMS devices. See some small university lead projects but no commercial activity in the MEMS field. NSF gave grant to CMU for MEMS research. Cell phone applications. Companies maybe internally funding development, GE and Analog Devices. Northwestern University was performing hot switching research but no updates.
 - Xin Zhou reported on circuit breaker status. Mentioned reducing product size, DC switching applications, circuit breakers for electric vehicles, and solid-state/hybrid circuit breaker trends. UL508B replaced with IEC standard which has more requirements on breaker to protect system when drive fails. Other topics mentioned include Internet of Things (IoT), wellness, communications, and cyber security.
 - Brett Rickett gave an update on connectors. Phthalates in plastics banned, whiskering problems and the increasing costs of precious metals. The proliferation of electronics is increasing the usage of connectors, terminations, flat flex cables, sensor use, and wearable sensors. IoT pacemaker data collection mentioned as a medical connector application.
 - Bob Malucci as TC1 co-chair will investigate other areas of research (sliding) and invite new authors to the conference. George Drew will invite automotive connector authors.
- Jerry Witter closes TC1 meeting at 6:15PM

Respectively submitted by John J. Shea
24 September 2017