# IEEE P2520 Working Group Meeting #1 Minutes
## 13 June 2019 / 10:30 AM – 12:00 PM (EDT)
## Teleconference

Approved 6/24/2019

**Voting Members:** Troy Nagle, Susan Schiffman, Mike McGinley, Krishna Persaud, Luis Hoffman, Rachel Sunghee Lee, Yogesh Gianchandani, James Covington, Hua-Yao Li, Howard Choe, Omer Oralkan, Peter Hesketh

**Guests:** Christy Bahn, IEEE-SA; Vanessa Lalitte, IEEE-SA

1. **Call to Order – WG Chair, Susan Schiffman**

   WG Chair Susan Schiffman opened the meeting at 10:33 EDT. She welcomed the participants to the first meeting of the Working Group to develop an IEEE Standard for Testing Machine Olfaction Devices and Systems. An announcement was made about recording the session for minute-preparation purposes. There were no objections to recording provided that the file is destroyed after the minutes have been approved.

2. **Roll Call of Individuals & Declaration of Affiliation (Working Group Establishment) – Schiffman**

   The first order of business was to identify all those who are participating in the first meeting of the Working Group. She explained that a participant's affiliation is the organization or person supporting their involvement in the WG (employer, sponsor, self, …). She then asked everyone present to enter their name, affiliation, and email address in the Zoom chat window to document the meeting's attendance. Per the WG Policies and Procedures (P&Ps), voting membership was granted to the participants attending the first meeting. Anyone who did not wish to be voting member was asked to indicate that choice in the chat window or by email to Troy Nagle. No such messages were received.

3. **Approval of Agenda – Schiffman**

   The Agenda was presented, and no changes were requested. James Covington made a motion to approve the agenda as presented. Luis Hoffman seconded, and the motion carried.

4. **WG Policies and Procedures (P&P) – Program Manager, Christy Bahn**

   Christy Bahn, an employee of the IEEE Standards Association and Program Manager for P2520, reviewed the WG membership rules that are detailed in the WG P&P. The WG P&P can be found here:
   https://www.dropbox.com/s/e6fu9qg7efvrovc/SEN_SC_WG%20P%26Ps%20Final.pdf?dl=0

   Members must attend two of the last four meetings to maintain, or regain, voting rights. Christy is posting the P&P document to an iMeet Central site for the WG. Christy gave a brief overview of the iMeet Central file management tool. This WG will be using some of its most basic features to archive our various documents. Christy also introduced the IEEE-SA MyProject tool which will be employed during the later phases of our standard development. She volunteered to give a detailed presentation to the WG when MyProject use is needed.

5. **IEEE Patent Policy – Schiffman**

   Working Group Chair, Susan Schiffman, briefly reviewed the IEEE-SA Patent policy. This item is required for every WG meeting. Susan presented the set of slides located at:
   https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf

**6. Establishment of Officers – Schiffman**

The WG Chair then reviewed the officer positions for the WG. Our WG has three officers as defined in the WG P&P. They are the Chair, a Vice Chair, and the Secretary. Susan was approved as the Working Group Chair by the Sensors Council Standards Committee and the IEEE-SA Governing Board. She appointed Troy Nagle as the Secretary. At this time, the Vice Chair office is open. That position can be filled later once the activities of the WG focus on some specific application areas.

**7. Future Technical Presentation(s), Contribution(s) or Discussion(s) – Schiffman**

Susan next reviewed Item 7 on the agenda and identified it as a key element of each of our future WG meetings. She described this item as our time to conduct technical presentations, review contributions, and hold discussions of current and future activities. She identified the following as potential topics for our next and other upcoming meetings.

**a.** Relevance of ASTM standards (next meeting, Schiffman, other volunteers?)
**b.** History of EU enose standardization projects (volunteers?)
**c.** Current environmental monitoring standards (volunteers?)
**d.** Promising application areas of focus for IEEE P2520 (all WG members)

A pressing task is for the WG to identify a few specific most-promising applications, and then to select one for our first published standard.

**8. New Business**

There was no New Business.

**9. Future Meetings – WG Secretary, Troy Nagle**

Troy was asked to discuss a schedule for future meetings. Should they be biweekly?, monthly?, quarterly? Troy suggested that we have biweekly meetings in June and July, skip August due to the vacation season, and then resume meetings in September. He will send a Doodle poll to assist in finding the best day of the week, and time period of the day, to hold our WG meetings.

**10. Introduction of Working Group Members**

At this point in the meeting, Susan asked that each participant introduce themselves and state their interest in this new IEEE standards project. Troy was asked to call on each participate using the order of entries in the Zoom chat window. Here is a brief summary of the responses:

Troy Nagle, NC State University: Troy became interested in enose technology at an international olfaction conference in Japan about 20 years ago. Since that time, he has been working with Susan and his graduate students on building and testing enose devices. He strongly believes that new standards are needed to improve the commercial viability of these products.

Susan Schiffman, NC State University: Susan has been working in this field for most of her career. Her first project was to detect enemy combatants in the jungles of Vietnam. She directed the Taste & Smell Research Lab at Duke Univ. for about 30 years. She retired from Duke and joined NC State about 10 years ago.

Mike McGinley, St. Croix Sensory: Mike's company does human sensory panel testing. They follow enose technology with great interest. He is a subcommittee chair of a Sensory Committee within the ASTM E18 Standardization Group. Mike is volunteering to be a liaison for us with ASTM.

Krishna Persaud, The University of Manchester: Krishna has been working for a lifetime on enose technology; fabricating sensors from biology to chemical; designing electronics and software implementations; and addressing applications from environmental to medical. He is interested in all standards that can be associated with these products. Krishna is a founder of the enose technical field.

Luis Hoffman, Yesse Technologies: Luis has just joined a startup company that is developing an enose. He is looking forward to helping us develop this standard.

Rachel Sunghee Lee, LG Electronics Inc.: Rachel is working in Sensor Solutions at LG Electronics. Air purifiers is an example application. She is interested in developing standards for gas sensors.

Yogesh Gianchandani, University of Michigan, Ann Arbor: Yogesh works on microsensors. His group has been working on micro gas chromatographs for a number of years. They translate technology developed at the University to industry, so this working group is of interest.

James Covington, University of Warwick: James is following in the footsteps that Krishna Persaud left behind at the Univ. or Warwick. James has developed commercial gas sensors for a number of UK and European companies. He has helped sensor and enose companies develop new products. He also works with application companies in food, agriculture, and medicine to help them solve problems using an electronic nose. James is President of the International Society of Olfaction and Chemical Sensing (ISOCS). He hopes his background will be helpful to our WG as we develop the new standard.

Hua-Yao Li, Huazhong University of Science and Technology: Hua-Yao has been researching enose technology at his University for almost ten years. He feels that standards are very important for the future development of the enose.

Howard Choe, WSN Technologies, Inc.: Howard's interest in the early 2000s was in biomimetic sensing and processing. He worked with micro biomimetic sensors networks for the defense industry. Now he is involved in IoT network applications and wants to learn how to apply enose technology in food safety and similar fields. Howard is involved in ISO, IEC, and IEEE standards. He can bring background information about other standardization efforts to our WG.

Omer Oralkan, NC State University: Omer works on microfabricated CMUT sensors and their associated microelectronics. He builds arrays of these low-power sensors which can be tuned for various VOCs. Omer is affiliated with NCSU's ASSIST NSF Engineering Research Center. They design and build wearable devices that use energy harvesting for self-powering operation. Applications include medical and environmental monitoring. ASSIST translates their technology to industry, so they are very interested in developing new standards in the area of our WG.

Peter Hesketh, Georgia Institute of Technology: Peter does microfabrication of various kinds of chemical and biosensors. Ultra-low-power sensors are a focus area. Applications areas include food safety, environmental, and agriculture. They also work on the miniaturization of GC systems using silicon micromachining combined with an ion-trap mass-spectrometer and VOC detection method. There are a number of interesting challenges facing this WG and he looks forward to participating.

**11. Adjourn**

The Introductions completed the agenda. With no other business being brought before the body, Susan thanked the WG members for their participation and asked for a motion to adjourn. Multiple motions were heard. She adjourned the meeting at 11:10 AM EDT.

H. Troy Nagle
WG Secretary
6/13/2019