

# Silver Jackets Meeting November 12, 2019

Georgia Tech Police Headquarters, Beringause Community Room

## Minutes

**Members Attending (22):** John Balsam (GTRI), Ed Rondeau (Real Estate), Kathy Tomajko (Library), Ron Bohlander (GTRI), Earl Cagle (Purchasing), Susan Keenan, (Language Institute), Ian Gatland (Physics), Mary Duncan (Development), Nannette Dooley (Library), Pat Davis (College of Sciences), Jo McIver (Registrar), Charles Parsons (Business), Sheila Parsons (guest), Janis Goddard (OCA/OSP), Sally Hammock (Student Center/CAE), Jim Marks (GTRI), Evans Harrell (Mathematics), Jacob Schreckengost (guest), Chris Mitchell (ISyE), Rosalind Meyers (Campus Services), Sandra Thornton (Public Policy), Walter Allen (Purchasing)

**Business Meeting:** John Balsam, President, called the meeting to order. We started with member introductions. John reminded members about the December 3 Holiday Luncheon at Petite Violette at 12 noon (our reserved room will be available for socializing at 11:30 am, where you can enjoy a beverage purchased at the restaurant bar, if you like). All the details are on the registration forms distributed at SJ meetings and also sent to SJ members via email. The deadline to RSVP is Tuesday, Nov. 26 and the cost is \$34. You may wish to contribute to our annual donation project, Children Read, by bringing one (or several) pre-K level books to the SJ Luncheon on Dec. 3. Sandra Thornton spearheads this project for us. Sally will arrive near the end of the meeting to collect reservations and payments.

John introduced Kathy Tomajko, Immediate Past President, to conduct the Silver Jackets Officers and Chair Elections. Kathy thanked all who assisted her with nominations and all who agreed to serve. The slate is as follows:

President: Ed Rondeau

Vice President/Program Chair: Wayne Book

Treasurer: Ian Gatland

Secretary: Jo McIver

Social Chair: Roz Meyers

Membership Chair: John Balsam (who also serves as Immediate Past President)

Kathy asked if there were any nominations from the floor. Hearing none, she asked for a vote by acclamation which passed unanimously.

**Program:** Ed introduced our speaker, Dr. Susan Margulies, who has served as Chair of the Coulter Dept. of Biomedical Engineering at Georgia Tech AND Emory University since May 2017. She is also the Georgia Research Alliance Eminent Scholar in Injury Biomechanics. She has degrees as follows: Ph.D. Bioengineering, University of Pennsylvania, M.S.E. Bioengineering, University of Pennsylvania, and B.S.E. Mechanical Engineering & Aerospace Engineering, Princeton University. Prior to coming to Atlanta, the majority of her work was at the Mayo Clinic in Minneapolis. Her major research interests are biomechanics of brain injury, pediatric head injury, soft tissue mechanics, ventilator-induced lung injury, lung mechanics, pathways of cellular mechanotransduction, and tissue injury thresholds.

She is excited about all the possibilities for collaboration in Atlanta and Georgia and said that it's a special setting. The Department of Biomedical Engineering was established in 1997 and the first PhDs graduated and undergraduates enrolled in 2000. \$49 million in research, 70 total faculty members (20 Emory and 50 Georgia Tech), 300 papers published, 1,200 undergraduates and 263 graduate students currently. Early on, they hired learning scientists to develop their curriculum. Freshman are given problems to solve in their first classes. They want students to be equipped with knowledge, awareness skills, and disposition to transform for inclusion in their places of study and work and to know how to work in groups. The students create a portfolio with artifacts, reflections,

stories (of their learning journey). It's not just a diary; they are taught how to do the elevator speech whether talking with their grandmother or at a job interview.

They have nine areas of research: 1) Biomaterials and regenerative technologies; 2) Biomedical imaging and instrumentation; 3) Biomedical informatics and systems modeling; 4) Biomedical robotics; 5) Cancer technologies; 6) Cardiovascular engineering; 7) Engineering education; 8) Immunoengineering; and 9) Neuroengineering.

She discussed several grants including gene therapy related to sickle cell (NIH); ATL NextGen Neuro; Point of Care Technology Innovation Centers; Good Manufacturing Practice facilities; and "biolocity" which guides innovation to the market (there are currently 37 "biolocity" projects and 20 start-ups).

She discussed her personal research which is concussion biomechanics. There are 60 million TBI (Traumatic Brain Injuries) in the world annually. 2 million are in the U.S. and 2 million are in the EU. 40% are from falls. Most concussion symptoms subside in 2 weeks. Some of the symptoms are lack of consciousness, confusion, reoccurring headaches, imbalance, vision issues, memory issues, and sleepy in the day or unable to sleep at night. Girls report symptoms more than boys. Too often, athletes for example just want to get back in the game when they are asked how they feel.

One needs the equivalent of a blood test or x-ray to show blood in the skull, but this will not necessarily find a concussion. A rapid head rotation in a car accident can cause a concussion. The NCAA has been helpful as they have data on 80,000 athletes. For their lab work, they are now using pigs to do testing, as they are more like humans than mice.

No area of sports medicine involves more uncertainty or controversy than the concussion. Concussions are a multidisciplinary problem. Dr. Margulies also mentioned the existence of the Georgia Concussion Research Consortium.

### **Announcements:**

The next meeting will be the Holiday Luncheon on Tuesday, December 3, at Petite Violette at 11:30 (social) and 12 noon (lunch). The deadline to RSVP to Sarah (Sally) Hammock is Tuesday, Nov. 26.