

Student Leadership Council New Officer Elections and Officer Goodbyes

By Mark Elton, GATech, Industrial Liaison and Communications Officer

The SLC held office elections at the CCEFP Annual Meeting. Since the Center has now been in existence for two years, this is the first time there has been a large graduating class from the SLC, opening the way for a large number of new officers to be elected and for schools to appoint new representatives to the SLC. The SLC is composed of two members from each of the seven schools.

The results of the elections: President: Keith Wait, Vanderbilt (newly elected); Vice President: Chris Williamson, Purdue (newly elected); Secretary: Ken Marek, GA Tech (continuing service); Treasurer: Tim Deppen, UIUC (newly elected); Executive Committee Representative: Mike Rannow, UMN (continuing service); Industry Liaison & Communications: Mark Elton, GA Tech (newly elected); Webmaster: Rachel Wang, UMN (newly elected); Student Retreat Coordinator: Adam Steele, UIUC (continuing service). Other representatives on the SLC are: Andy Willhite, Vanderbilt (newly elected), Matteo Pelosi (Purdue, newly elected),



SLC Officers



Serena Tyson
and Jonathan Baker

Ritson Delpish (NCAT, continuing service), Aaron Kimball (MSOE, continuing service). Other representatives will be elected from the new students entering this fall.

The Center also recognized former president, Serena Tyson and vice president, Jonathan Baker, as well as the other student officers who served on the SLC for a job well done.

The SLC serves as the student voice for the Center, operates the research web casts and continues to foster academic and industrial networking and friendships within the Center. Among other business discussed was the upcoming annual student retreat. This year it will be held at UIUC on August 7-9th and is open to all students wishing to attend. The format will be similar to last year's retreat held at Vanderbilt. There will be brief project reports, industry seminars, and an education and outreach development period, all sprinkled with a healthy dose of social events to allow those present to meet and get to know each other better. Those students wishing to attend should contact their local SLC representatives.

CCEFP Profiles

Students

Keith Wait received his bachelor of science in mechanical engineering from Rice University in 2004 and a masters degree from Vanderbilt University in 2006. Currently Keith is working towards a PhD, also from Vanderbilt. Prior to returning to graduate school, he worked for a short time at a defense contractor that integrates and launches target rockets for military anti-missile systems. Keith's research for the Center is the design and control of the hexapedal walking robot for search and rescue. Its relevance to the Center and to the benefit of society is that it will demonstrate that fluid power is able to provide similar or higher force and power densities for mobile robotics than electrical actuation. Further, the project will demonstrate that fluid power can have applications outside its traditional boundaries. Also, Keith has recently been elected to serve as the SLC's new President.



Researchers

Silvanus Udoka received his bachelor of science degree in manufacturing en-

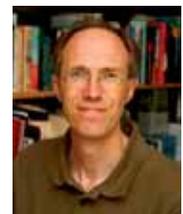


gineering technology from Weber State University in Ogden, Utah. Following his undergraduate education, Silvanus earned both a masters and a PhD in industrial engineering and management from Oklahoma State University. His research interests are in the areas of Automation of Integrated Manufacturing Systems and Robotics applications, as well as Immersive 3-Dimensional (3-D) Environments for interactive visualization and visual depiction of such systems/applications. Dr. Udoka's ongoing and future academic plans are to seek opportunities to continually integrate knowledge from the manufacturing/production domain to emerging areas such as effective and efficient fluid power systems. His research within the Center is in the area of Multimodal Interfaces to support User Centered Design. This involves the study of Interactive Environments (virtual and augmented environments) to characterize and experiment on multimodal human-system interfaces using multiple sensing and display modalities to achieve operational effectiveness. The ultimate aim is to answer questions such as: what combinations of user interfaces and feedback are needed in order to successfully and consistently complete required tasks, and where should they be located? How should designers determine whether to provide the information as an interface object or as something that is mentally

represented by the user? What is the realistic allocation of tasks between the human operator and the system (such as a testbed) to insure intuitive and safe, as well as easy to use and easy to learn, in order to consistently and successfully complete required tasks?

Leadership Team

William K. Durfee earned his academic bachelors degree in engineering and applied physics from Harvard University, and completed his masters and PhD in mechanical engineering from the Massachusetts Institute of Technology. Along with co-directing the education and outreach program, Will is a member of the Test Bed 6: Fluid Power Orthotics team. This aligns with one of his main research areas, which is rehabilitation engineering. In a related project, Will is studying the use of electrical stimulation of muscles combined with a smart orthosis to restore primitive gait to individuals who are paralyzed from the waist down from a spinal cord injury. The approach uses fluid power to store and pipe energy from one joint to the next, resulting in a system that should be much simpler and much more compact than competing technologies.



CCEFP Welcomes a New Team Member

Mr. Donald Haney will serve as deputy administrative director for CCEFP. Don has been a part of the University of Minnesota community for over five years, serving as the administrative aide for the UMN's Upward Bound Program in the College of Education and Human Development and most recently, was employed with the Design Institute in the College of Design. Don brings a wealth of valuable office management experience to the Center. He is well versed in program coordination, event and project planning.

New Education Advisory Board Members

Christine Cunningham, (Museum of Science, Boston), Mike McElligott (Bimba) and Chris Kolbe (HUSCO International) have joined the Education Advisory Board (EAB) of CCEFP. The EAB is an external network of industrial and academic professionals who evaluate and provide guidance on the CCEFP education and outreach initiatives.

Education and Outreach Research Experiences for Undergraduates and Teachers

The CCEFP has another excellent Research Experiences for Undergraduates (REU) and Research Experience for Teachers (RET) program that spans across all seven universities. The Center has 19 diverse undergraduate students working on current research projects from TB3: Hydraulic Hybrid Vehicle to TB6: Orthosis and all related projects in between.

Students often pursue research experiences or internships as a way to gain additional experience and knowledge outside of the classroom. REU programs exist to identify exceptional candidates for graduate school as well as foster knowledge of the subject and provide a valuable opportunity to learn what a researcher can do.

The Center has expanded its RET program to include the RET Orientation program at Vanderbilt University under the direction and guidance of the Center's Education Advisory Board Chair, Prof. Stacy S. Klein. The Center will have eight RET's across four campuses. The underlying goal of the RET program is to allow middle and high school teachers to have experience working in a lab with a faculty member or graduate student. At the end of the program, each teacher will design curriculum surrounding their research and implement it into their courses during the following academic year.