



In this issue, we interview IEEE SMC member Prof. David Kaber. Dr. Kaber is currently the College of Engineering Dean's Professor in the School of Mechanical, Industrial and Manufacturing Engineering (MIME) at Oregon State University. Dr. Kaber recently completed a six-year term of service as Chair of the Industrial & Systems Engineering Department at the University of Florida (UF). Prior to joining UF, he was a distinguished professor of ISE at North Carolina State University, where he also served as the Director of Research for the Ergonomics Center of North Carolina. Dr. Kaber's primary area of research interest is human-systems engineering with a focus on human-automaton interaction, including design for levels of automation and adaptive automation in complex human in-the-loop systems. Domains of study for his research have included physical work systems, industrial safety systems, robotic systems, transportation systems and healthcare. Dr. Kaber is a Fellow of IEEE and immediate past Editor-in-Chief of the IEEE Transactions on Human-Machine Systems. He is also a Fellow of the Institute of Industrial Engineers and the Human Factors & Ergonomics Society. Dr. Kaber is a Board-Certified Human Factors Professional (BCPE) and a Board-Certified Safety Professional (BCSP).

Please find his interview below. We hope you will enjoy and be inspired!

(1) Please tell us a bit about yourself and your academic/professional background

I started in computer science, but had some interest in physical ergonomics issues. That line of study led to me finding cognitive systems engineering, which was very intriguing for me. I liked writing code to create simulations and then conducting experiments to see how people behaved.

(2) Please tell us a bit about your research. Are there any underexplored opportunities that you find particularly exciting in this field?

There is no generalizable design theory or models for Human-Robot Interaction (HRI). Most models are application specific and based on sporadic references to forms of human-human interaction. There are actually many robust psychological theories that I believe could provide a strong foundation for generalizable HRI design models.

(3) Where do you see your research field going in the next 5-10 years?

I'm 55 years old now, so I will probably be retired, but the field of human automation interaction will be grappling with how to most effectively create partnerships between humans and autonomous agents in very complex tasks. I believe there will be a heavy focus on reliability and communication issues, which have major influences on trust and degree of task coupling.

(4) What advice would you give young researchers entering your field?

Don't put too much pressure on yourself. No paper or proposal is ever going to be perfect. You need to get your work out there so that you can make connections and develop team efforts to most effectively and efficiently contribute to the field.

(5) What role has IEEE played in your career?

IEEE is a fantastic organization and in particular SMC is an excellent home for human systems researchers. SMC has more of an engineering focus for human factors science, as compared with other technical societies. By being part of SMC, I believe I was able to have more of an impact on human-machine systems science.

(6) Any last words of advice?

You can meet a lot of great people through IEEE and SMC with whom you can collaborate for your career and contributions in science and engineering. They may also become good friends that you remain in contact with throughout your life.