BIography

Norha M. Villegas is an Assistant Professor in the Department of Information and Communication Technologies of Universidad Icesi in Colombia, Director of the Software Systems Engineering Bachelor program, and an Associate Member of the Faculty of Graduate Studies at University of Victoria, Canada. She is a Senior Member of IEEE, with 15 years of professional experience in academia and industry. Her research has been recognized internationally by her peers for its quality and relevance. For example, her dissertation was nominated for three important international dissertation awards (ACM, Government of Canada). Within the last five years she has published two book chapters and more than a dozen of referred journal and conference proceedings articles that have been co-authored with top researchers of their field. Norha is passionate about educating people who can inspire the new generation of engineers and scientists. The Bachelors program that she leads is recognized as one of the best software engineering programs in Colombia, due to the outstanding performance of its students in the National Tests, as well as in the Colombian and international industry. Her connections with industry have been fundamental for the success of the program and her students. She is very active in helping disseminate emergent topics in technology and software engineering in her country, for example through initiatives such as the CAOBA Center of Excellence that seeks to help develop the Big Data Analytics capacity in Colombia. Norha is a pioneer in the application of innovative teaching and learning methods, as well as curricular innovation strategies in her university. Her research interests focus on self-adaptive software systems and dynamic context-management, and their application to interdisciplinary areas that are crucial for the advancement of society (e.g., smart cyber-physical systems or cognitive computing). Over the last six years, she has co-chaired several international workshops, and served as program committee member of many IEEE international conferences and symposia in the field of software engineering. Norha holds a B.Sc. in Software Systems Engineering and a Specialist Diploma on Management of Information Systems from Universidad Icesi in Cali, Colombia; and a PhD in Computer Science (with focus on Software Engineering) from University of Victoria, Canada. Last but not least, Norha Villegas is also a devoted wife and mom of a three-year-old child.

Statement

I am honored to be considered for member-at-large of the IEEE Technical Council of Software Engineering (TCSE). Part of the mission of TCSE is to advance the state of the software engineering research, education, and practice. I would like to be part of this mission by promoting:

1. the definition and implementation of faculty development initiatives that contribute to assure the quality of software engineering education worldwide. I am convinced that professors are crucial to educate software engineers under high quality educational standards. The development of relevant disciplinary competencies, but most important, of professional skills such as communication, multidisciplinary teamwork, problem solving and critical thinking is only possible if faculty members have the opportunity to continuously improve their teaching skills
and stay current in the field, which includes understanding what society demands from the new generation of software engineers. These opportunities must be available not only for professors in developed countries, but for every faculty member in our field.

2. initiatives that contribute to advance software engineering curricula, by integrating concepts, methods, and techniques required to prepare the new generation of software engineers in conceiving, developing, implementing, maintaining, and operating software systems. Software engineering is a discipline that is continuously evolving. Therefore, professors and researchers leading the field must be actively involved in reviewing the standards, curricular guidelines and body of knowledge of the discipline, and motivating the development of material that can be used to educate software engineers worldwide.

3. the engagement of TCSE and its community of researchers into interdisciplinary areas that are of paramount importance for society, and that require the application of novel software engineering processes, methods and techniques. In a recent international meeting I attended, some software engineering professors argued that there is a lack of interest and funding opportunities for software engineering research. What I think is that our society is currently demanding from us research agendas focused on the development of software engineering processes and methods applicable to new complex problem domains, where software is crucial but many of the current software engineering methods are impractical. The cyber physical systems community provides a strong example of how ideas from a broad set of disciplines help to germinate ideas where the whole is greater than the sum of its parts. In particular, to become smarter and effectively help our society advance, these systems must be effectively instrumented not only with physical components, but also with innovative software that optimizes the integration of their physical and cyber components, including humans.