

# Foreword

Welcome to the 22nd IEEE-CS Conference on Software Engineering Education and Training (CSEE&T 2009) and welcome to Hyderabad, India.

CSEE&T has become the premier international conference focusing on education and training in software engineering. It seeks to answer the question:

“As educators, how do we adjust our teaching to meet the personal preferences and technical challenges of the next generation of software engineers?”

Advances in technology and communications enable new applications to be conceived and made feasible every day. The implication of this is a continued growth in the demand for software engineers in the world. However, there is a marked skills shortage occurring in the IT industry: on the one hand, students are not entering SE programs in the numbers industry would like; on the other, industry reports graduates are lacking in skills considered important—in the newer technical areas and in business and soft skills.

In order to provide the profession with appropriately educated and well-trained software engineers and to do so efficiently and effectively, education and training techniques need to change. Through evolution or revolution, we must grapple with the need to produce the large numbers of SE professionals needed quickly and without compromising quality.

In order to address this issue, the theme of CSEE&T 2009 is “Scalability in SE education and training.” In addressing the challenges posed by the theme, the Conference offers a number of opportunities for educators and industry professionals to share and expand their knowledge of software engineering education, training, and professional issues and to interact and learn from each other. Join us in exploring scalability in SE education and training.

*Keynotes:* Our keynote speakers draw on a wealth of experience within the discipline of SE. With the conference held for the first time in an Asian country, we are keen to capture an Asian viewpoint. We thank Len Bass, Ed Cohen, and Rajeev Sangal for the different perspectives they bring—encompassing academia, industry, and the SE research. With their diverse backgrounds, our keynote speakers will assist in setting the theme for the conference and provide the structure and motivation through which the other conference speakers can deliver their material. They will provide insights, awareness, and cutting-edge information in an energetic, motivational, entertaining, and professional manner.

*Papers:* We received a total of 144 papers. After a rigorous review process, a total of 45 papers, representing 17 countries, were flagged for inclusion in the Conference. This represents an acceptance rate of just over 31% and confirms the high standards set by the Organizing Committee. Our thanks go to the 55 academics and practitioners who offered constructive comments to all authors through the review process. We acknowledge their contribution to the success of CSEE&T 2009. You will find a list of reviewers listed in this publication.

*Panels, Tutorials, and Workshops:* These sessions provide participants with an opportunity to engage at a deeper level with issues of significant importance to the profession. Six Workshops, two Tutorials, and a Panel have been accepted for the conference. The Workshops address topics as wide ranging as updating the SWEBoK, the graduate SE curriculum, improving communications, using multimedia case studies, examining learning technologies, and addressing student retention. The Tutorials explore theories of knowledge and learning and systems dynamics, while the Panel will have industry leaders who address the theme of the Conference. Our thanks go to all presenters of these sessions.

*ASEET:* Following its continued success, the Academy of SE Education and Training is again held in conjunction with CSEE&T. Academicians new to teaching SE benefit from the experience of master educators who conduct sessions aimed at coaching and mentoring participants.

We would like to thank all those who submitted papers, workshops, and panels; members of the Program Committee for their advice and reviewing assistance; the Steering Committee (especially the Chair, Tim Lethbridge) for their guidance; and not least the members of the Organizing Committee for their commitment to a quality conference. Many thanks to Sasi Rekha of Satyam’s Advanced Learning Group for organizing this year’s ASEET. Finally, the Conference could not take place without the effort of the Local Committee which, in undertaking the numerous coordination tasks required to mount such an international event, have ensured the smooth running of the Conference.

This year's location, Hyderabad, is only the fourth time the Conference has been held outside the USA and for the first time outside North America and Europe. That all four have been since 2003 confirms the increasingly global nature of not only the discipline but also education and training for SE. In addition, the choice of an Indian location acknowledged the Indian IT community as important players in the discipline.

Hyderabad has much to offer the first time visitor: As the fifth largest city in India, Hyderabad has its own distinct culture. The city is more than 400 years old and is noted for its natural beauty, mosques and minarets, bazaars and bridges, hills and lakes. A multitude of influences have shaped Hyderabad's character: Culturally and linguistically, it is a meeting ground between North and South India; its rich history, culture, and architecture make it a city of enchantment, while the courtly influence as the former capital of the Nizamate can be seen in Hyderabadi cuisine, also heavily influenced by traditional Telangana, Mughal, and Persian cuisine. Hyderabad is known as Cyberabad, owing to the presence of large number of IT companies. It is also an important seat of learning, with over ten universities situated there. Following in the footsteps of the 2008 Conference, we offer a chance of networking with a cultural flavor by including an excursion as a component of the program. We hope you make use of and enjoy the opportunity to see some of the sights.

We would like to thank the IEEE Computer Society for sponsoring the Conference, welcome the SIGSE of the Computer Society of India as co-sponsor, and acknowledge the support provided by the International Institute of Information Technology, Hyderabad and Satyam Computer Services. We also thank all our sponsors including IBM, SSN School and SABCONS for their support.

Our thanks to you all for participating in such an exciting event.

**Vasudeva Varma**, *General Chair*  
**Jocelyn Armarego and Pankaj Jalote**, *Program Chairs*