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Conference Report

2005 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (IEEE CIBCB 2005)

A successful IEEE CIBCB 2005 symposium was held in La Jolla, Calif., at the Embassy Suites Hotel La Jolla San Diego on November 14–15, 2005. The event was officially opened on Monday morning at 8 a.m. with a keynote lecture "Regulating the regulators: variations and silencing in transcription factor genes" given by Dr. Terry Gaasterland, Professor of Computational Biology of the University of California, San Diego, and the Director of the Scripps Genome Center at the Scripps Institution of Oceanography. The talk highlighted how alternative splicing and microRNA expression modify transcription factor protein production and binding.

Following Dr. Gaasterland's lecture, a single-track of oral presentations ensued with emphasis on the use of computational intelligence methods for topics such as gene expression analysis, RNA sequence and structure, gene regulatory networks and pathways, phylogenetics and small molecules for drug design. The first day of single-track oral presentations began at 9 a.m. and ended at 5 p.m. A poster session was held on the evening of November 14 from 7–9 p.m. and discussions continued even after that time. The second day of single-track lectures resumed bright and early at 8:20 a.m. and continued throughout the day until 5:20 p.m. including topics such as mass spectroscopy, sequence analysis, medical informatics, and protein structure analysis. The symposium concluded at 5:40 p.m. on Tuesday following awards for best paper and best student paper, and a review of IEEE CIS publications and upcoming conferences of bioinformatics interest by Gary Fogel. The symposium was sponsored by the IEEE Computational Intelligence Society (CIS) and organized by members of the IEEE CIS Bioinformatics and Bioengineering Technical Committee (BBTC).

The CIBCB symposium series aims to bring together researchers from around the world to discuss applications of computational intelligence in bioinformatics. Following each presentation, there was typically a good exchange of ideas and comments, which hopefully will lead to additional research and presentation at CIBCB 2006. The IEEE CIBCB 2005 had 93 registered attendees from 18 different countries. Forty-two percent of these registrants were students. The number of submitted manuscripts for CIBCB 2005 (135) was slightly more than 2.5 times that of CIBCB 2004 (50). All paper submissions were handled electronically using the wonderful Web system generated by Tomasz Cholewo. This same Web system was used for reviews and making final decisions of acceptance.

IEEE CIBCB 2005 also provided the opportunity for the IEEE CIS BBTC to hold its second general meeting to discuss the future of the CIBCB conference and the importance of computational intelligence methods in bioinformatics. We were pleased to have IEEE CIS VP of Technical Activities Gary Yen in attendance for this meeting. The BBTC looks forward to a series of successful future bioinformatics events and growing participation. Special

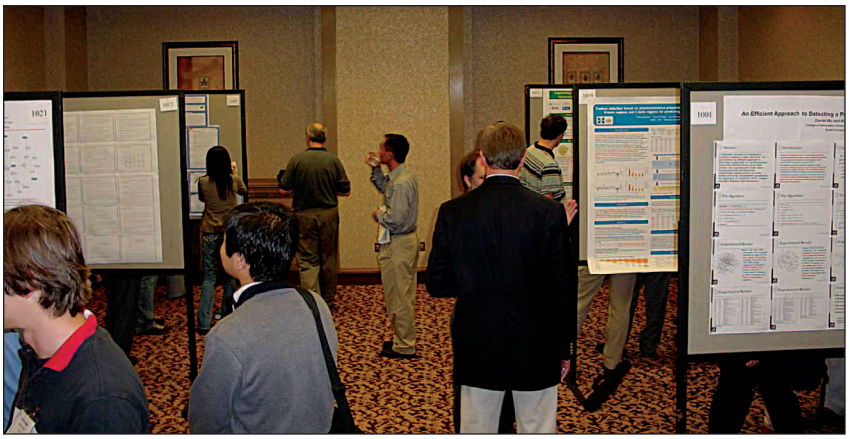

FIGURE 1 Conference attendees interact during the poster session.

FIGURE 2 CIBCB'05 participants enjoying a Mexican fiesta in the San Diego sunshine.

thanks go to David Corne and Gwenn Volkert (Co-Technical Chairs), Dan Ashlock (Program Chair), Scott Smith (Proceedings Chair), Francisco Azuaje, Altamiro Susin, Jagath Rajapaske and Kay Wiese (Co-Publicity Chairs), David Fogel (Finance Chair), Slawo Wesolokowski (Student Grants Chair), Rene Thomsen and Tomasz Cholewo (Co-Web Chairs), and the many members of the Technical Review Panel for their work in generating a successful CIBCB 2005 event.

Next year, IEEE CIBCB 2006 will be chaired by Dan Ashlock and held in Toronto, Canada, on Sept. 28–29, 2006. We look forward to seeing you there!

Book Review *(continued from page 42)*

real-world applications of evolutionary strategies. Chapters 9 and 10 pertain to Part 4. Chapter 9 walks the reader through the different steps of designing an intelligent industrial machine. The chapter details how to use various tools of computational intelligence presented throughout the textbook to implement an intelligent controller for an advanced automated fish-cutting plant. The study is not based on numerical experimentations but is rather carried out on a real fish-cutting plant. Chapter 10 concludes the textbook with five worked case studies in the form of tutorials on how to capitalize on the knowledge gathered in the previous chapters to design and implement intelligent systems pertaining to real-world applications in the pertinent and growing fields of intelligent control, power systems, operational research, wireless and ATM networks. Part 4 of the book is particularly important for graduate courses as it represents a rich source of project ideas. The textbook also includes more than 350 references spanning both theoretical and practical aspects of intelligent systems design. This extended list of references should provide the reader (students or professionals working in various fields of science and engineering) with excellent sources of knowledge harmoniously complementing the textbook material. One of the major assets of the book is the large number of solved examples and case studies illustrating almost every introduced concept and theoretical discussion. In order for the reader to take full advantage of the wealth of the material in the textbook, it would be beneficial to make the source code of these examples and case studies available online. The authors have already dedicated a Web site for the textbook, from which readers could have access to the latest typo correction and to a very large number of online resources including publications and shareware software. The textbook Web site is updated regularly, and the authors are welcoming feedback: http://pami.uwaterloo.ca/ soft comp/ textbook.html

While the textbook is rich in information that has been known and compiled during the years in several publications and textbooks, one of the main distinguishing features of this textbook remains its balanced approach (theory vs. applied) in the introduction and discussion of the tools of soft computing. The textbook is also very cohesive, and its worked examples and case studies should provide readers with excellent tutorial material and good presentation of theoretical fundamentals of the areas addressed. While some critics may sense some shortcomings in terms of addressing all of the theoretical and practical implementation aspects of the tools presented, it is unfair to ask the authors to include all of these details in a single manuscript. The authors are well aware of this aspect and have made, in their textbook, several references to publications where more dedicated material (where required) could be found. In summary, this is a very timely textbook and will be used by many of us for either introducing the topics of soft computing to our students or making use of the topics directly for advanced and applied research purposes.