

Educational Activities



Dear CIM Reader,

In the past issues, I presented some of the activities that the Computational Intelligence Society is doing to serve your needs in the various theoretical and application areas of computational intelligence; namely, the organization of the technical activities and the dissemination of achievements by means of conferences and archival publications.

Research outcomes and successful applications constitute our knowledge base, our treasure that we like to develop, expand and share for the benefit of all scientific, professional and governmental communities worldwide.

To create new knowledge and to apply it successfully, we need to continuously study theoretical aspects and application cases. This will allow us to remain current in our field of interest and profession and stay on the leading edge of our profession. In turn, this will ensure our professional success and personal satisfaction, as well as the advancement of the scientific and technological fields in which we operate and the global economy.

Education and, especially, lifelong education are therefore major needs for students, scientists, and practicing engineers. Our Society strives to provide opportunities in this direction to serve its members and the worldwide communities as best as possible.

In this issue, I focus the attention on the various educational activities of the CIS. Our main objective is to become your preferred educational source in computational intelligence technologies and applications. On the other hand, note that we do not aim to provide educational services in the various application areas, but only on the use of our core technologies in such applications.

The CIS makes available refereed introductory material on computational intelligence technologies and applications in the *IEEE Computational Intelligence Magazine*. These overview papers are easily readable, even though technically and scientifically detailed, in order to provide written references to beginners in the field of computational intelligence. Both computational intelligence technologies and their effective use in applications are plainly presented.

For people who are interested in more technical details, refereed tutorial papers are available in the IEEE Transactions that we publish, especially the *IEEE Transactions on Neural Networks*, the *IEEE Transactions on Fuzzy Systems*, and the *IEEE Transactions on Evolutionary Computing*. These constitute fundamental scientific and technological reference points in the literature.

Consolidated, comprehensive knowledge is provided by educational books published by our experts in computational intelligence theory and applications. Some of them introduce the basic technologies; others are more oriented to show how to use them in applications.

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More non-refereed reference material is also available on the CIS Web site and, in particular, the portions managed by the individual Technical Committees. Reports, guidelines, data sets, and more are posted here.

All of the above publications and reference materials provide opportunities for learning more about our technologies and their effective use in real-world applications. However, this educational material is designed to be used without the assistance and the guidance of a tutor. This may be productive when the reader has already sufficient knowledge in the field and the habit of self-training through books, but it is often not enough when he is looking for the first time, whether he is a college student or very experienced in other areas. In many cases, he may not have sufficient time or abilities to orientate himself in the huge amount of knowledge that we provide.

In these cases, it becomes very valuable and effective to listen and, eventually, interact with an experienced lecturer who points out the key aspects and ideas and guides through the available knowledge to understand it and learn. To provide appropriate support in this direction, the CIS has various activities.

Many tutorials are given at the major conferences sponsored or co-sponsored by the Society. Typical venues are our IJCNN, FUZZ-IEEE, CEC, and WCCI conferences. Other tutorials are given in Chapter meetings or other local events. Many of our tutorials introduce the computational intelligence technologies and their effective use in specific areas or applications. The attendee is guided in listening and learning, often with the opportunity of reading tutorial notes and further reading material. This is a unique opportunity to learn directly from leading scientists and professional engineers and interact with them personally.

Unfortunately, a lot of people are not able to attend tutorials in person due to time conflicts, lack of time, or excessive travel costs. The CIS strives to help them as well. To this purpose, multimedia

tutorials have been created and distributed through Web-based systems. Some outstanding tutorials, suited also for accreditation according to the IEEE agreements with the specific national accreditation boards, were produced and are accessible through the Experts Now IEEE program http://www.ieee.org/portal/pages/education/Expert_Now_IEEE. Other tutorials have been recorded at conferences and made available on our Web site as multimedia presentations, at no charge. Even though no immediate interaction is possible, these tutorials constitute unique sources of guidance through the complex world of computational intelligence.

To achieve a broader and in-depth knowledge on our topics, the CIS considers it important to create opportunities that allow for more time and more direct exposure to experts and to promote more interaction with them. In particular, we feel that a focused but relaxed environment is useful to make the interaction more friendly and effective, to allow for repeated interactions, to support professional networking and long-lasting acquaintance and friendship. To this purpose the CIS sponsors, co-sponsors or technically co-sponsors summer schools on topics within its field of interest, both from the point of view of theory and the applications.

Are you interested in cooperating with our educational activities? Please visit our Web site and contact our Vice Presidents and Committee Chairs for possible activities in their respective area of responsibility. We will be glad and honored to consider your proposal since it may contribute to the overall vision of our society and to the advancement of science, technologies, and applications, as well as to our profession and the global economy.

If you have any comments, suggestions, or criticism, then please do not hesitate to contact me at piuri@dti.unimi.it. We will be very glad to hear from you and involve you in the Society's life!