



IEEE-CIS-Chapter Mexico

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Special Edition Newsletter
IEEE Computational Intelligence Society - Chapter Mexico

Vol. 2 No. 4



December 2006



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EDITORIAL

Dear members:

This special edition of the newsletter is dedicated to let everybody know about the event of our chapter, the "International Seminar on Computational Intelligence 2006", which was held in Tijuana Mexico, October 9 - 11, 2006, in The Palacio Azteca Hotel, Tijuana.

The International Seminar on Computational Intelligence, organized by the Mexican Chapter of the Computational Intelligence Society, was held in Tijuana, Mexico, October 9-11. This is the third edition of the International Seminar, with the first meeting on 2004 in Tijuana, followed by the second meeting on 2005 in Mexico City. The General Chair of the Seminar is Prof. Patricia Melin, and the Co-Chairs of the Technical Program are Prof. Oscar Castillo and Prof. Eduardo Gomez-Ramirez. The technical program consisted of 2 distinguished lectures, 6 invited lectures, and 26 regular paper presentations. The first distinguished lecture was delivered by Prof. Witold Pedrycz from the University of Alberta, Canada on October 9th with the theme "Human-Centric Constructs of Granular Computing and Fuzzy Logic". The second

distinguished lecture was delivered by Prof. Jacek Zurada on October 10th from the University of Louisville, USA with the theme "Neural Networks for Selected Data Mining Tasks". The first day of the seminar, a tutorial on "Type-2 fuzzy logic: Theory and Applications" was delivered by Juan Ramon Castro (Ph.D. student of Prof. Oscar Castillo). The invited lectures were delivered by international recognized experts in Fuzzy Logic, Neural Networks and Genetic Algorithms that work in Mexican Institutions. The regular papers were mostly presented by graduate students from all around Mexico, and a Best Paper award competition was held to recognize outstanding work from the students.

We renew the invitation to all members of the chapter to send us their contributions to be included in the next regular edition of the newsletter, which will be the February 2007 issue.

OPENING CEREMONY

The International Seminar of Computational Intelligence was organized for the third time. The event was held at Hotel Palacio Azteca Tijuana in

Tijuana, Mexico on October 9-11, 2006. For the inauguration event on October 9, our Distinguished Lecturer, Prof. Witold Pedrycz, participated in the inauguration for the seminar. The dean of the Computer Science Department of the Tijuana Institute of Technology was also present at the event. After the inauguration event, the distinguished lecturer of the IEEE, Prof. Witold Pedrycz, from the University of Alberta, Canada, gave an interesting lecture.

heterogeneous and highly distributed data. The data usually come from a broad range of sources including users, designers, networks of sensors and distributed databases. Various pursuits along the line of e-society including intelligent housing, semantic web and web intelligence, e-health, e-commerce, intelligent data analysis, and wearable hardware are examples of the tendency of the highly collaborative processing present in the development of HC² systems.



Opening Ceremony



Prof. Pedrycz delivering his lecture.



Prof. Castillo in the inauguration speech



Prof. Witold Pedrycz answering questions after the talk.

DISTINGUISHED LECTURERS

After the inauguration event, from the IEEE distinguished lecturer Program, Prof. Witold Pedrycz, gave interesting lecture on his area of research. On October 9, Prof. Pedrycz talked about "Human-Centric Constructs of Granular Computing and Fuzzy Logic".

Prof. Pedrycz talk was about Human-centric systems and human-centric computing (HC²) that constitute an innovative and visible trend in modern information technology and are inherently associated with the usage of

He discussed various aspects of human-centricity in the setting of the design of granular models and demonstrated how the topology of such models hinges upon collections of information granules and associations between them. In this talk, he also proposed a collaborative scheme of forming information granules whose crux lies in the formation of interaction linkages between the data nodes that are established at the granular level. A general taxonomy of the interaction mechanisms (emerging under the umbrella of so-called C³ paradigm) is introduced and studied.



Prof. Pedrycz receiving his diploma for the talk from the chair of the IEEE CIS Mexico Chapter, Prof. Patricia Melin.

On October 10 the IEEE Distinguished Lecturer, Prof. Jacek Zurada gave an interesting lecture on “Neural Networks for Selected Data Mining Tasks”. The opening part of the talk introduces basic premises of data mining. It is shown how paradigms of neurocomputing prove useful and effective for data mining. These are data-driven modeling, feature extraction, dimensionality reduction, visualization, knowledge extraction and logic rule discovery. Such modeling often involves handling of heterogenous, subjective, imprecise and noisy data. This part concluded providing an overview of various model-building tasks, which can be performed by neural networks.



Prof. Zurada giving his lecture.

The second part of the presentation outlined the concept of dimensionality reduction of the input data vectors. This technique leads to reduced models achieved through evaluation of sensitivity matrices of perceptron networks. When developing reduced models it is also useful to eliminate underutilized internal weights and, possibly, also neurons via pruning techniques. The concluding part of the talk reviewed the

capabilities of perceptron networks for producing understandable IF-THEN rules.



Prof. Zurada receiving his diploma for the talk from the chair of the IEEE CIS Mexico Chapter, Prof. Patricia Melin



Prof. Zurada with some organizers of the event



Students participating in one of the lectures

The attendance for the opening ceremonies and these lectures was about 70 persons, including 40 IEEE members from the chapter.

INVITED SPEAKERS

The International Seminar hosted 6 invited lecturers on interesting theoretical and applied themes related to computational intelligence. The invited speakers are shown in the next table.

October 10 Invited Talk	October 11 Invited Talk
Learning virtual battery recharge behaviors in a mobile robot using a face detection strategy Gustavo Olague , CICESE Ensenada	Redes Neuronales Celulares Polinomiales Eduardo Gómez Ramírez , Universidad La Salle, Mexico City,
Fuzzy Control of a Mobile Robot for Tracking and Following a Person Mahmoud Tarokh San Diego State University	Modelling and Prediction of the MXN-USD Exchange Rate using Interval Singleton Type-2 Fuzzy Logic Systems Ma. De Los Angeles Hernández , Instituto Tecnológico de Nuevo Leon
Long-term Prediction, Chaos and Artificial Neural Networks. Where is the meeting point? Ma. Del Pilar Gómez Gil Universidad de Las Americas Puebla	Aprendizaje Híbrido RLS-BP, REFIL-BP y OLS-BP para Sistemas Difusos Tipo-2 Gerardo Maximiliano Méndez Instituto Tecnológico de Nuevo Leon



Prof. Eduardo Gomez-Ramirez giving his talk



Prof. Mahmoud Tarokh in his talk

There were also 26 regular paper presentations on the technical program of the seminar the web page is:

www.hafsamx.org/cis-chmexico/seminar06

CLOSING CEREMONY

For the closing ceremony on October 11 the academic and administrative deans of Tijuana Institute of Technology and the organizers of the event were present.



The deans of Tijuana Institute of Technology and Prof. Melin in the closing ceremony of the seminar

A competition for the Best Student Paper was also organized. The Best Paper award competition was held to recognize outstanding work from the students. The winners of the first, second and third places were awarded a travel grant for the International Seminar to be held in Cancun next year and a certificate of recognition. The names of the students, and their respective papers, that were awarded with the best papers of the seminar are:

Table of the best paper awards

Place	Name of Student	Institution	Title of Paper
1	Jose Luis Gonzalez	UABC, Tijuana	Architecture for a Hardware Implementation in FPGAs of Fuzzy Logic Co-processor
2	Leslie Astudillo	Instituto Tecnológico de Tijuana	Fuzzy Control of Autonomous Mobile Robots in Uncertain Environments using Type-2 Fuzzy Logic
3	Juan Ramon Castro	UABC, Tijuana	Toolbox for Interval Type-2 Fuzzy Logic
4	Anahi Torres	Instituto Tecnológico de Leon	Developing an Intelligent Agent for Legal Advice in Work Conflicts
5	Alejandro Garcia	Instituto Tecnológico de Nogales	Development of Functional Neuromuscular Stimulation System for Independent Ambulation of Patients with a Spinal Cord Injury



Best student paper award ceremony



Leslie Astudillo in her talk, second place for Best Student Paper



Jose Luis Gonzalez in his talk, first place for Best Student paper



Juan Ramon Castro in his talk, third place for Best Student Paper

The proceedings in CD format were distributed to all participants of the seminar. A meeting of the members of the chapter was also held on October 11, to discuss the activities already done and to plan future events and activities. The participants did come from several cities of Mexico, like Nogales, Puebla, Leon, Nuevo Leon, Chihuahua, Mexico City, and Tijuana. The chapter's website is located at www.hafsamx.org/cis-chmexico/

We invite all members of the chapter to send us their contributions for publication in the next edition of the newsletter. The information that you can send are: Articles, Conference Report, Call for Papers, Conference Calendar, and all other news that you consider can be of interest for chapter members. For your contribution send an e-mail to pmelin@tectijuana.mx.