Milestone Session in Computational Intelligence in Control

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Milestone Session

- The panel session is accompanied by a paper in the Proceedings. Briefly, the paper contains the authors´ views on the Technical Committee, Neural Network and Fuzzy Control, Reinforcement Learning, Brain Machine Interfaces and the Coordinating Committee

- I will first introduce my view on the TC on Computational Intelligence in Control,

- Zhongliang will present Sam Gee's position on Neural Network Control

- Thierry-Marie will present his view on Fuzzy Control

- I will present Jose Carlos position on Brain Machine Interfaces

- Matjaž will present his view on the Coordinating Committee 3

The TC on Computational Intelligence in Control

- TC 3.2 focuses on all aspects of data fusion and data mining, knowledge-based, fuzzy, neuro-fuzzy, neural (both artificial and biologically plausible) systems, evolutionary algorithms and swarm intelligence, relevant to control and automation, both theoretically and application driven.

- The TC has currently 71 members, and during the two last trienniums has been chaired by António Ruano, with the help of 3 Vice-Chairs:
  - Thierry-Marie Guerra (new chair)
  - Shuzhi Sam GE
  - C. W. Chan (acting also as the liaison to the IFAC TC on Education)

Past events

- During the two last trieniums, TC 3.2 has sponsored the following conferences:
  - 2nd IFAC International Conference on Intelligent Control and Signal Processing (ICONS 2009), 21-23, 2009, Instanbul, Turkey
  - IFAC Conference on Control Methodologies and Technology for Energy Efficiency (CMTEE 2010), Vilamoura, Portugal, March 29-31, 2010
  - 1st IFAC Conference on Embedded Systems, Computational Intelligence and Telematics in Control, CESCIT 2012, Wuerzburg, Germany, April 2-5, 2012.
  - 3rd IFAC International Conference on Intelligent Control and Automation Science (ICONS 2013), Chengdu, China, 2-4 September 2013
- On the year after the world congress, CESCIT (a joint organization of TCs 3.1, 3.2 and 3.3) takes place. On the year previous to the World Congress, our conference, ICONS is organized. We have proposed it to be incorporated in the IFAC Masterplan.

Past events (cont)

- TC 3.2 has also co-sponsored a significant number of events:
  - The 4th IFAC Workshop On Discrete-Event System Design (DESDes 2009), 6-8 October, 2009, Valencia, Spain
  - The INSTICC IFAC Conference on Informatics in Control, Automation and Robotics, 2-5 July, 2009, Mialno, Italy
  - The 11th IFAC Symposium Analysis, Design, and Evaluation of Human-Machine Systems, 31 October- 3 November 2009, Valenciennes, France
  - The IFAC Symposium on Telematics Applications, 5-8 October, 2010, Timisora, Romania
  - The INSTICC Conference on Informatics in Control, Automation and Robotics (ICINCO 2012), 28-31, July, 2012 Rome, Italy
  - The IEEE International Conference on Connected Vehicles & Expo, December 5 – 9, 2012, Beijing, China
  - The 7th International Workshop on Eneterprise Integration, Interoperability and Networking (EI2N'2012), September 12-13, 2012, Rome, Italy
  - The IFAC Workshop on CONVERGENCE of INFORMATION TECHNOLOGIES and CONTROL METHODS with POWER SYSTEMS Cluj-Napoca, Romania, May 22-24, 2013
  - The IFAC Conference on Manufacturing Modelling, Management, and Control (MIM '2013), Saint-Petersburg, Russia,19-21.06.2013
  - The International Workshop on Adaptation and Learning in Control and Signal Processing ALCOSP - 2013, July 3-5, Caen, France
  - The 10th International Conference on Informatics in Control, Automation and Robotics - ICINCO 2013, 29-31 July 2013, Reykjavik, Iceland
  - The 8th Workshop on Enterprise Integration, Interoperability and Networking, Graz, Austria, 11-12 September 2013

Future events

- Sponsored events:
  - The 2nd IFAC Conference on Embedded Systems, Computer Intelligence and Telematics (CESCIT 2015), June 22 - 24, 2015
- Co-sponsored events:
  - The 6th International Joint Conference on Computational Intelligence, Rome, Italy, 22-24 October 2014, (under IFAC approval)
  - The IFAC Conference on Dynamics and Control in Agriculture and Food Processing, Ruse, Bulgaria, 10-13 June 2015 (under IFAC approval).
  - The 5th IFAC Workshop on Dependable Control of Discrete Systems - DCDS 2015, Cancun, Mexico, 27-29 May, 2015
  - The 16th IFAC Conference on Technology, Culture and International Stability, Sozopol, Bulgaria, September 24-27, 2015
  - The 8th IFAC Conference on Manufacturing Modelling, Management and Control - MIM 2016, June 28-30, 2016, Troyes, France

Conclusions

- During the two last trienniums, the main effort was to establish credible and successful sponsored conferences: ICONS will go its 4th edition, while CESCIT will have its 2nd issue.

- Computational Intelligence methodologies are currently applied to all areas of control. An effort was also made to increase the number of co-sponsored conferences with other TCs (apart from the 2 other TCs under CC3). This, in my view, should be maintained and multi-TC working groups and joint special sessions (particularly in World Congresses) should be encouraged.

- Finally, IFAC and in particularly TC 3.2 has everything to gain in promoting collaboration with external Institutions, such as IEEE and IFSA.