

Report on the

I. International Seminar on Soft Computing in Humanities and Social Sciences

September 9-11, 2009-09-17
at the European Centre for Soft Computing, Mieres, Asturias (Spain)

Rudolf Seising and Veronica Sanz

From September 9 to 11, 2009 the I. International Seminar on Soft Computing in Humanities and Social Sciences took place at the European Centre for Soft Computing in Mieres, Asturias (Spain). Organized by Rudolf Seising and Veronica Sanz, about 30 European scientists (from Austria, Finland, Germany, Italy, Portugal and Spain) met for three days to discuss very interesting topics, surveys, applications, case studies and visions on the field of Soft Computing in history, philosophy, education science, economics, linguistics, political and life sciences, and of arts, especially in the fields of music and architecture.

The workshop started in the afternoon of Wednesday, September 9, with the Opening words of Luis Magdalena, director of the Centre, and later Rudolf Seising, a historian and philosopher of science who is at the centre as a Visiting Researcher and one of the organizers of the seminar. In the first session, ***Philosophy and Soft Computing***, we had two talks: Alejandro Sobrino and Martin Pereira (Univ .de Santiago de Compostela) on *Fuzzy Logic and Philosophy: From De Interpretatione to some recent papers* and Settimo Termini (Università di Palermo) on *"Explicandum" versus "Explicatum" and Soft Computing*.

The second session had the title ***Fuzzy Logic and Probability in Science***. Two talks of this session were given at the first day: Itziar García (ECSC Mieres) presented her work on *Conjectural Reasoning* and Gracián Triviño (ECSC Mieres) spoke *About the perception of probability*. With two more talks in this session we started on Thursday's morning: The contribution of Rudolf Seising (ECSC), one of the organizers of the seminar was *Warren Weaver's "Science and Complexity" revisited*. Then, Enric Trillas presented a *Some Doubts on Coupling the Words 'Fuzzy' and 'Probability'*, a talk that he prepared together with Claudia Moraga (ECSC), and Sergio Guadarrama (ECSC).

The third session had the heading ***Soft Computing and Life Sciences***. Clara Barroso (Universidad de La Laguna) gave a talk on *Perceptions: a psychobiological approach*, and Gianpiero Cattaneo (Università di Milano - Bicocca) asked *Rough Logic in Analyzing Medical Diseases by Knowledge Based Systems*. In the fourth session we had four talks on ***Decision and Choice in Social Sciences***: Ana Álvarez (Complutense University, Madrid) presented the work together with Daniel Gómez, Javier Montero and Javier Yáñez on *Detecting possible terrorist groups via social network*, Hannu Nurmi (University of Turku, Finland) spoke on *Alternatives to Preference Ranking in the Theory of Choice* and José L. G. Lapresta discussed the question on *Voting on how to vote* – a talk that he collaborated with Ashley Piggins (National University of Ireland, Galway, Ireland).

The last session of the second day was titled ***Soft Computing and Arts***: Teresa León and Vicente Liern Carrión (Universidad de Valencia) discussed *Mathematics and Soft Computing in Music*, Hanns-Werner Heister (Hamburg, Germany) presented interesting aspects on *Invariance and variance of motives: Musical logic and/as Fuzzy Logic* and Josep Lluís Arcos (IIIA, UAB,) gave a talk on *Music and similarity based reasoning*. The last presentation of this day was an impressive

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view on architecture: Joan Jacas and Amadeo Monreal (Universitat Politècnica de Catalunya) showed *Generating Architectural Objects using Fuzzy Logic: Application to a Gaudi's Design*.

The last day of the seminar consisted of two more sessions: **Soft Models in Social Sciences and Economics and Language and Perceptions**. The first of these sessions was introduced by a talk of Joao P. B. Carvalho (TULisbon, Lisboa) talking about *Rule Based Fuzzy Cognitive Maps in Humanities, Social Sciences and Economics*. Then, Bárbara Diaz (Universidad de Málaga) discussed *Some experiences applying fuzzy logic to Economics*, and finally Verónica Sanz (ECSC Mieres), the second organizer of this seminar, showed that *Dichotomic Theories don't work (in Social Sciences)*.

The last session contained three talks: Jeremy Bradley (Vienna University of Technology) spoke on *Syntactic Ambiguity Amidst Contextual Clarity – Reproducing Human Indifference to Linguistic Vagueness*, Sven Schlarb (Austrian National Library, Vienna) gave examples of *Language and Uncertainty in Digitisation*. Last but not least, Cristina Puente (Pontificia Comillas University, Madrid) presented the results of her collaboration with Alejandro Sobrino (University of Santiago de Compostela) and José A. Olivas (Pontificia Comillas University, Madrid) on *Retrieving conditional and causal sentences in texts*

Every session was followed by very engaged discussions about the topics at hand that were continued during the dinner in a restaurant in Mieres. In the final discussion the group agreed to continue this work on Soft Computing in non-technical sciences, humanities and social sciences with the next seminar in the year 2010. The contributions of the 2009-seminar will appear in a book during the next year. It is also planed to publish some results of this seminar in two journal's special issues, one in philosophy and one in the area of Soft Computing.