

## MCDM 2015 HIGHLIGHTS

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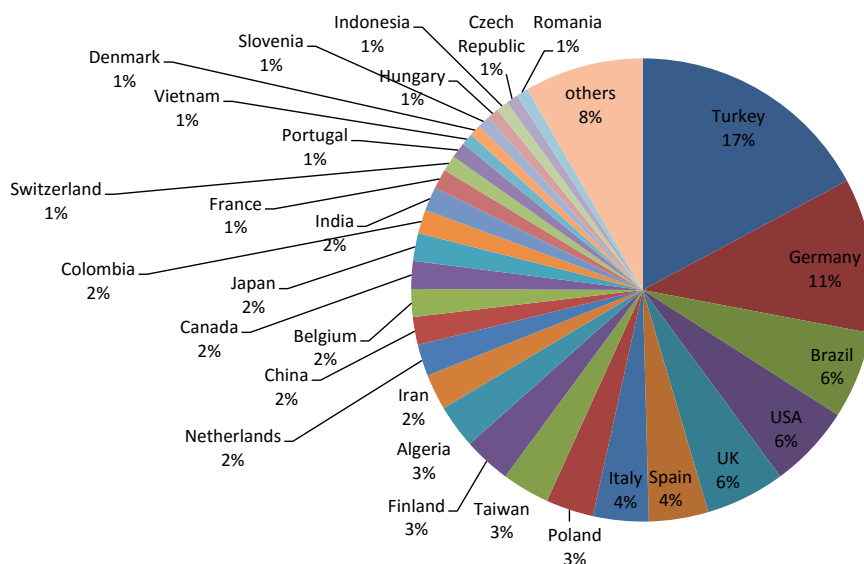
The last several months have been particularly interesting and scientifically inspiring for the AHP/ANP community with the MCDM 2015 conference in Hamburg, the EURO conference in Glasgow, and the INFORMS annual meeting in Philadelphia!

We would like to share some of the key moments of the 23<sup>rd</sup> International Conference on Multiple Criteria Decision Making that took place this past summer in the fascinating Hanseatic City of Hamburg.

The conference was held from August 2-7, 2015 at the Helmut-Schmidt-University, University of the Federal Armed Forces in Hamburg (Germany) and was a great success with record-breaking attendance!

The MCDM 2015 welcomed more participants than any previous MCDM congress with 361 registered participants (of whom 121 were women and 114 were students) hailing from 49 countries. This is exciting evidence that the field is growing, and supports the topic of this year's conference, i.e. "Bridging Disciplines" by demonstrating that MCDM is indeed an inter-disciplinarian field.

The figure below shows the number of participants by country, with the most participants coming from Turkey (62 participants), Germany (39), Brazil (22), USA (21) and UK (20). The term "others" corresponds to the countries with one or two participants (such as Azerbaijan, Bahrain, Greece, Lithuania, Australia, Latvia, Republic of Korea, Serbia, New Zealand, Hong Kong, Ecuador, Russia and Qatar).



**Figure 1. Participants in the MCDM 2015 by country**

This wide representation of disciplines and countries provided a scientific program that was particularly rich and featured 306 talks!

Below is a record of some memories from the AHP/ANP community at the conference.



**Figure 2. Monica Garcia Melon and Birsen Karpak at MCDM 2015.**

Monica Garcia Melon chaired the session titled “AHP / ANP for behavioral issues in group decision making”, while Birsen Karpak presented "Big data, supply chain management, AHP / ANP state of the art and future directions”. In particular, Monica’s session hosted the following talks: “Simultaneous interval AHP in a multiple criteria group decision making” by Tomoe Entani of the University of Hyogo, Japan, “Applying GDM in Human Resources” by Katherina Kashi, Technical University of Ostrava, Czech Republic, and “Influence Analysis in GDM. A DEMATEL-SNA-AHP comparison in Environmental Management” by Mónica García-Melón, Universitat Politècnica de Valencia, Spain.



**Figure 3. Some conference participants from the AHP/ANP community. from left to right: Ozay Ozaydin, Özgür Kabak, Şule Önsel Ekici, Mónica García-Melón, Ilker Topcu, Gözde Kadioglu, Luiz Flavio Autran Monteiro Gomes with a student and Birsen Karpak.**

Ilker Topcu chaired a session on Integrated MCDM applications, hosting the following talks: “A fuzzy-AHP based approach for a multi-objective multi-level closed-loop supply chain model” by Turan Paksoy, Selçuk University, Turkey, “An AHP model for determining appropriate public locations for automated external defibrillator deployment: a case study in the city of Valencia” by Ilker Topcu, Istanbul Technical University, Turkey, “A new multi objective linear programming model for optimizing a closed loop supply chain network using fuzzy AHP” by Abdullah Yildizbasi, Yildirim Beyazit University, Turkey.

Gozde Kadioglu (an undergraduate student from the Technical University of Istanbul) presented “The selection of the most effective type of fuel for electricity generation in Turkey” in the session “Integrated MCDM Application -2,” which was chaired by Ilker Topcu.

The following lists, in a nutshell, the other sessions on AHP/ANP that were organized at the MCDM 2015 conference.

Alexander Mechitov organized a session on “**AHP / ANP Advances in Theory 1**” including contributions on “Optimizing AHP incomplete comparisons using D-Optimal design” by Ioannis Karamitsos, University of Sunderland, UK, “The reconstruction of a pairwise comparison matrix from a base” by Jacek Szybowski,

AGH University of Science and Technology, Poland, “Reaching and checking the weak consistency” by Bice Cavallo, University of Naples, Federico II, Italy, and “Ordinal inconsistencies in pairwise comparisons: problems and solutions” by Helen Moshkovich, University of Montevallo, USA.

Petr Fiala organized a session on “**AHP / ANP Industrial Applications I**” including contributions on “Multiple criteria methodology for supplier evaluation and purchasing management” by Concepción Maroto, Universidad Politécnica de Valencia, Spain, “In search of intelligent algorithm for securing video streaming over cloud computing infrastructure” by Irfan Syamsuddin, State Polytechnic of Ujung Pandang, Indonesia, and “Multicriteria project portfolio management under risk” by Petr. Fiala, University of Economics, Prague, Czech Republic.

Ririn Diar Astanti organized a session on “**AHP / ANP for Sustainable Management**” including contributions on “Ranking the barriers to the development of the renewable energy technologies in Colombia” by Tomás Gómez-Navarro, Universidad Politécnica de Valencia, Spain, “ANP and SNA applied to the assessment of the sustainability of the Cotopaxi Natural Park management” by Tomás Gómez-Navarro, Universidad Politécnica de Valencia, Spain, “Methodological framework based on MCDM applicable to develop hydropower decision aid. A case of Nepal” by Rana Pratap Singh of the University of Natural Resources and Life Sciences, Austria (co-author Hans Peter Nachtnebel), and “Ethnic entrepreneurship model using Analytic Network Process: A case study among the Javanese, Chinese and Minangkabau in Yogyakarta, Indonesia” by Mahestu N. Krishanti, Universitas Atma Jaya Yogyakarta, Indonesia).

Fikri Dweri organized a session on “**ANP / AHP Industrial Applications II**” including contributions on “Fuzzy AHP-Fuzzy PROMETHEE approach in evaluation of E-Service Quality: case of airline web sites” by Pelin Celik, Karadeniz University, Turkey, “An analytical Network Process approach for measuring influence of stakeholders in a project” by Mónica García-Melón, Universitat Politècnica de Valencia, Spain, “Determining the factors of reputation management by ANP method” by Ihsan Yüksel, Kirikkale University, Turkey, and “Third party warehouse location selection in a lube oil company: an AHP approach” by Fikri Dwei, University of Sharjah, United Arab Emirates.

Salvatore Greco organized a session on “**AHP / ANP Advances in Theory II**” including contributions on “An optimization approach for the eigenvector method by Janos Fülöp, Institute for Computer Science and Control, Hungarian Academy of Sciences, Hungary, “Analysis and comparison of AHP by the implementation of fuzzy logic and Monte carlo Simulation” by Laura A. Gutierrez-Bucheli, Universidad de los Andes, Colombia, “Heuristic rating estimation, another approach to the ranking procedure in AHP” by Konrad Kulakowski, AGH UST, Poland, and “Spanning tree pairwise comparison based prioritization for multiple criteria decision aiding” by Sajid Siraj, CONSATS, Institute of Information Technology, Pakistan.

Metin Dagdeviren organized a session on “**Theory and Applications of the AHP / ANP**” including contributions on “Site selection for wind energy plant by using ANP” by Erdem Aksakal, Gazi University, Turkey, “A compatible study of priorities vectors for reverse logistics indicators: a footwear industry case developed in Brazil” by Jose L. Silveira, Regional University of Cariri, Brasil, “Pythia: development of an oracle for automated treatment plan selection in radiation therapy” by Sebastian Breedveld, Erasmus NC, Netherlands, and “A new decision making model for bank branch location selection” by Metin Dagdeviren, Gazi University, Turkey),

Pekka Korhonen organized a session on “**Theory and Applications of the AHP / ANP**” including contributions on “Efficient weight vectors form pairwise comparisons” by Sándor Bozóki, Institute for computer science and control, Hungary, “Visualization of inconsistency of a pairwise comparison table in the AHP” by Yoichi Iida, Tokio University of Science, Japan, “Axiomatic properties of inconsistency indexes for pairwise comparisons” by Matteo Brunelli, Systems Analysis Laboratory, Aalto University, Finland, and “Setting “condition of order preservation requirements for the priority vector estimate in AHP is not justified” by Pekka Korhonen, Aalto University, Finland.

Yannick Cornet organized a session on “**AHP / ANP for Sustainability**” including contributions on “Fair centralized allocation of resource limitations among processes” by Sebastian Ihrig, TU München, Germany, “Success factors for integration of sustainable practices at high performance building processes through AHP-Based MCDM” by Francisca Molina Moreno, Universidad Politécnica de Valencia, Spain, and “High speed rail: a mandate from future generations? Applying strong sustainability theory to the UKs HS2 assessment using multiplicative AHP decision support model” by Yannick Cornet, Technical University of Denmark, Denmark.

Other interesting contributions on AHP/ANP included in other sessions were: “A socioeconomic problem regarding poplar plantation and a problem solving model by AHP” by Mojid Azizi, University of Tehran, Iran, “Operational performance evaluation of airlines operating in India using ELECTRE and AHP” by Omkarprasad Vaisya, Indian Institute of Management Lucknow, India, “Comparison of AHP/ANP decision making methodologies in a case study of renewable energy in the Dominican republic” by Guido Guerrero-Liquet, Universidad Politécnica de Cartagena, Spain, “Infrastructure Optioneering: An AHP approach” by Duanne Gilmore, Arup, USA, and “Assessing and ranking HALMAS parks in Malaysia: An Application of Importance Performance Analysis and AHP” by Rafikul Islam.



**Figure 4. The future organizers of MCDM 2017 and MCDM 2019: Ilker Topcu and Sarah Ben Amor**

During MCDM 2015, the Executive Committee decided on the venues for the next two conferences. The 24th International Conference on MCDM will be held in Ottawa, Canada from July 9-14, 2017 and will be organized by Sarah Ben Amor and her colleagues. The 25th conference will be organized by İlker Topçu and his colleagues in İstanbul in 2019, with the exact dates remaining yet to be decided.

This conference provided a wonderful opportunity to view the state of the art approaches, theories and applications in multiple criteria decision making. It was also an excellent opportunity to meet old friends and make new ones and exchange ideas, receive feedback and get inspired. Looking forward to meeting you in Ottawa and a special thanks to Monica Garcia Melon for her help with this news piece!