



**ISAHP 2011**

ANALYTIC HIERARCHY/NETWORK PROCESS  
15-18 June, 2011 Sorrento (Naples - Italy)

# **11<sup>th</sup> International Symposium on the AHP**

Sorrento, Naples, ITALY

June 15 – 18, 2011

**PARALLEL SESSIONS**

**PROGRAM**

# 11<sup>th</sup> International Symposium on the AHP

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June 15 – 18, 2011

## **GENERAL CHAIRMAN**

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## **HONORARY FOUNDING CONFERENCE CHAIR**

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## **Organizing and Local Scientific Committee**

1. Bracale Marcello (University of Naples Federico II)
2. Bruno Giuseppe (University of Naples Federico II)
3. Falcone Domenico (University of Cassino)
4. Genovese Andrea (University of Naples Federico II)
5. Passaro Renato (University of Naples Parthenope)
6. Pecchia Leandro (University of Naples Federico II)
7. Petrillo Antonella (University of Cassino)
8. Ventre Aldo (Second University of Naples)
9. Carotenuto Alberto (University of Naples Parthenope)

# SCHEDULE OF ISAHP 2011

## Wednesday June 15, 2011 – PLENARY SESSION

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**3.00 p.m. REGISTRATION OPENS**

**3.30 p.m. *Opening Cerimony* - Prof. Emilio Esposito - ISAHP 2011 General Chairman**

**4.00 p.m. WORKSHOP ON AHP/ANP**

**Prof. Thomas L. Saaty** - University of Pittsburgh - Joseph M. Katz Graduate School of Business  
*Exploring the Roots of Relative Measurement in Decision Making; in the External Physical World and the Internal World of the Brain and Body*

**Dr. Patrick T. Harker** - President University of Delaware

**Dr. Daniel Saaty** - Chief Technology Officer - Decision Lens, Inc.

*Practicing What We Preach: AHP/ANP Driving Excellence in Universities*

**Gen. Julio Baeza von Bohlen** - Chief of Division of Technology and Industry Development - Chilean Ministry of Defense, Undersecretary of Defense

*Implementation of AHP Methodology into National Defense Evaluation & Qualification Projects*

**6.00 p.m. Welcome Cocktail**

## Thursday June 16, 2011 - OPENING SESSIONS

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**8.15 a.m. Registration for new arrivals**

**8.45 a.m. – 10.30 a.m. Morning Parallel Sessions – part I**

SESSION 1: CONFLICT RESOLUTION & GOVERNMENT PROJECT

SESSION 2: AHP, FUZZY APPROACH and NEURAL NETWORK

SESSION 3: AHP/ANP & OTHERS METHODS - I

**10.30 a.m. - 11.00 a.m. COFFEE BREAK**

**11.00 a.m. - 1.00 p.m. Morning Parallel Sessions – part II**

SESSION 4: HUMAN RESOURCES MANAGEMENT

SESSION 5: DECISION SUPPORT SYSTEM AID & APPLICATIONS

SESSION 6: AHP/ANP-BASED APPLICATIONS IN CIVIL ENGINEERING AND URBAN MANAGEMENT

**1.00 p.m. - 2.00 p.m. BUSINESS LUNCH BUFFET**

**2.00 p.m. - 4.00 p.m. Afternoon Parallel Sessions – part I**

SESSION 7: ENVIRONMENTAL APPLICATION AND SUSTAINABILITY - I

SESSION 8: AHP METHODOLOGY AND THEORY - I

SESSION 9: MEDICAL DECISION MAKING & HEALTH TECHNOLOGICAL ASSESSMENT

**4.00 p.m. - 4.30 p.m. COFFEE BREAK**

**4.30 p.m. - 5.30 p.m. Afternoon Parallel Sessions – part II**

SESSION 10: APPLICATION IN HEALTHCARE SERVICES

SESSION 11: ENVIRONMENTAL APPLICATION AND SUSTAINABILITY – II

**5.30 p.m. – 6.15 p.m. PLENARY SESSION on SuperDecisions Software & ANP**

**7.15 p.m. RENDEZ VOUS FOR GALA DINNER**

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**Friday June 17, 2011 - BREAKOUT SESSIONS CONTINUE**

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**8.15 a.m. Registration for new arrivals**

**8.45 a.m. – 10.30 a.m. Morning Parallel Sessions – part I**

SESSION 1: AHP & SOFTWARE APPLICATIONS

SESSION 2: DISASTER MANAGEMENT AND RISK ANALYSIS

SESSION 3: GROUP DECISION MAKING & APPLICATIONS

**10.30 a.m. - 11.00 a.m. COFFEE BREAK**

**11.00 a.m. - 1.00 p.m. Morning Parallel Sessions – part II**

SESSION 4: AHP METHODOLOGY AND THEORY - II

SESSION 5: AHP/ANP & PROJECT MANAGEMENT

SESSION 6: QUALITY, SAFETY MANAGEMENT IN ORGANIZATIONS AND MARKETING DECISION

**1.00 p.m. - 2.00 p.m. BUSINESS LUNCH BUFFET**

**2.00 p.m. - 4.00 p.m. Afternoon Parallel Sessions – part I**

SESSION 7: ENVIRONMENTAL APPLICATION AND SUSTAINABILITY - II

SESSION 8: AHP PROCEDURES FOR MULTIOBJECTIVE, MULTIPERSON DECISION MAKING AND SOCIAL CONTEXT

SESSION 9: PURCHASING AND SUPPLY CHAIN

**4.00 p.m. - 4.30 a.m. COFFEE BREAK**

**4.30 p.m. - 5.30 p.m. Afternoon Parallel Sessions – part II**

SESSION 10: AHP METHODOLOGY AND THEORY - III

SESSION 11: AHP/ANP & OTHERS METHODS – II

**5.30 p.m. - 6.30 p.m. PLENARY SESSION on *Some Interesting Concerns about the AHP/ANP in Mathematics and in Decision Making***

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**Saturday June 18, 2011 - CLOSING**

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SOCIAL TRIP

# SCHEDULE OF BREAKOUT SESSIONS

THURSDAY 16 JUNE 2011

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## **SESSION 1: Conflict Resolution & Government Project**

**Room: A** 8.45 a.m. - 10.30 a.m.

CHAIR: H.J. Zoffer

Co-CHAIR: Asma Bahormuz

- ISAHP\_040 - CAN AHP FACILITATE CONFLICT RESOLUTION? QUANTITATIVE EVIDENCE FROM ROLE PLAYING IN A BUSINESS ENGINEERING CLASS - *Maria Assunta Barchiesi, Roberta Costa, Marco Greco*
- ISAHP\_094 - ASSESSING THREAT SCENARIOS: SEVERITY, MITIGATION, CAPABILITY AND RESPONSE - *Ami Arbel, Amos Guiora, Luis G. Vargas*
- ISAHP\_0200 - A NEW APPROACH TO THE MIDDLE EAST CONFLICT: THE ANALYTIC HIERARCHY PROCESS *H.J. - Zoffer, T.L. Saaty*
- ISAHP\_0205 - USING ANALYTIC HIERARCHY PROCESS FOR THE EVALUATION OF GOVERNMENT PROJECTS - *Kwok Yoong Fui*
- ISAHP\_018 - THE MULTILEVEL ANALYTIC PROCESS FOR SITUATIONAL PREVENTION (MAPS): IMPLEMENTING A NEW METHODOLOGY FOR SECURITY AND CRIME PREVENTION - *Silvia Ciotti Galletti*

## **SESSION 2: AHP, FUZZY APPROACH and NEURAL NETWORK**

**Room: H** 8.45 a.m. - 10.30 a.m.

CHAIR: Karel Mls

- ISAHP\_027 - AN APPROACH TO MULTIATTRIBUTE INTERVAL-VALUED INTUITIONISTIC FUZZY GROUP DECISION MAKING BASED ON STOCHASTIC DEMATEL, FUZZY ANP, AND IDEAL POINT - *Elham Kookhahi, Reza Hejazi*
- ISAHP\_056 -  $\alpha$ -CUT FUZZY ANALYTIC NETWORK PROCESS BASED APPROACH TO EVALUATE SIMULATION SOFTWARE PACKAGES - *Zeki Ayağ, Ahmet Deniz Yücekaya*
- ISAHP\_0133 - AHP AND UNCERTAINTY THEORIES FOR DECISION MAKING USING THE ER-MCDA METHODOLOGY - *Jean-Marc Tacnet, Jean Dezert, Mireille Batton-Hubert*
- ISAHP\_0142 - DERIVING CRITERION WEIGHTS FROM EXPERT JUDGEMENTS: SIMPLE AND FUZZY RANKINGS VS SAATY'S PREFERENCE SCALE - *Sergey Kadenko*
- ISAHP\_0190 - MODELLING A NEURON USING A CUSTOM MATH LIBRARY sfloat24 IMPLEMENTATION OF A SIGMOID FUNCTION ON A FPGA DEVICE - *M. C. Miglionico, F. Parillo*
- ISAHP\_0203 - AHP, ANP, AND ANN: TECHNICAL DIFFERENCES, CONCEPTUAL CONNECTIONS, HYBRID MODELS - *Sergio Bedessi, Serena Lisi*
- ISAHP\_0179 - EVALUATION OF SUBJECTIVE PREFERENCES BY FUZZY COGNITIVE MAPS OF SEMI-AUTONOMOUS DECISION MAKING SYSTEMS - *Martin Gavalec, Karel Mls*

### **SESSION 3: AHP/ANP & Others methods - I**

**Room: P 8.45 a.m. - 10.30 a.m.**

CHAIR: Elio Padoano

- ISAHP\_03 - THE RANKING OF CHOSEN BRANCHES OF SADERAT BANK IN TEHRAN CITY THROUGH THE AHP AND THE DEA/AHP MODEL - *Farkhonde Jabalameli, Ehsan Rasolinezhad*
- ISAHP\_016 - A LOGISTICS PROVIDER EVALUATION AND SELECTION METHODOLOGY BASED ON A.H.P. AND LINEAR PROGRAMMING INTEGRATION - *Diego Falsini, Massimiliano M. Schiraldi*
- ISAHP\_024 - AN ANP APPROACH FOR COMPETITIVENESS ANALYSIS IN BUSINESS SECTORS. THE CASE OF VENEZUELA - *Rocío Poveda-Bautista, Doris C. Baptista C., Mónica García-Melón*
- ISAHP\_039 - ANALYTIC HIERARCHY PROCESS AND ACTIVITY BASED COSTING TO COMPUTE THE COST OF COMPETENCIES: EVIDENCE FROM A CASE STUDY - *Lorella Cannavacciuolo, Luca Iandoli, Cristina Ponsiglione, Giuseppe Zollo*
- ISAHP\_071 - USING ANALYTIC HIERARCHY PROCESS AS A TOOL FOR RANKING OF EFFICIENT UNITS IN DEA MODELS - *Josef Jablonsky*
- ISAHP\_073 - THE INFLUENCE OF THE TEACHING STRATEGY IN VOCATIONAL COLLEGE TO THE STUDENTS' JOB COMPETENCE - *Chang, Tzu-Wai, Wang, Jen-Hung, Chang, Chia-Ying*
- ISAHP\_0115 - DEFINING RELATIVE QUALITIES OF OBJECT ORIENTED DESIGN IMPLEMENTATIONS USING AHP AND PROMETHEE - *Petrus Mursanto, Wida Sari*
- ISAHP\_0125 - MEAN-RISK PORTFOLIO OPTIMIZATION WITH AHP-BASED PRIOR STOCK SELECTION - *Cristinca Fulga*
- ISAHP\_0199 - INTEGRATING INTELLIGENT AGENTS & AHP IN A COMPLEX SYSTEM SIMULATION - *Agostino G. Bruzzone, Marina Massei, Federico Tarone, Francesca Madeo*

### **SESSION 4: Human Resources Management**

**Room: A 11.00 a.m. - 1.00 p.m.**

CHAIR: Elena Rokou

- ISAHP\_081 - WEB BASED GROUP DECISION MAKING IN HUMAN RESOURCES MANAGEMENT - *Rokou Elena, Voulgaridou Dimitra, Kirytopoulos Konstantinos*
- ISAHP\_0101 - THE HAI MODEL TO ASSESS THE INTELLECTUAL CAPITAL: AN EMPIRICAL STUDY FROM JORDAN - *Livio Cricelli, Michele Grimaldi, Musadaq Hanandi*
- ISAHP\_0108 - NEW METHODOLOGY TO IMPROVE MANAGER RECRUITMENT PROCESS USING AHP - *Aidaelena Smith-Perera*
- ISAHP\_0140 - SELECTING THE BEST STRATEGY OF LABOR PRODUCTIVITY IMPROVEMENT IN TEHRAN GRADE1-3 CONSTRUCTION CONTRACTOR COMPANIES BY APPLYING ANALYTIC HIERARCHY PROCESS AND STATISTICAL ANALYSIS OF EFFECTIVE FACTORS ON LABOR PRODUCTIVITY - *Mostafa Khanzadi, Shahin Dabirian, Alireza Mohammadpour, Mohammadreza Ostadali Makhmalbaf*
- ISAHP\_0161 - IMPLEMENTING THE ANALYTIC HIERARCHY PROCESS TO RECRUIT FEMALES FOR THE MINISTRY OF FOREIGN AFFAIRS IN SAUDI ARABIA - *Asma M. Bahurmoz, Laila M. Al-Sharqi*
- ISAHP\_0209 - A CONTEMPORARY METHOD OF EMPLOYEES ASSESSMENT - *Wiktor Adamus*

### **SESSION 5: Decision Support System Aid & Applications**

**Room: H 11.00 a.m. - 1.00 p.m.**

CHAIR: Mónica García-Melón

- ISAHP\_04 - PRIORITIZING THE NINE CHALLENGES OF MALAYSIAN VISION 2020 - *Rafikul Islam*
- ISAHP\_010 - SELECTING EFFECTIVE CRITERIA OF PRIVATIZATION IN IRAN NEWSPRINT PAPER INDUSTRIES - *Majid Azizi, Mansoureh Azizpour*
- ISAHP\_025 - AN AHP/ANP MULTICRITERIA METHODOLOGY TO ESTIMATE THE VALUE AND TRANSFER FEES OF PROFESSIONAL FOOTBALL PLAYERS - *José María Moreno-Jiménez*
- ISAHP\_026 - ROADMAP OF EXCISE ON CIGARETTE POLICY PACKAGE IN INDONESIA: AN ANALYTICAL HIERARCHY PROCESS APPROACH - *Noor Syaifudin*
- ISAHP\_029 - BUTCHERS' PREFERENCES FOR RABBIT MEAT; AHP PAIRWISE COMPARISONS VERSUS A LIKERT SCALE VALUATION - *Zein Kallas*
- ISAHP\_0204 - ANP APPLICATION IN OBSTETRICS: EVALUATING NORMAL DELIVERY AND CESAREAN DELIVERY USING BOCR ANALYSIS - *Eranjan U. Padumadasa, Nuwan S. Padumadasa*
- ISAHP\_092 - APPLICATION OF ANP IN THE CATCH-UP STRATEGY FORMULATION OF INDONESIAN TELECOMMUNICATION INDUSTRY - *Didit Herawan*

### **SESSION 6: AHP/ANP-based Applications in Civil Engineering and Urban Management**

**Room: P 11.00 a.m. - 1.00 p.m.**

CHAIR: Grzegorz Ginda

- ISAHP\_0150 - AN APPROACH FOR EFFECTIVE VALUATION OF NUMEROUS REAL ESTATE OBJECTS - *Miroslaw Dytczak, Beata Gotowala*
- ISAHP\_0151 - PAIR-WISE COMPARISON MCDA APPROACH FOR LARGE DMU SETS - *Miroslaw Dytczak, Grzegorz Ginda*
- ISAHP\_0152 - INTANGIBILITY-AWARE EVALUATION OF CONSTRUCTION PROJECT SCHEDULES - *Tomasz Wojtkiewicz*
- ISAHP\_0153 - PRINCIPLES AND APPLICATIONS OF AHP/ANP-BASED MULTIPLE MCDA METHODS APPROACH - *Miroslaw Dytczak, Grzegorz Ginda*
- ISAHP\_090 - ANALYTIC NETWORK PROCESS (ANP) AND VISUALIZATION OF SPATIAL DATA: THE USE OF DYNAMIC MAPS IN TERRITORIAL TRANSFORMATION PROCESSES - *Isabella M. Lami, Elena Masala, Stefano Pensa*
- ISAHP\_0154 - CHOICE OF THE BEST PUBLIC TRANSPORTATION SYSTEM FOR THE CITY OF CRACOW AND CRACOW DISTRICT - *Wacław Przybyło, Józef Moryl*
- ISAHP\_0155 - AN APPROACH FOR MULTI-ATTRIBUTE FIRE RISK-AWARE EVALUATION OF BUILDING COMPONENTS - *Grzegorz Ginda, Mariusz Maślak*
- ISAHP\_0166 - CHOICE OF THE MODEL OF PRESENTING TEMPORAL DATA IN THE SYSTEM OF THE TRAIN TRAFFIC SCHEDULE - *Eugene Kopytov, Vasilij Demidovs, Natalia Petukhova*
- ISAHP\_0186 - APPLICATION OF THE ANALYTIC HIERARCHY PROCESS (AHP) FOR ENERGETIC REHABILITATION OF HISTORICAL BUILDINGS - *Elena Gigliarelli, Luciano Cessari, Alessia Cerqua*

### **SESSION 7: Environmental Application and Sustainability - I**

**Room: A      2.00 p.m. - 4.00 p.m.**

CHAIR: Patrizia Lombardi

- ISAHP\_017 - USING AHP FOR DELIBERATIVE MULTICRITERIA-EVALUATION OF FUTURE SCENARIOS - *Cornelia R. Karger*
- ISAHP\_028 - SELECTION OF SUSTAINABLE CHEMICAL PROCESS DESIGN USING ANP: A BIODIESEL CASE STUDY - *Mohamad Rizza Othman, Günter Woznya, Jens-Uwe Repke*
- ISAHP\_033 - ENVIRONMENTAL ASSET VALUATION METHOD USING AMUVAM: APPLICATION TO THE ASSESSMENT OF THE NATURAL PARK OF EBRO RIVER DELTA - *Pablo Aragonés-Beltrán, Jerónimo Aznar, Vicente Estruch*
- ISAHP\_041 - SUSTAINABILITY ASSESSMENT OF HYDROGEN ENERGY SYSTEMS USING AN ANALYTIC HIERARCHY PROCESS - *Raffaello Iavagnilio, Rosaria Anna Carpano*
- ISAHP\_042 - THE SYSTEMIC DESIGN APPROACH: A LOWER ENVIRONMENTAL IMPACT EVENT - *Mingrone Lorena, Montrucchio Valeria*
- ISAHP\_079 - ANALYTIC HIERARCHY PROCESS OF PILOT ECO-DESIGN FRAMEWORK - *Francesco Costantino, Giulio Di Gravio, Massimo Tronci*
- ISAHP\_085 - ANALYSIS AND EVALUATION OF ALTERNATIVES FOR FLUVIAL SURVEILLANCE BY THE COLOMBIAN NAVY - *Mario Castillo, Luis Gómez, Miguel Barrios, John-Jairo Rios, Luis-Jose Novoa*
- ISAHP\_0116 - AN ANALYTIC NETWORK MODEL FOR SMART CITIES - *Patrizia Lombardi, Silvia Giordano, Hend Farouh, Wael Yousef*

### **SESSION 8: AHP METHODOLOGY AND THEORY - I**

**Room H      2.00 p.m. - 4.00 p.m.**

CHAIR: Indrani Basak

- ISAHP\_015 - AN ALTERNATE METHOD OF DERIVING PRIORITIES AND RELATED INFERENCES FOR GROUP DECISION MAKING IN ANALYTIC HIERARCHY PROCESS - *Indrani Basak*
- ISAHP\_019 - AHP EIGENVECTOR VIA DYNAMIC PROCESS OF PAIRWISE COMPARISON AND AVERAGING - *Masaaki Shinohara*
- ISAHP\_020 - ANALYTIC HIERARCHY PROCESS WITH ADJUSTMENTS OF WEIGHTS OF ALTERNATIVES - *Youichi Iida*
- ISAHP\_030 - DECOMPOSING THE VALUE OF RABBIT MEAT. A JOINT USE OF THE CONTINGENT VALUATION AND THE ANALYTICAL HIERARCHY PROCESS - *Zein Kallas, José Maria Gil*
- ISAHP\_052 - COMPARATIVE STUDY OF SCALES AND CONSISTENCY MEASURES IN THE AHP - *Victoria Kuserbaeva, Yuriy Sushkov, Gayk Tamazyan*
- ISAHP\_064 - CHARACTERIZING PROPERTIES FOR INCONSISTENCY INDICES IN THE AHP - *Matteo Brunelli, Michele Fedrizzi*
- ISAHP\_066 - PROPOSED METHODS FOR IMPERFECT ALTERNATIVE MATRIX USING THE ANP COMPARED WITH THE HARKER METHOD - *Toshimas Ozaki, Akihiro Itoh, Kanna Miwa, Eizo Kinoshita*
- ISAHP\_082 - DEPENDENCE OF JUDGMENTS IN ANALYTIC HIERARCHY PROCESS: A STATISTICAL ASPECT - *Prasanta Basak, Indrani Basak*

### **SESSION 9: Medical Decision Making & Health Technological Assessment**

**Room: P 2.00 p.m. - 4.00 p.m.**

CHAIR: Leandro Pecchia

- ISAHP\_0120 - HEALTH TECHNOLOGY ASSESSMENT: NEEDS ANALYSIS VIA ANALYTIC HIERARCHY PROCESS - *Leandro Pecchia, Angela Ragozzino, Carmine Iovine, Marcello Bracale*
- ISAHP\_0180 - AN INTEGRATED APPROACH BASED ON BALANCED SCORECARD AND ANALYTIC HIERARCHY PROCESS FOR STRATEGIC EVALUATION OF LOCAL HEALTHCARE AGENCIES - *Sofia Rubino, Salvatore Digiesi, Giorgio Mossa, Luigi Ranieri, Rosa Pilolli*
- ISAHP\_0119 - ASSESSMENT OF PATIENT SATISFACTION USING AN AHP MODEL: AN APPLICATION TO A SERVICE OF PHARMACEUTICAL DISTRIBUTION - *Paolo Melillo, Alice Delle Donne, Giovanni Improta, Santolo Cozzolino, Marcello Bracale*
- ISAHP\_0112 - APPLYING THE AHP IN HEALTH ECONOMIC EVALUATIONS OF NEW TECHNOLOGY - *Marjan Hummel, Lotte Steuten, Karin Groothuis-Oudshoorn, Maarten IJzerman*
- ISAHP\_0117 - AHP FOR HTA OF SPINE SURGICAL DEVICES - *Francesco M. Acampora, Marcello Bracale, Leandro Pecchia*
- ISAHP\_0111 - THE PAST AND FUTURE OF THE AHP IN HEALTH CARE DECISION MAKING - *Marjan Hummel, Maarten IJzerman*

### **SESSION 10: Application in Healthcare Services**

**Room P 4.30 p.m. - 5.30 p.m.**

CHAIR: Peter Bath

Co – CHAIR: Marjan Hummel

- ISAHP\_0110 - HEALTHCARE ICT NETWORK EVALUATION USING ANALYTIC HIERARCHY PROCESS - *Astrid Oddershede, Rolando Carrasco*
- ISAHP\_0121 - THE USE OF ANALYTIC HIERARCHY PROCESS FOR THE PRIORITIZATION OF FACTORS AFFECTING WELLBEING IN ELDERLY - *Leandro Pecchia, Peter A. Bath, Neil Pendleton, Lynn Mcinnes, Maia Angelova, Marcello Bracale*
- ISAHP\_0215 - USING AHP/ANP IN SUPPORT OF MEDICAL DIAGNOSIS (PART 1). *Claudio A. Garuti, Mario M. Sandoval*
- ISAHP\_0215 - USING AHP/ANP IN SUPPORT OF MEDICAL DIAGNOSIS (PART 2). *Claudio A. Garuti, Mario M. Sandoval*

### **SESSION 11: Environmental Application and Sustainability - II**

**Room H 4.30 p.m. - 5.30 p.m.**

CHAIR: Patrizia Lombardi

- ISAHP\_049 - SUSTAINABILITY ASSESSMENT OF POWER PLANTS USING AN ANALYTIC HIERARCHY PROCESS - *Raffaello Iavagnilio, Rosaria Anna Carpano*
- ISAHP\_086 - ECOLOGICAL AND OTHER METHODS OF AGRICULTURAL PRODUCTION. DECISION MAKING WITH AHP - *Anna Greda*

- ISAHP\_0187 - EVALUATING SUSTAINABLE COMMUNITY-BASED FOREST MANAGEMENT: A REFLECTION ON NEPAL'S EXPERIENCES WITH THE ANALYTIC HIERARCHY PROCESS - *Chiranjeeewee Khadka, Harald Vacik*
- ISAHP\_0189 - UTILIZING MULTIPLE CRITERIA AND DECISION ANALYSIS FOR SUSTAINABLE WALNUT FRUIT FORESTS MANAGEMENT OF KYRGYZSTAN - *Gulnaz Jalilova, Chiranjeeewee Khadka, Harald Vacik*

**PLENARY SESSION: SuperDecisions Software & ANP**

**Room A      5.30 p.m. - 6.15 p.m.**

CHAIR: Rozann Whitaker Saaty

- *ADVANCES IN THE SUPERDECISIONS SOFTWARE FOR THE ANP - Rozann Whitaker Saaty*
- *R&D PROJECT SELECTION USING WEB ANP SOLVER - Rokou Elena, Voulgaridou Dimitra, Kirytopoulos Konstantinos*

**SESSION 1: AHP & SOFTWARE APPLICATIONS**

**Room: A 8.45 a.m. - 10.30 a.m.**

CHAIR: Paolo Melillo

- ISAHP\_021 - MODELING SOFTWARE QUALITY EVALUATION USING THE ANALYTIC HIERARCHY PROCESS - *Min-Suk Yoon, Buhm Lee, Kyu-Seung Whang*
- ISAHP\_0118 - A MATLAB VISUAL TOOL FOR ANALYTIC HIERARCHY PROCESS - *Paolo Melillo, Claudia Brancaleone, Marcello Bracale, Leandro Pecchia*
- ISAHP\_0141 - AHPMANAGER – A DECISION MAKING SUPPORT SYSTEM BASED ON THE AHP - *Victoria Kusherbaeva, Yuriy Sushkov, Gayk Tamazyan*
- ISAHP\_055 - Evaluating the E-Service Quality of Microblogging - *Hu, Yi-Chung, Wang, Jen-Hung, Hung, Li-Ping*
- ISAHP\_0139 - AN EMPIRICAL ANALYSIS OF FACTORS PROMOTING JAPANESE ADSL (ASYNCHRONOUS DIGITAL SUBSCRIBER LINE) - *Masatsugu Tsuji, Masaru Ogawa*

**SESSION 2: Disaster Management and Risk Analysis**

**Room: H 8.45 a.m. - 10.30 a.m.**

CHAIR: Alessio Ishizaka

- ISAHP\_09 - POWER CUSTOMER SATISFACTION ANALYSIS USING ANALYTIC HIERARCHY PROCESS - *Rabah Medjoudj, Aicha Laifa, Aicha Laifa, Djamil Aissani*
- ISAHP\_013 - DEVELOPING A RISK MANAGEMENT INDEX TO MEASURES THE CONTRIBUTION IN DISASTER RISK REDUCTION FOR LATINAMERICAN COUNTRIES - *Claudio Garuti, CarmenPaz Castro, Fabiola Zamora, Vanessa Rugiero*
- ISAHP\_032 - SELECTION OF RAIL IMPROVEMENT PROJECTS USING THE ANALYTIC NETWORK PROCESS (ANP) - *P. Aragonés-Beltrán, J.P. Pastor-Ferrando, J. Montesinos-Valera*
- ISAHP\_036 - FLOOD DISASTER MANAGEMENT WITH THE USE OF AHP - *Zoe Nivolianitou, Barbara Synodinou, Davide Manca, Sara Brambilla*
- ISAHP\_063 - PRIORITISATION OF CRISIS TREE DIAGRAMS WITH AHP - *Alessio Ishizaka*
- ISAHP\_0130 - AN ANALYTIC HIERARCHY PROCESS BASED RELIABILITY ALLOCATION METHOD (ARAM) - *H. Naseh, A. Akhlaghi, M. Mirshams, S. Irani*
- ISAHP\_0176 - RISK ASSESSMENT IN RENEWABLE ENERGY PRODUCTION USING ANP - *Sandija Rivza, Peteris Rivza*
- ISAHP\_0212 - PROPOSAL OF A NEW METHODOLOGY FOR THE IMPROVEMENT OF RISK ANALYSIS BASED ON ANALYTIC NETWORK PROCESS - *Alessandro Silvestri, Fabio De Felice, Antonella Petrillo, Ornella La Tegola*

### **SESSION 3: Group Decision Making & Applications**

**Room: P 8.45 a.m. - 10.30 a.m.**

CHAIR: Claudio Garuti

- DECISION MAKING SCHOOL: AN EXPERIENCE OF EXCELLENCE IN AN INDUSTRIAL COMPANY - *Laurent Camus, Stefano Testa*
- ISAHP\_068 - APPRECIATION OF RUPIAH: BENEFITS, COSTS, OPPORTUNITIES, AND RISKS (BCOR) ANALYSIS - *Piter Abdullah*
- ISAHP\_070 - APPLICATION OF AHP MODEL FOR EVALUATING TAKEOVER BIDS IN PRIVATIZATION – CASE OF CROATIA - *Darko Tipurić, Domagoj Hruška, Marina Mešin*
- ISAHP\_078 - SIGNIFICANCE OF EXPERT COMPETENCE CONSIDERATION WHILE GROUP DECISION-MAKING USING AHP - *V.V.Tsyganok, S.V.Kadenko, O.V.Andriichuk*
- ISAHP\_080 - HANDLING MISSING SURVEY DATA IN AHP - *Daji Ergu, Gang Kou, Yi Peng, Yong Shi*
- ISAHP\_083 - APPLICATION OF A METHODOLOGY FOR STRUCTURING AND EVALUATING A BUSINESS OPPORTUNITY FOR THE COLOMBIAN PETROLEUM COMPANY – ECOPETROL S.A. - *Mario Castillo, William Segura, Carlos-Julio Salcedo, Luis-Jose Novoa, Diana Lesmes*
- ISAHP\_095 - APPLYING AHP TO THE PROCESS OF DETERMINING THE BEST COMBINATION OF LOCATIONS TO A COMPANY'S MOBILE OPERATIONAL UNITS - *Thiago Eichenberg, Denise Lindstrom Bandeira, João Luiz Becker*

### **SESSION 4: AHP METHODOLOGY AND THEORY - II**

**Room: A 11.00 a.m. - 1.00 p.m.**

CHAIR: Josef Jablonsky

- ISAHP\_046 - USING THE ANALYTICAL HIERARCHY PROCESS IN COMPRESSING SCHEDULES OF CONSTRUCTION PROJECTS - *Osama Moselhi, Nazila Roofigari-Esfahan*
- ISAHP\_0132 - AN AHP-BASED ORDERS-OF-MAGNITUDE APPROACH TO MUTLI-CRITERIA DECISION MAKING: PRIORITIZING DIVERGENT INTANGIBLE HUMANE ACTS - *Thomas L. Saaty, Jennifer S. Shang*
- ISAHP\_0134 - EVIDENTIAL REASONING FOR MULTI-CRITERIA ANALYSIS BASED ON DSMT-AHP - *Jean Dezert, Jean-Marc Tacnet*
- ISAHP\_0136 - COMPARISON SUPPORT SYSTEM BASED ON COMPARISON PATTERN SEARCH FOR ANALYTIC HIERARCHY PROCESS - *Yumi Tadano, Hidenori Kawamura, Keiji Suzuki*
- ISAHP\_0144 - MULTI-CRITERIA DECISION MAKING IN THE PRESENCE OF IGNORANCE USING THE DS/AHP METHOD - *Nadezhda I. Nedashkovskaya*
- ISAHP\_0146 - AN INCONSISTENCY CONTROL SYSTEM BASED ON INCOMPLETE PAIRWISE COMPARISON MATRICES - *Sándor Bozóki*
- ISAHP\_0147 - PAIRWISE COMPARISON MATRICES: AN EMPIRICAL RESEARCH - *Sándor Bozóki, Linda Dezső, József Temesi, Attila Poesz*

### **SESSION 5: AHP/ANP & Project Management**

**Room: H 11.00 a.m. - 1.00 p.m**

CHAIR: Massimiliano Schirarldi

Co - CHAIR: Stefano Strami

- ISAHP\_045 - USING MULTI-CRITERIA DECISION MAKING TO DETERMINE THE CRITICAL SUCCESS FACTORS FOR PROCUREMENT OF CAPITAL PROJECTS UNDER PUBLIC-PRIVATE PARTNERSHIPS - *Christian Tabi Amponsah*
- ISAHP\_050 - THE AHP APPROACH FOR RAILWAY PROJECT APPRAISAL: PROPOSAL FOR A SPECIFIC PROBLEM STRUCTURE - *Elio Padoano, Giovanni Longo, Giorgio Medeossi, Stefano Strami*
- ISAHP\_077 - DEVELOPMENT OF A COMPONENT BASED MACHINING CENTER SELECTION MODEL USING AHP - *Yusuf Tansel Ic, Mustafa Yurdakul, Ergün Eraslan*
- ISAHP\_089 - USING THE ANALYTIC NETWORK PROCESS (ANP) FOR RANKING THE CRITICAL ISSUES OF A TRANSPORT DECISION PROBLEM: THE ITALIAN SECTION OF THE CORRIDOR 24 - *Francesca Abastante, Marta Bottero, Isabella M. Lami*
- ISAHP\_0107 - SELECTION OF PROJECTS FOR FORMATION OF A PORTFOLIO OF INVESTMENT PROJECTS - *Roman Karpovich, Oksana Karpovich*
- ISAHP\_0137 - EVALUATION OF PROJECT SMART GOALS ACHIEVEMENT USING ANALYTIC NETWORK PROCESS - *Tomas Subrt, Helena Brozova*
- ISAHP\_0183 - A FRAMEWORK FOR THE SELECTION OF THE RIGHT NUCLEAR POWER PLANT - *Giorgio Locatelli, Mauro Mancini*
- ISAHP\_0202 - DEVELOPMENT OF MATHEMATICAL MODEL OF CONCEPT OF SUBJECTIVE EMOTIONAL ASPECT OF VALUATION - *Georgs Mote, Janis Vanags, Ineta Geipele*

### **SESSION 6: Quality, Safety Management in organizations and Marketing Decision**

**Room: P 11.00 a.m. - 1.00 p.m.**

CHAIR: Anna Greda

Co-CHAIR: Julien Piwowar

- ISAHP\_012 - SAFETY & SECURITY MANAGEMENT CONCERNING SPORT EVENTS - *Julien Piwowar, Patrick Laclémence*
- ISAHP\_069 - DETERMINATION OF THE STRATEGIC RELATIONSHIP MARKETING MIX OF COMPANIES IN THE NIGERIAN SERVICE INDUSTRY USING THE ANALYTIC HIERARCHY PROCESS MODEL - *Bolajoko N. Dixon-Ogbechi, Joseph F. Aiyeku, Elizabeth Haran, Adebola G. Adekoya*
- ISAHP\_088 - APPLICATIONS OF MULTI-CRITERIA DECISION ANALYSIS IN THE SELECTION OF FOREIGN MARKETS TO EXPORT - *Angela Reyes, Diana Lesmes, Mario Castillo*
- ISAHP\_0148 - DEVELOPMENT OF IDEAL ANALYTIC HIERARCHY PROCESS – DECISION SUPPORT FOR INVESTMENT - *Buhm Lee, Min-Suk Yoon, Kyu-Seung Whang*
- ISAHP\_0172 - EVALUATION OF QUALITY MANAGEMENT IN THE FOOD INDUSTRY A COMBINATION OF AHP AND UTILITY ANALYSIS - *Oliver Meixner, Siegfried Pöchtrager, Rainer Haas*
- ISAHP\_0184 - USING ANP APPROACH FOR NETWORK REVENUE MANAGEMENT PROBLEMS - *Petr Fiala*
- ISAHP\_0210 - QUALITY MANAGEMENT IN HOSPITALS AND ITS ROLE IN INFECTIONS PROVISION – *Wiktor Adamus*

### **SESSION 7: Environmental Application and Sustainability - III**

**Room: A 2.00 p.m. - 4.00 p.m.**

CHAIR: Maria Cerreta

- ISAHP\_038 - FULL COST ACCOUNT FOR INTEGRATED ENERGY RESOURCES PLANNING USING THE ANALYTIC HIERARCHY PROCESS - *Decio Cicone Junior, Pascoal Henrique da Costa Rigolin, Miguel Edgar Morales Udaeta, Jose Aquiles Baesso Grimoni*
- ISAHP\_060 - INTEGRATED SPATIAL ASSESSMENT IN PLANNING: STRATEGIC CHOICES FOR CAVA DE' TIRRENI MASTER PLAN - *Luigi Fusco Girard, Maria Cerreta, Pasquale De Toro*
- ISAHP\_065 - SUSTAINABILITY SCIENCE AS A NORMATIVE DISCIPLINE: WHY THE ANP IS ESSENTIAL FOR SUSTAINABILITY ASSESSMENTS - *Luis A. Bojórquez-Tapia*
- ISAHP\_0109 - AN APPLICATION OF THE ANALYTIC NETWORK PROCESS FOR ASSESSING THE SUSTAINABILITY OF DIFFERENT TRANSPORT INFRASTRUCTURES - *Marta Bottero, Valentina Ferretti, Silvia Pomarico*
- ISAHP\_0123 - IDENTIFICATION OF BIOMASS MAJOR CRITERIA. CASE OF THE STUDY, IRAN CELLULOSE MATERIAL - *Majid Azizi, Fatemeh Rahimi*

### **SESSION 8: AHP Procedures for Multiobjective, Multiperson Decision Making and Social Context**

**Room: H 2.00 p.m. - 4.00 p.m.**

CHAIR: Aldo Ventre

Co - CHAIRS: Massimo Squillante, Antonio Maturo

- ISAHP\_02 - FRAMEWORK TO STRUCTURE COMPLEX AHP/ANP SYSTEMS MODELS - *Malcolm McKiggan*
- ISAHP\_014 - STRATEGIES FOR STRENGTHENING THE CAPACITY OF GRASSROOTS WOMEN IN NIGERIA TO OVERCOME POVERTY - *Angela Chizomam Daniel, Emmanuel Olateju Oyatoye*
- ISAHP\_0127 - A SURVEY ON PAIRWISE COMPARISON MATRICES OVER ABELIAN LINEARLY ORDERED GROUPS - *Bice Cavallo, Livia D'Apuzzo, Massimo Squillante*
- ISAHP\_0156 - A NEW PARADIGM OF PUBLICNESS IN CONJUNCTION WITH PUBLIC SECTOR REFORM - *Yuji Sato*
- ISAHP\_0171 - THE ECONOMIC AND SOCIAL EVALUATION FOR STRATEGIC PLANNING AND SUSTAINABLE DEVELOPMENT OF PESCARA CITY IN 2020 - *Antonio Maturo, Barbara Ferri*
- ISAHP\_0169 - A STUDY ON CORRELATION BETWEEN ELEMENTS OF AHP FOR GOVERNMENT R&D PROGRAMS - *Yoon Been Lee, Jiho Hwang*
- ISAHP\_0191 - A PARTICIPATORY APPROACH FOR INVESTMENTS PLANNING - *Fabiana Monacciani*
- ISAHP\_0192 - AHP PROCEDURES FOR DECISIONS IN A MULTI-ETHNIC SCHOLASTIC ENVIRONMENT - *Antonio Maturo, Rina Manuela Contini*
- ISAHP\_0198 - IMPROVEMENT OF DIGITAL GEOGRAPHIC DATA QUALITY - *Václav Talhofer, Šárka Hošková – Mayerová, Alois Hofmann*

### **SESSION 9: Purchasing and Supply Chain**

**Room: P 2.00 p.m.- 4.00 p.m.**

CHAIR: Emilio Esposito

Co - CHAIRS: Oliver Meixner

- ISAHP\_08 - SELECTING ALTERNATIVES FROM SELF-ORGANIZING PRODUCT MAPS FOR PURCHASE DECISION MAKING USING AHP - *Kazuhiro Kohara*
- ISAHP\_096 - APPLYING AHP TO THE SELECTION OF SUPPLIERS OF MARKETING MATERIALS TO A LARGE BRAZILIAN COMPANY IN THE FOOD AND BEVERAGE INDUSTRY - *Denise Lindstrom Bandeira, João Luiz Becker, Helena Dantas Waquil*
- ISAHP\_0167 - DECISION-MAKING MODELS FOR INTEROPERABLE LEAN, AGILE, RESILIENT AND GREEN SUPPLY CHAINS - *Izunildo Cabral, Pedro Espadinha-Cruz, Antonio Grilo, Rogerio Puga-Leal, Virgilio Cruz-Machado*
- ISAHP\_0200 - THE ANALYTICAL HIERARCHY PROCESS FOR E-SCOUTING: DECISION-MAKING FOR INDUSTRIAL PROCUREMENT PROCESS - *Diego D'Urso, Antonio Latora, Natalia Trapani*
- ISAHP\_0213 - APPLICATION OF AHP TO INVENTORY MANAGEMENT AND COMPARISON TO CROSS ANALYSIS - *Domenico Falcone, Alessandro Silvestri, Antonio Forcina, Antonio Pacitto*
- ISAHP\_0214 - AHP BASED METHODOLOGIES FOR SUPPLIERS SELECTION: A CRITICAL REVIEW - *Giuseppe Bruno, Emilio Esposito, Andrea Genovese, Renato Passaro*
- ISAHP\_0216 - AN APPLICATION METHODOLOGY BASED ON AHP AND SIMULATION TO STUDY INVENTORY MANAGEMENT PROBLEMS - *Francesco Longo, Fabio De Felice, Antonella Petrillo, Armando Carlomusto*

### **SESSION 10: AHP METHODOLOGY AND THEORY - III**

**Room: A 4.30 p.m. - 5.30 p.m.**

CHAIR: Dmitriy Borodin

- ISAHP\_043 - Measuring in Weighted Environments (Moving From Metric Topology to Order Topology) – *Claudio Garuti*
- ISAHP\_0149 - TWO METHODS FOR CONSISTENCY-DRIVEN APPROXIMATION OF A PAIRWISE COMPARISON MATRIX - *Dmitriy Borodin, Victor Gorelik, Wim De Bruyn, Bert Van Vreckem*
- ISAHP\_0162 - Measurement Scales with Arbitrary Units and "Expert" Interpretation and Relative Measurement through Comparisons and Derived Priorities - *Thomas L. Saaty*
- ISAHP\_0173 - IMPROVING THE ORDINAL INCONSISTENCY OF PAIRWISE COMPARISON MATRICES - *Ludmil Mikhailov, Sajid Siraj*
- ISAHP\_0194 - MODELLING INCONSISTENCY IN THE AHP THROUGH CHOQUET INTEGRATION - *Silvia Bortot, Ricardo Alberto Marques Pereira*

**SESSION 11: AHP/ANP & Others methods - II**

**Room: H 4.30 p.m. - 5.30 p.m.**

CHAIR: Elio Padoano

- ISAHP\_098 - A NEW HYBRID APPROACH TO INTERN PROBLEMS: AHP AND DEMATEL - *Erdem Aksakal, Metin Dağdeviren, Ihsan Yüksel*
- ISAHP\_0122 - USING THE ANALYTIC HIERARCHY PROCESS FOR GROUP REVISION OF LINEAR PROGRAMMING SOLUTIONS IN CEMENT PRODUCTION AND DISTRIBUTION PLANNING - *Chujej Chansa-ngavej, Jirachai Sakchanalaya*
- ISAHP\_0131 - AN INVESTIGATION IN TO APPLICATION OF DECISION MAKING MODELS FOR CREDIT SCORING IN A STATE SECTOR BANK - *Vindu Palihakkara, Manesha Peiris*
- ISAHP\_0188 - COMBINING AHP AND VIKOR METHODOLOGIES FOR RANKING BASKETBALL TEAMS - *Seyhan Sipahi, Bilge Donuk*
- "SOLO" DSS FAMILY AND THEIR IMPLEMENTATION FOR PROJECT SELECTION IN WEAKLY STRUCTURED DOMAINS - *Vitaliy Tsyganok, Sergey Kadenko*

**PLENARY SESSION: Some Interesting Concerns about the AHP/ANP in Mathematics and in Decision Making**

**Room A 5.30 p.m.- 6.30 p.m.**

*Prof. Thomas L. Saaty*