# UNIVERSIDAD DE ALMERIA, October 17-20, 2023

# DySES (Dynamics of Socio Economic Systems)

SCIENTIFIC PROGRAMME

| October, 17 |
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| **16:00** |
| Registration (Meeting room (0.05)) |
| **16:30 - 17:00** |
| **Conference Opening (Conferences room)** |
| **17:00 - 18:00** |
| **Plenary: An integrated approach to decisions in production field (Conferences room)**<br>**Speaker: Massimo Squillante**<br>*Chair: Francesca Perla*<br>*Discussants: Gerarda Fattoruso and Antonio Violi* |

| 18:00 - 19:00 |
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| **Welcome coffee** |
| **19:00 - 20:45** |
| ***Concert: E Senza acqua la terra more***<br>***ARSNOVA NAPOLI (Auditorio de la UAL)***<br>***Link for the concert: https://bit.ly/ual-auditorio*** |

# October, 18

## 08:30

Registration opening (Meeting room 0.05)

## 9:00 - 10:30

| **Session 1: Intertemporal choice (Seminar room)**<br><br>***Chair: Viviana Ventre*** | **Session 2 (Meeting room 1.44)**<br><br>***Chair: Giacomo di Tollo and David Carfì*** |
|---|---|
| **Title:** Description of behavioral investors' type through the discount function and functional data analysis<br>***Authors:*** *Roberta Martino, Viviana Ventre, Salvador Cruz Rambaud, Fabrizio Maturo* | **Title:** Constructing cardinality-constrained long-short portfolios: an adaptive evolutionary approach<br><br>***Authors:*** *Giacomo di Tollo, Gianni Filograsso* |
| **Title:** Uncertainty and subjective probability in Decision-Making: insights from intertemporal choices<br>***Authors:*** *Viviana Ventre, Roberta Martino, Laura Sagliano, Francesco Panico, Luigi Valio, Luigi Trojano* | **Title:** Aging among ethnic and religious groups in Romania – an exploratory study<br><br>**Authors**: Claudiu Herteliu |
| **Title:** Impatience in intertemporal choice and Mediterranean diet<br>***Authors:*** *María José Muñoz Torrecillas, Viviana Ventre, Roberta Martino, Salvador Cruz Rambaud* | **Title:** A proposal for optimal VaR and CVaR parameters estimation<br><br>**Authors:** Joseph Andria, Marco Corazza, Giacomo di Tollo |
| **Title:** A preliminary study on impatience in intertemporal choice and magnitude effect in adolescents<br>***Authors:*** *Ana María Sánchez Pérez, María José Muñoz Torrecillas, Salvador Cruz Rambaud* | |

## 10:30 - 11:00

Coffee break

## 11:00 - 12:00

**Plenary: Regularization in portfolio optimization (Conferences room)**

**Speaker: Stefania Corsaro**

*Chair: Claudiu Herteliu*

| **12:00 - 13:00** | |
|---|---|
| **Session 1 (Seminar room)** | **Session 2 (Meeting room 1.44)** |
| ***Chair: José Carlos Rodríguez Alcantud*** | ***Chair: Raffaele Mattera*** |
| **Title:** Dynamic risk measures and non-linear pricing rules generated by a bivariate Dempster-Shafer process<br>***Authors:*** *Andrea Cinfrignini, Davide Petturiti, Barbara Vantaggi* | **Title:** A joint procedure for ranking and clustering the networked European research projects<br>***Authors:*** *Roy Cerqueti, Antonio Iovanella, Raffaele Mattera* |
| **Title:** Optimal transport in Dempster-Shafer theory<br>***Authors:*** *Silvia Lorenzini, Davide Petturiti, Barbara Vantaggi* | **Title:** Prediction model with LightGBM method for prediction prices for new products<br>***Authors:*** *Svitlana Drin* |
| **Title:** A physical sub-diffusion approach for illiquid markets<br>***Authors:*** *Nataliya Shchestyuk, Sergiy Tyshchenko* | **Title:** Improved estimation of the assets' precision matrix via shrinkage<br>***Authors:*** *Raffaele Mattera* |
| **13:00 - 14:30** | |
| Lunch | |
| **14:30 - 16:00** | |
| **Session 1 (Seminar room)**<br>***Chair: Javier Sánchez García*** | **Session 2: Artificial Intelligence and Dynamics in Economic and Financial Decisions (Meeting room 1.44)**<br>***Chair: Lucia Maddalena and Luca Grilli*** |
| **Title:** Progress in bibliometric analysis use in business and management: a methodological literature review<br>***Authors:*** *Eduardo Terán-Yépez, María-Belén Marín-Carrillo, Manuel Sánchez-Pérez, Cristina Segovia-López* | **Title:** Regulation and enforcement in the exploitation of the groundwater resource<br>***Authors:*** *Marta Biancardi, Lucia Maddalena, Giovanni Villani* |
| **Title**: Exploring the Elements and Intellectual Framework of Agricultural Competitiveness Research<br>**Authors**: Ana Batlles-delaFuente, Ana-Isabel García-Agüero, Eduardo Terán-Yépez, Luis J. Belmonte-Ureña, Francisco Camacho-Ferre | **Title:** ALBERTino for stock price prediction: a Gibbs sampling approach<br>***Authors:*** *Francesco Colasanto, Luca Grilli, Domenico Santoro, Giovanni Villani* |
| **Title:** A new approach to statistical arbitrage strategy: Triples trading<br>***Authors:*** *José Pedro Ramos Requena; Juan Evangelista Trinidad-Segovia; Miguel Ángel Sánchez-Granero* | **Title:** 'Herd Behavior' in the commodities market. A neuro-fuzzy agent 'herding' on deep learning traders<br>***Authors:*** *Luca Grilli, Alfonso Guarino, Domenico Santoro, Francesco Messina, Rocco Zaccagnino* |
| | **Title:** Ant Colony Optimization for Chinese Postman Problem<br>***Authors:*** *Giacinto Angelo Sgarro, Luca Grilli* |

| 16:00 - 16:30 |
| --- |
| Coffee break |
| **16:45 - 18:00** |
| **Plenary: AI and Democracy: Who Decides Our Future? (Conferences room)**<br>**Speaker: Bill de Blasio (former Mayor of New York City)**<br>*Introduction: Francesco Saverio Coppola, Roberta Mongillo and Massimo Squillante* |
| ***Link for the plenary: https://bit.ly/ual-empresariales*** |
| **19:00** |
| **A Piano Night in Almeria:**<br>**David Carfì and Giacomo di Tollo**<br>*Centro Fundación Unicaja (Paseo de Almería, 69)* |

# October, 19

| 09:00 |
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| Registration opening (Meeting room (0.05 floor)) |

| 9:30 - 10:30 |
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| **Plenary: Ten years of AHPSort (Bioclimatic room)**<br>**Speaker: Alessio Ishizaka**<br>*Chair: Gerarda Fattoruso and Massimo Squillante*<br>***Link for the plenary: https://meet.google.com/nya-ysjy-meq*** |

| 10:30 - 11:00 |
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| Coffee break |

| 11:00 - 12:00 | |
|---|---|
| **Session 1: Predictive & Forecasting Models for Dynamic and Complex Decision Making (Seminar room)**<br><br>***Chair: Massimiliano Ferrara*** | **Session 2 (Meeting room 1.44)**<br><br>***Chair: Marcello Galeotti*** |
| **Title:** Duality Results for Nonsmooth Mathematical Problems with Vanishing Constraints<br>***Authors:*** *David Barilla, Giuseppe Caristi, Nader Kanzi, Hamed Soroush* | **Title:** Resilience bonds, green transition and complex dynamics<br>***Authors:*** *Marcello Galeotti, Giovanni Rabitti, Emanuele Vannucci* |
| **Title:** Towards modelling and measuring the non-random walk down wall street<br>***Authors:*** *Gurjeet Dhesi* | **Title:** Longevity risk modelling using neural networks<br>***Authors:*** *Stefania Corsaro, Zelda Marino, Salvatore Scognamiglio* |
| **Title:** Advances on LSTM Modeling analyzing Credit Risk Management and Causal Impact evidences<br>***Authors:*** *Massimiliano Ferrara* | **Title:** An Explainable Deep Learning Extension of the LSMC for Solvency Capital Requirement Evaluation<br>***Authors:*** *Francesca Perla, Salvatore Scognamiglio, Andrea Spadaro, Paolo Zanetti* |

| 12:00 - 13:00 |
|---|
| **Round Table: Research and innovations (Bioclimatic room)**<br>***Chair: María José Muñoz Torrecillas***<br>Mario Ciaburri, Antonio Di Nola, Gerarda Fattoruso, Massimiliano Ferrara, Claudiu Herteliu, Biagio Simonetti, Massimo Squillante, Juan Evangelista Trinidad Segovia<br>Link: https://meet.google.com/nya-ysjy-meq |

**13:00 - 14:00**

Lunch

**14:00 - 15:00**

**Plenary: The contribution of finance to combating climate change (Bioclimatic room)**

Speaker: María Mar Miralles-Quirós

*Chair: Salvador Cruz Rambaud*

**15:00 - 16:30**

| **Session 1: Multivariate analysis and applications (Seminar room)**<br>***Chair: Juan Evangelista Trinidad Segovia*** | **Session 2 (Meeting room 1.44)**<br>***Chair: Pilar Casado Belmonte*** |
|---|---|
| **Title:** The Open Manager Approach: Innovation In Management Styles<br>***Authors:*** *Tullio Menini; Paolo Bruttini; Paolo Mariani; Michele Gallo* | **Title:** Non-equilibrium Financial Market Dynamics<br>***Authors:*** *J. Clara-Rahola, A.M. Puertas, M.A. Sánchez-Granero, J. E. Trinidad-Segovia, F.J. de las Nieves* |
| **Title:** Data Science in Human & Social Science: Behavioral Intention<br>***Authors:*** *Cosima Valentino, Enrico Ciavolino, Gianfranco Gatti* | **Title:** Classifying Household Life Satisfaction at the Country Level: A Financial Services Perspective.<br>***Authors:*** *Jorge Hernandez-Perez* |
| **Title:** On the compatibility among priority vectors at varying transitivity thresholds<br>***Authors:*** *Amenta Pietro, Lucadamo Antonio, Marcarelli Gabriella* | **Title:** Asset concentration, connectedness and financial stability<br>***Authors:*** *Javier Sánchez García, Salvador Cruz Rambaud* |
| **Title:** Testing causal relations in measurement models: The impact of adjustment criteria in CTA-PLS<br>***Authors:*** *Mario Angelelli, Mattia Cefis, Maurizio Carpita, Enrico Ciavolino* | |

**16:30 - 17:00**

Coffee break

**18:30**

Visit to "Refugios de la Guerra Civil" (in city center)

**21:00**

**Conference dinner: Restaurante Club De Mar Almería**

# October, 20

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|---|---|
| **9:00 - 9:30** | |
| Visit to: Natural History Pavilion (Universidad de Almeria) | |
| **9:30 - 10:30** | |
| **Plenary: Team ranking. Criteria toward the best hierarchical choice. (Conference room)**<br>*Speaker: Marcel Ausloos*<br>*Chair: Roy Cerqueti* | |
| **10:30 - 11:00** | |
| Coffee break | |
| **11:00 - 12:30** | |
| **Session 1 (Seminar room)**<br>***Chair: Juan Evangelista Trinidad Segovia*** | **Session 2: Financial and actuarial models for decision making in the welfare systems. (Meeting room 1.44)**<br>***Chair: Paolo De Angelis*** |
| **Title:** How quality factors affect patient satisfaction in the Spanish healthcare system<br>***Authors:*** *Paula Ortega Perals, Salvador Cruz Rambaud, Javier Sánchez García* | **Title:** A risk-based model for the replacement rate evaluation in a defined contribution pension scheme<br>***Authors:*** *Fabio Baione, Paolo De Angelis* |
| **Title:** On the usage of regulation-based investment policies of mutual funds: A performance comparison.<br>***Authors:*** *Edvinas Grizickas Sapkute, Miguel Ángel Sánchez Granero, Juan Evangelista Trinidad Segovia* | **Title:** The ESG score and the corporate finance ratios: the case of Europe<br>***Authors:*** *Rita L. D'Ecclesia, Susanna Levantesi, Kevyn Stefanelli* |
| **Title:** Beta is not dead: developed markets vs. emerging markets<br>***Authors:*** *Laura Molero González, Juan E. Trinidad Segovia, Miguel A. Sánchez Granero* | **Title:** New method to solve integral equations for variable annuities evaluation with stochastic volatility<br>***Authors:*** *Immacolata Oliva, Roberto De Marchis, Antonio Martire* |
| **Title:** ANALYSIS OF THE LAW OF FALLING RATE OF PROFIT FOR THE EUROPEAN CASE<br>***Authors:*** *Victor Manuel* | **Title:** How health-related issues in ESG insurance industry can influence adverse selection<br>***Authors:*** *Maria CARANNANTE, Valeria D'AMATO, Massimiliano MENZIETTI, Steven HABERMAN* |
| **12:30 - 12:45** | |
| DySES Award and Conference ending (Conferences room) | |
| **12:45 - 13:30** | |
| Lunch | |

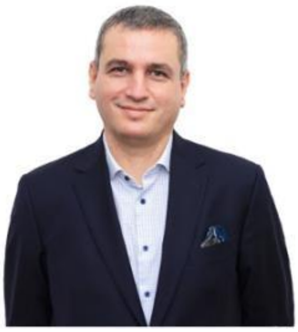
## POSTER SESSION (Room 0.07)

Posters will be available to view throughout the conference. During dedicated poster session time blocks in the conference schedule, presenters will be available at their posters to discuss their research and programs. Attendees can use this one-on-one time with presenters to learn more, ask questions, and talk through implications for their own researches.

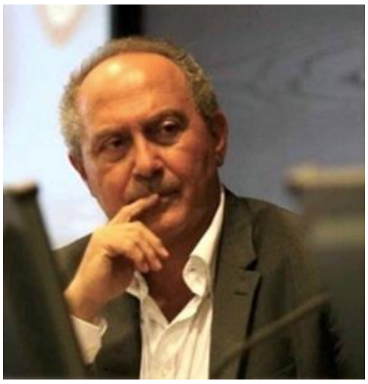
| Poster | Author(s) |
|---|---|
| Research Evaluation with Neural Networks | Joseph Andria and Giacomo di Tollo |
| Public value measurement in complex systems. Managing strategic decisions in complexity | Paolo Esposito |
| A dynamic approach of AHPSortII to classify STEM master's courses in Italy | Gerarda Fattoruso, Paola Mancini, Gabriella Marcarelli |
| Tourism facilities as a case study for Group-PAHP consistency checks during the COVID-19 epidemic | Gerarda Fattoruso, Maria Grazia Olivieri |
| Bayesian Space-TimeModeling of Ischemic Stroke Incidence andMortalityin Almería Using INLA | Adrián Aparicio-Mota, José María López-Martín, Juan Manuel García-Torrecillas |
| A Fuzzy-Based Thematic Classification Method for the Real Albergo dei Poveri, Naples (Italy) | Sabrina Sacco, Ferdinando Di Martino, Maria Cerreta |
| Real option assessment. Application to the stock market | Salvador Cruz Rambaud, Giacomo di Tollo, Ana María Sánchez Pérez |
| A measure of Association for three-way data table with ordered alternatives | Biagio Simonetti, Raffaela Ciuffreda |

# CHAIR

**Salvador Cruz Rambaud** was born in Cádiz, Spain, in 1957. He received the degree in Mathematics from the University of Granada, Spain, in 1981; later, he received the degree in Economics and the Ph. D. degree in Economics and Business from the Open University, Madrid, Spain, in 1991 and 1994, respectively. In 1992, he joined the Department Accounting and Finance, University of Almería, as a lecturer, where he became an Associate Professor in 1996, and a Professor in 2010. His current research interests include anomalies in intertemporal choice, mathematical analysis of financial operations and elicitation of new statistical distributions in Finance. Currently, he is an associate editor of Frontiers in Public Health, Risks, Cost Effectiveness and Resource Allocation, Global Health Economics and Sustainability, Humanities & Social Sciences Communications and Studies of Applied Economics. In addition, he has served as a referee in numerous prestigious journals. Finally, he has visited the following universities: Università "Federico II" of Naples (Italy), UCLA (University of California, Los Angeles, USA), Emory University (Atlanta, USA) and the University of Illinois at Urbana-Champaign (USA).



**Claudiu Herteliu** holds a PhD granted in 2007 by University of Economic Studies, Bucharest, Romania. He started teaching in 2002 as teaching assistant, currently he is full professor at Statistics and Econometrics Department from the same university. He worked with quantitative methods in Education and Research Ministry (2001-2008) and National Institute of Statistics (2008-2011). He had managerial responsibilities as The Dissemination of Romanian Statistical Information Activity or vice-dean of the Faculty of Economic Cybernetics, Statistics and Informatics (2012 – present) and member of University Senate (2012 – present). Main areas of research interests are: statistics and econometrics; quantitative methods in religion; scientometrics, health-metrics, statistical artefacts.



**Massimo Squillante** is Full Professor of Mathematical Methods of Economics and Actuarial and Financial Sciences; Representative of the University of Sannio in the CISA (Interacademic Center for Actuarial Sciences and the study of risks); Member of the Accademia Peloritana dei Pericolanti, class of Physical, Mathematical and Natural Sciences; Member of the Pontanian Academy; Scientific director of the "I Lincei per la scuola, Benevento"; President of the ASN Commission for SC 13D4; President of the Scientific Committee of Futuridea Research and Development Center. He has been Director of the Department of Law, Economics, Management and Quantitative Methods of the University of Sannio; Vice Rector of the University of Sannio; Dean of the Faculty of Economics and Business Sciences of the University of Sannio.

He is the author of numerous international scientific publications on models for economic and social systems; he has delivered seminars and conferences in international universities (Durban, Brno, Linz, Ohio, Seville, New York, Havana, La Sorbonne, NEOMA bs, etc.). He was awarded the Anassilaos-Pythagoras of Samos Prize 2018. He is a member of the Editorial board of: Soft Computing (Springer), Ratio Mathematica, Complex and Intelligent Systems (Springer), Progress in Computational Intelligence (Springer)

## STEERING COMMITTEE

| First name | Last name | Research field | Affiliation | Country |
|---|---|---|---|---|
| Michael | Campbell | Artificial Intelligence and Econophysics | Aurislink | USA |
| Bice | Cavallo | Applied Mathematics | University of Naples Federico II | Italy |
| Roy | Cerqueti | Applied Mathematics \| Statistics | University of Rome La Sapienza | Italy |
| Gerarda | Fattoruso | Applied Mathematics | University of Sannio | Italy |
| Francesca | Perla | Applied Mathematics | University Parthenope Naples | Italy |
| Javier | Sánchez García | Finance | Universidad de Almeria | Spain |
| Biagio | Simonetti | Statistics | University of Sannio | Italy |
| Juan Evangelista | Trinidad Segovia | Finance | Universidad de Almeria | Spain |
| Antonio | Violi | Applied Mathematics | University of Sannio | Italy |

## ORGANIZING COMMITTEE

| First name | Last name | Research field | Affiliation | Country |
|---|---|---|---|---|
| Raffaela | Ciuffreda | Statistics | University of Sannio | |
| Silvia | Bortot | Decision Making | University of Trento | Italy |
| Tiziana | Ciano | Applied Mathematics | University of Aosta | Italy |
| María Pilar | Casado Belmonte | Accounting | Universidad de Almeria | Spain |
| Giacomo | di Tollo | Applied Mathematics | University of Sannio | Italy |
| Alessia | Donato | Applied Mathematics | University of Messina | Italy |
| Elisa | Fiorenza | Statistics | University Mercatorum | Italy |
| Ludovico | Mascia | Graphics | MIUR | Italy |
| María José | Muñoz Torrecillas | Finance | Universidad de Almeria | Spain |
| Maria Grazia | Olivieri | Applied Mathematics | University eCampus | Italy |
| Ana María | Sánchez Pérez | Finance | Universidad de Almeria | Spain |
| Salvatore | Scognamiglio | Applied Mathematics | University Parthenope | Italy |

## SCIENTIFIC COMMITTEE

| First name | Last name | Research field | Affiliation | Country |
|---|---|---|---|---|
| Amjad D. | Al-Nasser | Statistics | Irbid University | Jordan |
| Marcel | Ausloos | Physics | University of Liege | Belgium |
| Achille | Basile | Applied Mathematics | University of Naples Federico II | Italy |
| Augusto | Bellieri dei Belliera | Applied Mathematics | Interacademic Center for Actuarial Studies and Risk Management | Italy |
| Fouad | Ben Abdulaziz | Decision Making | NEOMA BS | France |
| Matteo | Brunelli | Applied Mathematics | University of Trento | Italy |
| Alessio | Cavicchi | Economics | MUR | Italy |
| Maria | Cerreta | Appraisal and evaluation | University of Naples Federico II | Italy |
| Raffaele | Cerulli | Operational Research | University of Salerno | Italy |
| Mario | Ciaburri | Management | ISSNOVA | Italy |
| Enrico | Ciavolino | Psychometrics and Statistics | University of Salento | Italy |
| Andrea | Consiglio | Applied Mathematics | University of Palermo | Italy |
| Salvatore | Corrente | Applied Mathematics | University of Catania | Italy |
| Livia | D’Apuzzo | Applied Mathematics | University of Naples Federico II | Italy |
| Paolo | De Angelis | Applied Mathematics | University of Rome Sapienza | Italy |
| Antonio | Di Nola | Mathematics | Italian Society for logics | Italy |
| Paolo | Esposito | Management | University of Sannio | Italy |
| Michele | Fedrizzi | Applied Mathematics | University of Trento | Italy |
| Massimiliano | Ferrara | Applied Mathematics | University Mediterranea of Reggio Calabria | Italy |
| Giovanni | Filatrella | Phisics | University of Sannio | Italy |
| Pier Paolo | Forte | Law | University of Sannio | Italy |
| Maria Incoronata | Fredella | Environmental Risk | EPOS ERIC | Italy |
| Serge | Galam | Physics | CNRS | France |
| Marcello | Galeotti | Galeotti | CISA ( Firenze) | Italy |
| Michele | Gallo | Statistics | University of Naples “L’Orientale” | Italy |
| Rosa | González Rodríguez | Statistics | University of Sevilla | Spain |
| Carmine | Granada | Phisics | University of Campania Vanvitelli | Italy |
| Rosanna | Grassi | Applied Mathematics | University of Milano-Bicocca | Italy |
| Salvatore | Greco | Applied Mathematics | University of Catania and University of Portsmouth | Italy, UK |
| Luca | Grilli | Optimization | University of Foggia | Italy |

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| Alessio | Ishizaka | Decisions | NEOMA BS | France |
| Janusz | Kacprzyk | Soft Computing | Polish Academy of Sciences | Poland |
| Lucia | Maddalena | Applied Mathematics | University of Foggia | Italy |
| Mauro | Maldonato | Psychology | University of Naples Federico II | Italy |
| Antonella | Malinconico | Finance | University of Sannio | Italy |
| Gelina | Maliqi | Statistics | University of Tirana | Albania |
| Gabriella | Marcarelli | Applied Mathematics | University of Sannio | Italy |
| Ricardo Alberto | Marques Pereira | Applied Mathematics | University of Trento | Italy |
| María José | Muñoz Torrecillas | Finance | Universidad de Almeria | Spain |
| Bruno Antonio | Pansera | Applied Mathematics | University Mediterranea of Reggio Calabria | Italy |
| Roberta | Mongillo | Law | University of Sannio | Italy |
| Panos | Pardalos | Optimization | University of Florida | USA |
| José Ramos | Requena | Finance | Universidad de Almeria | Spain |
| Giulia | Rotundo | Applied Mathematics | University of Rome Sapienza | Italy |
| Michelangelo | Russo | Urban planning | University of Naples Federico II | Italy |
| Paolo | Silvestrini | Phisics | University of Campania Vanvitelli | Italy |
| Roman | Slowinski | Operations Research and Computational Intelligence | Poznań University of Technology | Poland |
| Barbara | Vantaggi | Probability | University of Rome La Sapienza | Italy |
| Aldo G.S. | Ventre | Applied Mathematics | Accademia Peloritana dei Pericolanti | Italy |
| Viviana | Ventre | Applied Mathematics | University of Campania Luigi Vanvitelli | Italy |
| Ronald | Yager | Information Systems | Yona College, NYC | USA |