### Time Zone: Central European Summer Time (CEST), Offset: UTC+2, Example City: Rome – (GMT+2:00) Rome

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<th>Sun, 19 July</th>
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<tr>
<td>07:30 – 09:00</td>
<td>Breakfast</td>
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<td>09:00 – 09:45</td>
<td>Opening &amp; Jan Peters</td>
<td>Raniero Romagnoli</td>
<td>Marta Kwiatkowska</td>
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<tr>
<td>14:40 – 15:25</td>
<td>Starting time: 15:00</td>
<td>Isabel Valera</td>
<td>Maria Schuld</td>
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<td>15:25 – 16:10</td>
<td>Workshop on “Biologically Plausible Learning”</td>
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<td>Poster Presentations Session 16</td>
<td>Angelo Lucia</td>
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<td>16:10 – 16:40</td>
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<tr>
<td>17:25 – 18:10</td>
<td>* Naftali Tishby</td>
<td>17:25 Guided Visit of the Certosa di Pontignano, &amp; 18:25 Wine Tasting</td>
<td>Session 29</td>
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<td>19:55 – 21:30</td>
<td>Dinner</td>
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**Arrival:** July 18 (Dinner at 20:30)  
**Departure:** July 24 (Breakfast 07:30-09:00)

### REGISTRATION

The registration desk will be located close to the Main Conference Room.  
Upon registration at the desk, you will receive your badge, vouchers, and conference materials. To facilitate the process please bring with you the registration confirmation. You are kindly requested to wear your name badge during all events of the conference.

### ZOOM: for LOD 2020 participants using remote connection

As you know, LOD 2020 is a hybrid event: in person for those who can come to Tuscany, and online for those who want to attend virtually. LOD 2020 (for participants using remote connection) will use Zoom (https://zoom.us). The online lectures and tutorials (e.g., live presentations or recorded ones) will be made possible. LOD 2020 virtual participants will receive the link and the password.

### PRESENTATIONS GUIDE

A quick reference on all presentation-related elements of LOD 2020. We will share an allocation schedule asap.

- **Long Papers & Oral Presentations**
  - Long Papers and Oral Presentations are 15 mins long, with an additional 2 mins for questions.

- **Short Papers & Poster Presentations**
  - Short papers and Poster Presentations are 4 mins long, with an additional 1 min for questions.

**WiFi Name:** Silver (it is an open Wi-Fi); if you have login and password you can use Eduroam.
GENERAL CHAIRS
Vincenzo Sciacca, Almawave, Italy
Renato Umeton, Department of Informatics, Dana-Farber Cancer Institute, Boston, MA, USA & MIT, Cambridge, MA, USA

PROGRAM CHAIRS
Giovanni Giuffrida, University of Catania, Italy, and Neodata Group
Varun Ojha, University of Reading, UK
Panos Pardalos, University of Florida, USA

KEYNOTE SPEAKERS:
Pierre Baldi, University of California Irvine, USA
Joshua Bengio, Université de Montréal, Canada - A.M. Turing Award 2018
Bettina Berendt, Technische Universität Berlin, Germany
Artur d’Avila Garcez, City University London, UK
Luc De Raedt, KU Leuven, Belgium
Marta Kwiatkowska, University of Oxford, UK
Angelo Lucia University of Rhode Island, USA
Andrea Passerini University of Trento, Italy
Jan Peters, Technische Universitaet Darmstadt & Max-Planck Institute for Intelligent Systems, Germany
Tomaso Poggio, MIT, USA
Raniero Romagnoli, Almawave, Italy
Cristina Savin Center for Neural Science, New York University, USA
Maria Schuld, Xanadu & University of KwaZulu-Natal, South Africa
Naftali Tishby, Hebrew University, Israel
Ruth Urner, York University, Toronto, Canada
Isabel Valera, Saarland University, Saarbrücken & Max Planck Institute for Intelligent Systems, Tübingen, Germany

TUTORIAL SPEAKER:
Vincenzo Sciacca, Almawave, Italy

STEERING COMMITTEE
Giuseppe Nicosia, University of Cambridge, UK & University of Catania, Italy
Panos Pardalos, University of Florida, USA
Sunday, 19 July

09:00 – 09:45  Plenary Session: Keynote Talk  
Room: Lecture Hall 1  
Opening  
“Machine Learning of Robot Skills”  
Jan Peters, Technische Universität Darmstadt & Max-Planck Institute for Intelligent Systems, Germany  
Chair: Giuseppe Nicosia

09:45 – 10:30  Session 1 - Special Session on Big data in Economics & Finance  
Virtual Room: Lecture Hall 1 (Real Room: Sala Bracci)  
Chairs: Vincenzo Sciaccà & Sergio Consoli

09:45 – 10:00  Salvatore Mario Carta, Sergio Consoli, Luca Piras, Alessandro Sebastian Podda and Diego Reforgiato Recupero, Dynamic Industry-specific Lexicon Generation for Stock Market Forecast  (pre-recorded video)

10:00 – 10:15  Vittorio Bellini, Massimo Guidolin and Mamedea Pedo, Can Big Data Help to Predict Conditional Stock Market Volatility? An Application to the Brexit Vote  (pre-recorded video)

10:15 – 10:30  Giorgio Gnecchi, Stefano Amato, Alessia Patuelli and Nicola Lattanzi, Machine learning application to family business status classification  (pre-recorded video)

09:45 – 10:30  Session 2  
Virtual Room: Lecture Hall 2  
Chair: Varun Ojha

09:45 – 10:00  Alberto Cenzato, Alberto Testolin and Marco Zorzi, Long-term prediction of physical interactions: a challenge for deep generative models  (onsite talk)

10:00 – 10:15  Laura Selicato, Nicoletta Del Buono and Flavia Esposito, Methods for Hyperparameters Optimization in Learning Approaches: an over  (pre-recorded video)

10:15 – 10:30  Antonella Falini, Graziano Castellano, Cristiano Tamborrino, Francesca Mazzia, Rosa Maria Mininni, Annalisa Appice and Donato Malerba, Novel Reconstruction Errors for Saliency Detection in Hyperspectral Images  (screen sharing)

10:30 – 11:00  Coffee break

11:00 – 11:45  Session 3 - Special Session on Big data in Economics & Finance  
Room: Lecture Hall 1  
Chair: Vincenzo Sciaccà & Sergio Consoli

11:00 – 11:15  Sergio Consoli, Luca Tiozzo Pezzoli and Elisa Tosetti, Using the GDELT dataset to analyse the Italian bond market  (pre-recorded video)

11:15 – 11:30  Quaini, Korsaye and Trojani, Smart Stochastic Discount Factors view

11:30 – 11:45  Iulia Igescu, Monitoring Location Shifts with One-Class Support Vector Machines  (onsite talk)

11:00 – 11:45  Session 4  
Room: Lecture Hall 2  
Chair: Varun Ojha

11:00 – 11:15  Cláudia Constantino, Alexandra M. Carvalho and Susana Vinga, Sparse consensus classification for discovering novel biomarkers in rheumatoid arthritis  (onsite talk)

11:15 – 11:30  Sasho Nedelkoski, Mihail Bogojeski and Odej Kao, Learning more expressive joint distributions in multimodal variational methods  (screen sharing)

11:30 – 11:45  Dhekar Bousnina, Welington de Oliveira and Peter Pflaum, A stochastic optimization model for frequency control and energy management in a microgrid  (pre-recorded video)

11:45 – 12:30  Session 5 - Special Session on Big data in Economics & Finance  
Room: Lecture Hall 1  
Chair: Vincenzo Sciaccà & Luca Tiozzo Pezzoli

11:45 – 12:00  Salvatore Carta, Diego Reforgiato Recupero, Maria Stanciu and Roberto Saia, A General Framework for Risk Controlled Trading Based on Machine Learning and Statistical Arbitrage  (pre-recorded video or screen sharing)

12:00 – 12:15  Thomas Cook and Taeyoung Doh, Assessing Macroeconomic Tail Risks in a Data-Rich Environment  (screen sharing)

12:15 – 12:20  Luca Barbaglia, Sergio Consoli and Sebastiano Manzan, Fine-grained, aspect-based semantic sentiment analysis on news for economic forecasting and nowcasting

11:45 – 12:30  Session 6  
Room: Lecture Hall 2  
Chair: Varun Ojha

11:45 – 12:00  David Llúger, Beatriz Otero, Rubén Tous, Marisol Monterrubio-Velasco, José Carlos Carrasco-Jiménez and Otilio Rojas, Optimal Random Forests Parameterization for Earthquake Catalog Generation  (pre-recorded video)
Sunday, 19 July

12:00 – 12:15 Federico Bianchi, Pietro Tarocco, Alberto Castellini and Alessandro Farinelli, Convolutional Neural Network and Stochastic Variational Gaussian Process for Heating Load Forecasting (screen sharing)

12:15 – 12:30 Mauro Mario Baldi, Elisabetta Fersini and Enza Messina, Relational Bayesian Model Averaging for Sentiment Analysis in Social Networks (screen sharing)

12:30 – 13:15 Plenary Session: Tutorial Talk
Room: Lecture Hall 1
“Natural Language Processing and Deep Learning”
Vincenzo Sciacca, Almawave, Italy
Chair: Giuseppe Nicosia

13:15 – 15:00 Lunch

15:00 – 19:55 Plenary Session
Room: LOD 2020 Lecture Hall 1
Workshop on “Biologically Plausible Learning”
Satellite Workshop at the 6th International Conference on Machine Learning, Optimization & Data Science July 19, 2020

Yoshua Bengio, Tommy Poggio, Pierre Baldi, Naftali Tishby, Cristina Savin, Marco Gori

Alessandro Sperduti Chair

14:55- 15:00 Alessandro Sperduti, “Introduction”
15:00 – 15:30 Tomaso Poggio, “Towards new foundations for machine learning”
15:30 – 16:00 Yoshua Bengio, “Equilibrium Propagation”
16:00 – 16:30 Naftali Tishby, “Local Information Bottleneck optimization as a Biologically plausible feedforward learning mechanism”

Coffee Break

16:45-17:15 Pierre Baldi, “The Theory of Local Learning”
17:15 – 17:45 Marco Gori, “Backprop Diffusion is Locally Plausible”
17:45 – 18:15 Cristina Savin, “TBA”

18:30 – 20:00 Panel

Ten questions for speakers who are supposed to select the one they like most

1. To what extent can neuroscience provide insights to gain the abstraction needed to conceive effective learning algorithms? What is your preferred example of success in machine learning? How do you rank the possibility of breakthroughs based on this approach for years to come
2. What are most relevant “biological plausibility requirements” for learning machines? Which one is most predominant?
3. Machine learning relies on the indisputable classic notion of algorithm. On the other hand, the regularities that emerge in human perception might be stimulated by information-based laws in the continuous setting of computation. Is there a pre-algorithmic level for an in-depth understanding of learning perceptual tasks in vision, speech and language understanding?
4. The overall field of artificial intelligence is mostly dominated by searching and optimization methods. Interestingly, the search for optimal solutions, which stimulates the growth of heuristics, does characterize both symbolic and sub-symbolic models behind intelligent agents. On the other hand, human learning processes can hardly be regarded as search or as optimization of risk functions created by big data collections. Humans learn incrementally as time goes by. Couldn’t be the case that learning mechanisms that involve time can better be regarded as equilibrium computational processes instead of search/optimization?
5. There is plenty of evidence that deep nets strongly favor the emergence of rich representational pattern descriptions in their hidden layers. Are there other insightful architectural regularities we can borrow from biology to improve the results of deep learning?
6. Most interesting human learning processes are strongly driven by appropriate focus of attention mechanisms. How to replicate similar computational schemes with the purpose of dramatically cutting the complexity of learning? Should we focus on “biological replication” or on the understanding of underlining computational structures behind focus of attention?
7. There are surprising results that come from developmental psychology on what a newborn see. Charles Darwin came up with the following remark:

It was surprising how slowly he acquired the power of following with his eyes an object if swinging at all rapidly: for he could not do this well when seven and a half months old.

At the end of the seventies, this early remark was given a technically sound basis. Nowadays, we know that for newborns to gain adult visual acuity, depending on the specific visual test, several months are required. Does it come from our own biology or is it a more general information-based principle for efficiently learning to see?
8. Why do foveal animals perform eye movements? Could this be related to information-based principles? What about possible computer-based implementations?

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9. At the beginning of the nineties, it has been pointed out that the visual cortex of humans and other primates is composed of two main information pathways that are referred to as the ventral stream and dorsal stream. The ventral “what” and the dorsal “where/how” visual pathways are traditionally distinguished, so as the ventral stream is devoted to perceptual analysis of the visual input, such as object recognition, whereas the dorsal stream is concerned with motion ability in the interaction with the environment. Why are there two different mainstream systems in the visual cortex? Couldn’t this be related to studies to invariance in computer vision and machine learning?

10. When thinking of ImageNet, one might figure out what human life could have been in a world of visual information with shuffled frames. Could children really acquire visual skills in such an artificial world, which is the one we are presenting to machines? Couldn’t be the case that we are tackling a problem that is more difficult than the one nature has offered us? When considering the spectacular results of deep learning, there could still be remarkable room of improvement.

19:55 Dinner
**Monday, 20 July**

09:00 – 09:45  
**Plenary Session: Keynote Talk**  
Room: Lecture Hall 1  
“NLP for Close Domain Applications with Real World Data: a hybrid approach to jointly leverage prior domain knowledge, reasoning techniques and deep learning”  
Raniero Romagnoli, Almawave, Italy  
Chair: Giuseppe Nicotra

09:45 – 10:30  
**Session 7 - Special Session on Big data in Economics & Finance**  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca & Luca Tiozzo Pezzoli

09:45 – 10:00  
Massimo Guidolin, Roland Fuess and Christian Koeppel, Sentiment Risk Premia in the Cross-Section of Global Equity  
(pre-recorded video)

10:00 – 10:15  
Viktor Burján and Bálint Gyires Tőth, GPU Accelerated Data Preparation for Limit Order Book Modeling  
(screen sharing)

10:15 – 10:30  
Stefano Scalco, Giorgio Scricco, Michael Brauning and Despo Malikkidou, A new approach to Early Warning Systems for small European banks  
(pre-recorded video)

09:45 – 10:30  
**Session 8**  
Room: Lecture Hall 2  
Chair: Varun Ojha

09:45 – 10:00  
Federico Espositi and Andrea Bonarini, Gradient Bias to solve the Generalization Limit of Genetic Algorithms through hybridization with Reinforcement Learning  
(pre-recorded video)

10:00 – 10:15  
Francesco Craighero, Fabrizio Angaroni, Alex Graudenzi, Fabio Stella and Marco Antoniotti, Investigating the Compositional Structure of Deep Neural Networks  
(pre-recorded video)

10:15 – 10:30  
Bruno Galuzzi, Enza Messina, Antonio Candelieri and Francesco Archetti, Optimal Scenario-Tree Selection for Multistage Stochastic Programming  
(screen sharing)

10:30 – 11:00  
Coffee break

11:00 – 11:45  
**Session 9**  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca

11:00 – 11:15  
Jamolbek Mattiev and Branko Kavsek, CMAC: Clustering class association rules to form a Compact and Meaningful Associative Classifier  
in person

11:15 – 11:30  
Ondrej Slowik, Giner Leh and Drahomir Novák, Combinatorial reliability-based optimization of nonlinear finite element model using an artificial neural network-based approximation  
on site talk

11:30 – 11:45  
Rishab Gupta and Rohit Parimi, Driving Subscriptions Through User Behavior Modelling and Prediction at Bloomberg Media  
(pre-recorded video)

11:00 – 11:45  
**Session 10**  
Room: Lecture Hall 2  
Chair: Varun Ojha

11:00 – 11:15  
Charul Giri, Morten Goodwin and Ketil Oppedal, Deep 3D Convolution Neural Network for Alzheimer’s Detection  
(pre-recorded video)

11:15 – 11:30  
Andrea Asperti, Variance Loss in Variational Autoencoders

11:30 – 11:45  
Nicolas Bach, Andrew Melnik, Malte Schilling, Timo Korthals and Helge Ritter, Learn to Move Through a Combination of Policy Gradient Algorithms: DDPG, D4PG, and TD3  
(screen sharing)

11:45 – 12:30  
**Session 11**  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca

11:45 – 12:00  
Milad Mokhtaridoost and Mehmet Gönen, Identifying Key miRNA–mRNA Regulatory Modules in Cancer Using Sparse Multivariate Factor Regression  
(screen sharing)

12:00 – 12:15  
Mickael Febriassy and Mohamed Nadif, Wasserstein Embeddings for Nonnegative Matrix Factorization  
on site talk

12:15 – 12:30  
Michele Fraccaroli, Evelina Lamma and Fabrizio Riguzzi, Automatic Setting of DNN Hyper-Parameters by Mixing Bayesian Optimization and Tuning Rules  
on site talk

11:45 – 12:30  
**Session 12**  
Room: Lecture Hall 2  
Chair: Varun Ojha

11:45 – 12:00  
Stephane Chretien and Benjamin Guedj, Revisiting clustering as matrix factorisation on the Stiefel manifold
Monday, 20 July

12:00 – 12:15  Norma Gutierrez, Eva Rodriguez, Sergi Mus, Beatriz Otero and Ramón Canal, Privacy preserving Deep Learning framework in Fog computing  (pre-recorded video)

12:00 – 12:15  Emmanouela Rapanaki, Iraklis-Dimitrios Psychas, Magdalene Marinaki, Nikolaos Matsatsinis and Yannis Marinakis, A Krill Herd Algorithm for the Multi-objective Energy Reduction Multi-Depot Vehicle Routing Problem  (screen sharing)

12:30 – 13:15  Session 13
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

12:30 – 12:45  Federico Bianchi, Francesco Masillo, Alberto Castellini and Alessandro Farinelli, XM HeatForecast: Heating Load Forecasting in Smart District Heating Networks  (pre-recorded video)

12:45 – 13:00  Andrea Borghesi, Federico Baldo, Michele Lombardi and Michela Milano, Injectable Domain Knowledge in NNs for Transprecision Computing  (onsite talk)

13:00 – 13:15  Moiz Khan Shervani, Paolo Zaffino, Pierangelo Bruno, Maria Francesca Spadea and Francesco Calimi, Evaluating the Impact of Training Loss on MR to Synthetic CT Conversion  (screen sharing)

12:30 – 13:15  Session 14
Room: Lecture Hall 2
Chair: Varun Ojha

12:30 – 12:45  Maurizio Boccia, Antonio Diglio, Adriano Masone and Claudio Sterle, A location-routing based solution approach for reorganizing postal collection operations in rural areas  (screen sharing)

12:45 – 13:00  Alexandre Maciel-Guerra, Grazziela P. Figueroedo and Jamie Twycross, Dynamic selection of classifiers applied to high-dimensional small-instance data sets: problems and challenges

13:00 – 13:15  Mirco Tracoli, Marco Bialetti, Valentina Poggioni and Daniele Spiga, Caching suggestions using Reinforcement Learning  (screen sharing)

13:15 – 14:40  Lunch

14:40 – 15:25  Plenary Session: Keynote Talk
Room: Lecture Hall 1
“Technical challenges of Ethical ML”
Isabel Valera, Saarland University, Saarbrücken & Max Planck Institute for Intelligent Systems, Tübingen, Germany
Chair: Giuseppe Nicosia

15:25 – 16:10  Session 15 – Short Papers
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

15:25 – 15:30  Adel Rahimi, Tetiana Kodliuk and Othman Benchekroun, Using Hessians as a Regularization Technique  (pre-recorded video)

15:30 – 15:35  Falco Joannes Bargagli-Stoffi, Gustavo Cevolani and Giorgio Gnecco, Should simplicity be always preferred to complexity in supervised machine learning?

15:35 – 15:40  Maria Alexandra Ramalho de Oliveira, Luis Guimarães and José Borges, Understanding production process productivity in glass container industry: a big data approach

15:40 – 15:45  Alessandro Zonta, Ali El Hassouni, David W. Romero and Jakub Tomczak, Generative Fourier-based Auto-Encoders: Preliminary Results  (pre-recorded video)


15:50 – 15:55  Giorgia Franchini, Valeria Ruggiero and Luca Zanni, Steplength and mini-batch size selection in Stochastic Gradient Methods  (pre-recorded video)

15:55 – 16:00  Gail Gilboa Freedman, Yair Amichai-Hamburger and Dotan Castro, Who Accepts Information Measures

15:25 – 16:10  Session 16 – Poster Presentations
Room: Lecture Hall 2
Chair: Varun Ojha

15:25 – 15:30  Filippo Maria Castelli, Giacomo Mazzamuto, Matteo Roffilli, Irene Costantini, Ludovico Silvestri and Francesco Saverio Pavone, Semantic Segmentation of Neuronal Bodies in Fluorescence Microscopy Using a 2D+3D CNN Training Strategy with Sparsely Annotated Data  (pre-recorded video)

15:30 – 15:35  Igor Griva, Analyzing Data with Lagrange multipliers methods

15:35 – 15:40  Federico Espositi and Andrea Bonarini, Policy Feedback in Deep Reinforcement Learning to exploit expert knowledge  (pre-recorded video)
Monday, 20 July

15:40 – 15:45  Alessandro Rossi and Nicola Pacchiani, BcRAIN: A Deep Learning based approach for B-cell repertoire description  (screen sharing)

15:45 – 15:50  Young Hee Geum, Study on the class of Jarratt-like iterative methods

15:50 – 15:55  Giulia Lo Dico, Verónica Carcelén and Maciej Haranczyk, Accelerating development of natural porous materials assisted by statistical machine learning  (pre-recorded video)

16:10 – 16:40  Coffee break

16:40 – 17:25  Session 17 – Oral Presentations
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

16:40 – 16:55  Vera Kalinichenko and Garima Garg, From Business Curated Products to Algorithmically Generated  (pre-recorded video)


17:10 – 17:25  Session 18 – Oral Presentations
Room: Lecture Hall 2
Chair: Varun Ojha

16:40 – 16:55  Nikita Benkovich, Roman Dedenok and Dmitry Golubev, Deep Quarantine for Suspicious Mail  (screen sharing)

16:55 – 17:10  Nikita Benkovich, Alan Savushkin and Dmitry Golubev, Neural Random Projection: From the Initial Task to the Input Similarity Problem  (screen sharing)

17:10 – 17:25  Thu Dinh, Bao Wang, Andrea Bertozzi, Stanley Osher and Jack Xin, Sparsity Meets Robustness: Channel Pruning for the Feynman-Kac Formalism Principled Robust Deep Neural Nets  (pre-recorded video)

17:25  Guided Visit of the Certosa di Pontignano,

18:25  Wine Tasting

19:55  Dinner
Tuesday, 21 July

09:00 – 09:45  
Plenary Session: Keynote Talk  
Room: Lecture Hall 1  
"Safety and Robustness for Deep Learning with Provable Guarantees"  
Marta Kwiatkowska, University of Oxford, UK  
Chair: Giuseppe Nicosia

09:45 – 10:30  
Session 19  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca

09:45 – 10:00  
Ali Hassouni, Mark Hoogendoorn, Gusz Eiben and Vesa Muhonen, Structural and Functional Representativity of GANs for Data Generation in Sequential Decision Making  
(pre-recorded video)

10:00 – 10:15  
David Jaidan and Le Toan Duong, Image Features Anonymization for Privacy aware Machine Learning  
(screen sharing)

10:15 – 10:30  
Mika Rantonen and Joni Koriphalkola, Prediction of Spot prices in Nord Pool's Day-ahead market using Machine and Deep learning  
(screen sharing)

09:45 – 10:30  
Session 20  
Room: Lecture Hall 2  
Chair: Varun Ojha

09:45 – 10:00  
Arun Pandey, Joachim Schreurs and Johan Suykens, Robust Generative Restricted Kernel Machines using Weighted Conjugate Feature Duality  
(pre-recorded video)

10:00 – 10:15  
Tomás Dlask, Unit Propagation by Means of Coordinate-Wise Minimization  
(pre-recorded video)

10:15 – 10:30  
Gabriele Iommazzo, Claudia D'Ambrosio, Antonio Frangioni and Leo Liberti, A learning-based mathematical programming formulation for the automatic configuration of optimization solvers  
(screen sharing)

10:30 – 11:00  
Coffee break

11:00 – 11:45  
Session 21  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca

11:00 – 11:15  
Francesco Branda, Fabrizio Marozzo and Domenico Talia, Discovering Travelers' Purchasing Behavior from Public Transport Data  
(screen sharing)

11:15 – 11:30  
Elisa Marcelli and Renato De Leone, Multi-Kernel Covariance Terms in Multi-Output Support Vector Machines  
(pre-recorded video)

11:30 – 11:45  
Riste Stojanov, Gorjan Popovski, Nasi Jofce, Dimitar Trajanov, Barbara Koroussie Seljak and Tomí Eftimov, FoodViz: Visualization of Food Entities Linked Across Different Standards  
(pre-recorded video)

11:00 – 11:45  
Session 22  
Room: Lecture Hall 2  
Chair: Varun Ojha

11:00 – 11:15  
Julia Krützmann, Alexander Schiendorfer, Sergej Beratz, Judith Moosburger-Will, Wolfgang Reif and Siegfried Horn, Learning Controllers for Adaptive Spreading of Carbon Fiber Tows  
(pre-recorded video)

11:15 – 11:30  
Alper Yegenoglu, Sandra Diaz Pier, Kai Krajsek and Michael Herty, Ensemble Kalman Filter optimizing Deep Neural Networks: An alternative approach to non-performing Gradient Descent  
(pre-recorded video)

11:30 – 11:45  
Christofer Fellicious, Thomas Weißgerber and Michael Granitzer, Effects of random seeds on the accuracy of Convolutional Neural Networks  
(screen sharing)

11:45 – 12:30  
Session 23  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca

11:45 – 12:00  
Jimiana Mafeni Mase, Peter Chapman, Graziella Figueiredo and Mercedes Torres Torres, Benchmarking Deep Learning Models for Driver Distraction Detection  
(pre-recorded video)

12:00 – 12:15  
Per-Arne Andersen, Morten Goodwin and Ole-Christoffer Grammo, Safer Reinforcement Learning for Agents in Industrial Grid-Warehousing  
(pre-recorded video)

12:15 – 12:30  
Nima Nabizadeh, Martin Heckmann and Dorothea Kolossa, Target-aware Prediction of Tool Usage in Sequential Repair Tasks  
(pre-recorded video)

11:45 – 12:30  
Session 24  
Room: Lecture Hall 2  
Chair: Varun Ojha

11:45 – 12:00  
(pre-recorded video)
Tuesday, 21 July

12:00 – 12:15 Jon Vadillo, Roberto Santana and Jose A. Lozano, Exploring Gaps in DeepFool in Search of More Effective Adversarial Perturbations (pre-recorded video)

12:15 – 12:30 Israel Herrera, Leandro Lorente, Diego Peluffo, Maria Del Mar Alemany, A forecasting model to predict the demand of roses in an Ecuadorian small business under uncertain scenarios (pre-recorded video)

12:30 – 13:15 Session 25
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

12:30 – 12:45 Sara Atito Ali Ahmed, Berrin Yanikoglu, Cemre Zor, Muhammad Awais and Josef Kittler, Skin Lesion Diagnosis with Imbalanced ECOC Ensembles

12:45 – 13:00 Helge Spieker and Arnaud Gotlieb, Learning Objective Boundaries for Constraint Optimization Problems (pre-recorded video)

13:00 – 13:15 Filippo Portera, A Generalized Quadratic Loss for SVM and Deep Neural Networks (onsite talk)

12:30 – 13:15 Session 26
Room: Lecture Hall 2
Chair: Varun Ojha

12:30 – 12:45 Michela Quadrini, Sebastian Daberda and Carlo Ferrari, Hierarchical Representation and Graph Convolutional Networks for the Prediction of Protein-Protein Interaction Sites (onsite talk)

12:45 – 13:00 Petia Koprinkova-Hristova and Nadejda Bocheva, Brain-inspired Spike Timing Model of Dynamic Visual Information Perception and Decision Making with STDP and Reinforcement Learning (screen sharing)

13:00 – 13:15 Aynalem Misganaw and Sabine Roller, PlattForm: Parallel Spoken Corpus of Middle West German Dialects with Web-Based Interface (screen sharing)

13:15 – 14:40 Lunch

14:40 – 15:25 Plenary Session: Keynote Talk
Room: Lecture Hall 1
“Machine Learning with quantum computers”
Maria Schuld, Xanadu & University of KwaZulu-Natal, South Africa
Chair: Giuseppe Nicosia

15:25 – 16:10 Plenary Session: Keynote Talk
Room: Lecture Hall 1
“Viral Metabolic Reprogramming”
Angelo Lucia, University of Rhode Island, USA
Chair: Giuseppe Nicosia

16:10 – 16:40 Coffee break

16:40 – 17:25 Session 27
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

16:40 – 16:55 Günther Schindler, Wolfgang Roth, Franz Pernkopf and Holger Fröning, Parameterized Structured Pruning for Deep Neural Networks (pre-recorded video)


17:10 – 17:25 Franco Robledo, Pablo Rodriguez-Bocca and Pablo Romero, Optimal Broadcast Strategy in Homogeneous Point-to-Point Networks (pre-recorded video)

16:40 – 17:25 Session 28
Room: Lecture Hall 2
Chair: Varun Ojha

16:40 – 16:55 Astrid Meckling, Alexandre Coninx, Loïc Cressot, Stéphane Doncieux and Nicolas Perrin, State Representation Learning from Demonstration (pre-recorded video)

16:55 – 17:10 Abhay Harpale, Chronologically guided deep network for remaining useful life estimation

17:10 – 17:25 Rommel Regis, High-Dimensional Constrained Discrete Multi-Objective Optimization Using Surrogates (pre-recorded video)

17:25 – 18:10 Session 29
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

17:25 – 17:40 Mayumi Ohta, Nathaniel Berger, Artem Sokolov and Stefan Riezler, Sparse Perturbations for Improved Convergence in SZO Optimization (screen sharing)
Tuesday, 21 July

17:40 – 17:55  Guido Lagos and Pablo Romero, On the Reliability of Dynamical Stochastic Binary Systems (pre-recorded video)

17:55 – 18:10  Vladimir Sololov, Nikita Titov and Elena Smirnova, Coking coal railway transportation forecasting using ensembles of ElasticNet, LightGBM, and Facebook Prophet (screen sharing)

17:25 – 18:10  Session 30  
Room: Lecture Hall 2  
Chair: Varun Ojha  

17:25 – 17:40  Mayowa Ayodele, Richard Allmendinger and K. Nadia Papamichail, Heuristic Search in LegalTech: Dynamic Allocation of Legal Cases to Legal Staff (screen sharing)

17:40 – 17:55  Jose Cruz, Wilson Mamani, Christian Romero and Ferdinand Pineda, Multi-parameter Regression of Photovoltaic Systems using Selection of Variables with the Method: Recursive Feature Elimination for Ridge, Lasso and Bayes

17:55 – 18:10  Abhay Harpale, Automatic curriculum recommendation for employees

18:10 – 18:25  Pause

18:25 – 19:10  Session 31  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca  

18:25 – 18:40  Marcin Orzech and Johan Suykens, Fast hyperparameter tuning for support vector machines with stochastic gradient descent (on site talk)

18:40 – 18:55  Abhinav Raj and Subbankar Mishra, Lottery Ticket Hypothesis: Placing the k-correcr bets (screen sharing)

18:55 – 19:10  Yaodong He and Shin Yin Yuen, Black Box Algorithm Selection by Convolutional Neural Network (pre-recorded video)

18:25 – 18:40  Giovanna Fortez, Franco Robledo, Pablo Romero and Omar Viera, A Fast Genetic Algorithm for the Max Cut-Clique Problem (pre-recorded video)


18:55 – 19:10  Jacques Egmont Knoell and Thorsten Schmidt-Dumont, Reinforcement Learning for Playing WrapSlide (pre-recorded video)

19:10 – 19:55  Session 33  
Room: Lecture Hall 1  
Chair: Vincenzo Sciacca  

19:10 – 19:25  Richard Ball, Hennie Kruger and Lynette Drevin, A Unified Approach to Anomaly Detection (pre-recorded video)

19:25 – 19:40  Alma Rahat and Michael Wood, Bayesian Search for the Feasible Space Under Computationally Expensive Constraints (pre-recorded video)

19:40 – 19:55  Daniel Nissani-Nissensohn, Unsupervisedly Learned Representations – Should the Quest be Over? (pre-recorded video)


19:10 – 19:55  Session 34  
Room: Lecture Hall 2  
Chair: Varun Ojha  

19:10 – 19:25  Jake Williams, Abel Tadesse, Tyler Sam, Huey Sun and George Montanez, Limits of Transfer Learning (pre-recorded video)

19:25 – 19:40  Sani Aji, Poom Kumam, Punnarai Siricharoen and Ali Maina Bukar, Automatic Classification of low Angle Fuze-Quick Craters Using Deap Learning (pre-recorded video)

19:40 – 19:55  Galina Samigulina and Zarina Samigulina, Machine learning for big data analysis in drug design (pre-recorded video)

19:55 – 20:10  Carla Freitas Silveira Netto, Mohsen Bahrami, Vinicius Brei, Bucin Bozkaya, Selim Balcsoy and Alex ‘Sandy’ Pentland, Gravitational Forecast Reconciliation (pre-recorded video)

20:10  Dinner
Wednesday, 22 July

08:30 – 13:15  Social Tour: Guided Visit of Siena

13:15 – 14:40  Lunch

14:40 – 15:25  Plenary Session: Keynote Talk
Room: Lecture Hall 1
“‘A problem for every solution’ – on adversarial methods for AI Ethics”
Bettina Berendt, Technische Universität Berlin, Germany
Weizenbaum Institute for the Networked Society, Germany
Chair: Giuseppe Nicosia

15:25 – 16:10  Session 35
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

15:25 – 15:40  Harry Wang and Brian Denton, Pareto-Weighted-Sum-Tuning: Learning-to-Rank for Pareto Optimization Problems (pre-recorded video)

15:40 – 15:55  Cole Smith, Andrii Dobroshynskyi and Suzanne McIntosh, Quantifying Local Energy Demand through Pollution Analysis (pre-recorded video)

15:55 – 16:10  Marius Bommer and Günter Rudolph, Reliable Solution of Multidimensional Stochastic Problems Using Metamodels (pre-recorded video)

15:25 – 16:10  Session 36
Room: Lecture Hall 2
Chair: Varun Ojha

15:25 – 15:40  Gideon Mbiydzenyuy, Univariate Time Series Anomaly Labelling Algorithm

15:40 – 15:55  Coffee break

16:40 – 17:25  Plenary Session: Keynote Talk
Room: Lecture Hall 1
“Promises and Challenges of Transfer Learning”
Ruth Urner, York University, Toronto, Canada
Chair: Giuseppe Nicosia

17:25 – 18:10  Session 37
Room: Lecture Hall 1
Chair: Vincenzo Sciacca

17:25 – 17:40  Anahit Sargsyan, Areg Karapetyan, Wei Lee Woon and Aamena Alshamsi, Explainable AI as a Social Microscope: A Case Study on Academic Performance

17:40 – 17:55  Zahra Jandaghi and Liming Cai, On Graph Learning with Neural Networks

17:55 – 18:10  Nicholas Mandarano, Rommel Regis and Elizabeth Bloom, Machine Learning and Statistical Models for the Prevalence of Multiple Sclerosis (pre-recorded video)

17:25 – 18:10  Session 38
Room: Lecture Hall 2
Chair: Varun Ojha

17:25 – 17:40  Jorio Cocola and Paul Hand, Global Convergence of Sobolev Training for Overparametrized Neural Networks (screen sharing)

17:40 – 17:55  Natalya Selitskaya, Stanislav Selitskiy and Nikolaos Christou, Challenges in Real-Life Face Recognition With Heavy Makeup and Occlusions Using Deep Learning Algorithms (pre-recorded video)


18:10 – 18:25  Pause

18:25 – 19:10  Plenary Session: Keynote Talk
Room: Lecture Hall 1
“Virtualization and Deep Learning”
Pierre Baldi, University of California Irvine, USA
Chair: Giuseppe Nicosia

Room: Lecture Hall 1
Chair: Vincenzo Sciacca
Wednesday, 22 July

19:10 – 19:25  Georg Hahn, Sharon Marie Lutz, Nilanjan Laha and Christoph Lange, A fast and efficient smoothing approach to LASSO regression and an application in statistical genetics: polygenic risk scores for Chronic obstructive pulmonary disease (COPD)  (pre-recorded video)

19:25 – 19:40  Stefan Silva and José Crispim, An application of Machine Learning to study utilities expenses in the Brazilian Navy (pre-recorded video)

19:40 – 19:55  Andrea Bommert and Jörg Rahnenführer, Adjusted Measures for Feature Selection Stability for Data Sets with Similar Features (pre-recorded video)

19:55 – 20:10  Seyed Amin Tabatabaei, Jan Klein and Mark Hoogendoorn, Estimating the F1 score for Learning from Positive and Unlabeled Examples (pre-recorded video)

Closing

19:10 – 19:55  Session 40 – Oral Presentations
Room: Lecture Hall 2
Chair: Varun Ojha

19:10 – 19:25  Anwaya Aras, Manisha Mundhe and Anna He, The Speech Processing Platform at Uber

19:25 – 19:40  Mahdi Jammal, Stephane Canu and Maher Abdallah, Robust and Sparse Support Vector Machines via Mixed Integer Programming (pre-recorded video)

19:40 – 19:55  Mahdi Jammal, Stephane Canu and Maher Abdallah, \textit{\textit{l}1} Regularized Robust and Sparse Linear Modeling Using Discrete Optimization (pre-recorded video)


20:10  Dinner
Thursday, 23 July

09:00 – 13:15  Free Time

13:15 – 14:40  Lunch

14:40  Workshop on “Integrative Machine Learning”
Luc De Raedt, Andrea Passerini, Michelangelo Diligenti, Francesco Giannini, Artur d’Avila Garcez, Michele Lombardi, Marco Gori

14.40-14.50 – Welcome
14.50-15.20 – Prof. Luc de Raedt – From Probabilistic Logic Programming to Neural Symbolic Computation
15.20-15.50 – Prof. Andrea Passerini – Constructive Machine Learning
15.50-16.10 – Michelangelo Diligenti/Francesco Giannini – Relational Neural Machines
16.10-16.40 – Virtual coffee break
17.10-17.40 – Prof. Arthur d’Avila Garcez – Neural Symbolic Computing for Trusted AI
17.40-18.10 – Round Table/Closing Remarks – Prof. Marco Gori

The Workshop will be streamed from the following google meet room:
https://meet.google.com/rga-yvtm-dkb

or at the following live stream
https://stream.meet.google.com/stream/cdbba0b85-2ba6-4c34-a594-770a772e0f7

19:55  Social Dinner