

IEEE OIPE 2016 FINAL PROGRAM

12th September 2016

Registration from 17:30

Welcome Reception 18:00

conference site: Via Vito Volterra 62

13th September 2016

Registration from 8:30

Opening 9:00 – 9:30

Invited talk 9:30 – 10:30

Xin-She Yang Nature-Inspired Metaheuristics for Optimization

Coffee break 10:30 – 11:00

Oral Session I 11:00 – 13:00

Theoretical aspects and fundamentals

Chair: Hartmut Brauer

- *Thiago Bazzo, José Kolzer, Renato Carlson, Frédéric Wurtz, Laurent Gerbaud*- **Large Multidisciplinary Design Optimization Applied to a Permanent Magnet Synchronous Generator (#12)**
- *Alessandro Formisano, Paolo Di Barba, Raffaele Martone, Maurizio Repetto, Alessandro Salvini, Antonio Savini* - **A Brief Survey of Robust Optimization (#72)**
- *Rob De Staelen, Ahmed Hendy* - **Recovery of a Time Dependent Source from a Surface Measurement in a Cole-Cole Dispersive Medium Model (#10)**
- *Diana Mavrudieva, Jean-Louis Coulomb* **Comparison of Classical and Robust Optimizations of a Brushless AC Embedded Permanent Magnet Motor (#11)**
- *Siyang Deng, Stéphane Brisset, Stéphane Clénet* - **Comparative Study of Methods for Optimization of Electromagnetic devices with Uncertainty (#17)**
- *Stephane Vivier* - **Application of The Corrected Response Surface Methodology For The Optimization Of A Permanent Magnet Synchronous Machine (#56)**

Lunch 13:00 – 14:30

Oral Session II

14:30 – 16:00

Management and optimization of renewable energy system/smart grids

Chair: Laurent Gerbaud

- Vincent Reinbold, Daniel Tenfen - **Multi-Physic Load Demand Modeling To The Energy Management Of Micro-Grids** (#33)
- Vincent Reinbold, Van-Binh Dinh, Daniel Tenfen, Benoit Delinchant - **Optimal Operation Of Building Micro-Grids, Comparison For Both Mixed Linear Integer And Continuous Non-Linear Approaches** (#76)
- Bruno Sareni , Malek Zaibi, Gérard Champenois, Xavier Roboam, Jamel Belhadj - **Integrated optimal design of a photovoltaic/wind system for electricity and water production** (#54)
- Maurizio Repetto, Fabio Freschi , Enrico Pons, Simone Ferrero - **Application Of Vector Immune System To Distribution Network Reconfiguration** (#19)
- Guillaume Crevecoeur - **Data-Driven Dynamic Efficiency Maps Of Electromechanical Drivetrains Subject To Variable Renewable Energy Sources** (#91)

Coffee Break

16:00 – 16:30

Poster Sessions “Young Researchers in OIPE Community”

16:30 – 18:30

Chairs: Jens Haueisen, Antonino Laudani, David Lowther

- Mattia Filippini, Piergiorgio Alotto - **Multi-Objective Optimization Of Coaxial Magnetic Gears** (#15)
- Mateus Antunes Oliveira Leite, Benoit Delinchant, Jean-Michel Guichon, João Antônio de Vasconcelos - **Simplex Based Adaptive Parametric Model Order Reduction For Applications In Optimization** (#16)
- Maria Evelina Mognaschi, Paolo Di Barba, Marek Przybylski, Najmeh Rezaei , Barbara Slusarek , Slawomir Wiak - **Geometry Optimization And Material Synthesis For A Class Of Switched-Reluctance Motors** (#20)
- Marie Poline, Julien Pouget , Benoit Dupin, Julien Pousset, Mylène Delhommiais, Laurent Gerbaud - **Feasibility Of Optimization To Define Train Operation On A Predefined Trajectory** (#22)
- Bilquis Mohamodhosen, Frédéric Gillon, Abdelmounaïm Tounzi, Florent Delhaye - **Analysing The Effect Of Different Approaches With Simp Density Method For Topology Optimisation Of An Electromagnetic Device** (#27)
- Kang Hyouk Lee, Seung Geon Hong , Il Han Park - **Multiple Level Set Method For Multi-Material Shape Optimization In Electromagnetic System** (#32)
- Alberto Rossi, Frédéric Messine, Carole Henaux, Bertrand Boyer - **Design Of An Innovative Hall Effect Thruster Magnetic Circuit Via A Topology And Parametric Optimization Problem Resolution** (#35)
- Adriano Pires, Nelson Sadowski , Walter Carpes, João Pedro Bastos - **Computational System Based On Particle Swarm And Finite Elements To Magnetic Field Optimization** (#38)
- Eva-Maria Dölker, Daniel Strohmeier, Bojana Petkovic, Judith Mengelkamp, Konstantin Weise , Reinhard Schmidt, Hartmut - **Lorentz Force Evaluation With Elastic Net Regularization** (#47)
- Francesco Pizzo, Andrea G. Chiariello, Alessandro Formisano, Francesco Ledda, Raffaele Martone - **An Effective Combinatorial Scheme For Magnets Shape Optimization**(#48)

- Antonio Faba, Ermanno Cardelli, Michele Pompei, [Simone Quondam Antonio](#) , Francesco Tissi - **Optimal Design Of Lightning Pulse Generators For The Simulation Of The Indirect Effects In The Avionic Systems** (#50)
- Maria Cristina Piccirilli, [Giuseppe Fontana](#) , Francesco Grasso , Antonio Luchetta , Stefano Manetti, Alberto Reatti - **Talic: A Symbolic Program For Fully Automated Testability Analysis Of Linear Time-Invariant Circuits**(#51)
- [Bogdan Mociran](#), Vasile Topa, Amalia Verde, Raluca Oglejan - **A Robust Method Of Choosing A Unique Solution Within Pareto Front** (#52)
- [Raluca Oglejan](#), Bogdan Mociran, Alexandru Avram - **Numerical Modeling And Position Optimization Of Moving Inclusions In Electric Models Using Extended Finite Element Method** (#86)
- [Mylène Delhommais](#), Frédéric Wurtz, Laurent Gerbaud - **Optimization Process To Use Non-Derivable Model In A First Order Optimization Problem Dealing With Implicit Equation To Solve** (#53)
- [Reona HOSHINO](#), Yoshifumi OKAMOTO, Shinji WAKAO - **Topology Optimization Of Magnetic Shield Using Level-Set Function Combined With Element-Based Topological Derivatives** (#55)
- Byung Chul CHEON, Jung Ho LEE , [Young Hyun KIM](#) - **Study Of Magnetization Phenomenon For Vfm Using Fem And Experimental Verification** (#60)
- Francesco Benedetto, Gaetano Giunta , [Antonio Tedeschi](#) - **Optimizing The Performance Of Cooperative Spectrum Sensing In Cognitive Radio Communication Systems** (#73)
- Sara Carcangiu, Alessandra Fanni, [Renato Forcinetti](#), Augusto Montisci - **Multiobjective Tabu Search Algorithm For The Optimal Design Of A Thermo-Acoustic Magneto-Hydro-Dynamic Electric Generator**(#81)
- [Alessandro Fedeli](#), Matteo Pastorino, Cristina Ponti, Andrea Randazzo, And Giuseppe Schettini - **A New Forward Scattering Model For Synthetic Data Production In Microwave Imaging Applications** (#87)
- [Mumtaz Hussain Soomro](#), Cristiano De Marchis - **Optimization Of Non-Negative Matrix Factorization To Identify Muscle Synergies** (#90)
- [Grazia Lo Sciuto](#) , Sebastian Brusca , Giacomo Capizzi , Gianluca Susi - **A New Methodology To Predict Wind Farm Energy Production By Means Of A Spiking Neural Network Based-System** (#92)
- [Stefano Gaiotto](#), Francesco Riganti Fulginei, Alessandro Salvini - **A Switched-Capacitor Voltage Regulator Used To Suppress Emi In A Measurement Instrument** (#99)

14th September 2016

Oral Session III

9:00 – 10:30

Algorithms and Software Methodologies I

Chair: João Antônio de Vasconcelos

- *Bin Xia, Junmo Yeon, Chang-Seop Koh* - **Optimal Shape Design Of A Multi-Layered Interior Permanent Magnet Synchronous Machine Using Adaptive Dynamic Taylor Kriging Model** (#29)
- *Seung Geon Hong, Kang Hyouk Lee, Il Han Park* - **Dot Sensitivity Analysis For Topology Optimization Of Ferromagnetic Material In Magnetostatic System** (#31)
- *Yoshifumi Okamoto, Reona Hoshino, Shinji Wakao* - **Enhancement of Topology Optimization Based on Level-set-function in Magnetic Field System** (#65)
- *Mihai Valentin Zaharia, Frederic Gillon, Mircea Radulescu, Radhouane Khliissa, Stephane Brisset* - **Fast Determination Of The Optimal Control Parameters Of A Switched Reluctance Machine Using Space Mapping Technique** (#39)
- *G. Caneponi, F. Cazzato, M. Di Clerico, S. Cochi, M.C. Falvo, M. Manganelli* - **New Approaches For Planning Of Active Distribution Grids With EVS Charging Stations: Optimization Algorithms For A Smart Management Simulation** (#100)

Coffee break

10:30 – 11:00

Oral Session IV

11:00 – 13:00

Applications I

Chair: Diana Mavrudieva

- *Alon Ascoli, Ronald Tetzlaff, Leon Chua* - **Real Non-Volatile Memristors With Fading Memory** (#74)
- *Arnaud Baraston, Laurent Gerbaud, Jean-Luc Schanen* - **Design By Optimization Of Controlled Converters With Emc Filters For Aerospace** (#28)
- *Le Nhat Hoang Tran, Laurent Gerbaud, Nicolas RETIERE, Hieu Nguyen-Huu* - **Analytical frequency modeling of static converters toward sizing of the system by optimization** (#18)
- *Luca Giaccone, Aldo Canova* - **A tool for the power cable optimal positioning** (#45)
- *Simone Minucci, Raffaele Albanese, Giovanni Artaserse, Marco Ariola, Giuseppe Calabrò, Gianmaria De Tommasi, Flavio Crisanti, Christop* - **Design Of High Flux Expansion Experiments In Jet Tokamak Via Optimization Of The Divertor Coils Current** (#34)

Lunch

12:30 – 15:00

Poster Session II

15:00 – 16:30

Chairs: Francesco Riganti Fulginei, Antonio Faba

- *Maria Evelina Mognaschi, Paolo Di Barba, Lorenzo Fassina, Giovanni Magenes* - **Shape Synthesis Of A Well-Plate For Electromagnetic Stimulation Of Cells** (#24)
- *Mehmet Emre Erdem, Gokhan Apaydin* - **Hybrid Image Reconstruction Algorithm In Confocal Imaging** (#49)
- *Andrea Alfei, Valentina Lucaferri, Mario Mercurio* - **Optimization Of Piezoelectric Devices For Energy Harvesting** (#40)

- Mario Mercurio, Martina Radicioni, Andrea Alfei - **Optimal Configurations Of Piezoelectric Devices' Interconnections For Energy Harvesting** (#41)
- Luca Giaccone, Aldo Canova - **Real Time Optimization Of Active Loops For The Magnetic Field Minimization**(#46)
- Orazio Casablanca, Francesca Garesci, Bruno Azzerboni, Massimo Chiappini, Lucio Bonaccorsi, Giovanni Finocchio - **Non-Linear Analysis Of The Low Frequency Metamaterials**(#77)
- Andrea De Iacovo, Lorenzo Colace, Gaetano Assanto, Luca Maiolo , Alessandro Pecora - **Evaluation Of The Characteristics Of Inhomogeneous, Non-Ideal Schottky Diodes** (#85)
- Luca Boggero, Marco Fioriti, Carlo Ragusa, and Sabrina Corpino - **Fuzzy Approach In Trade Off Studies Of Hybrid-Electric Propulsion Systems In Aeronautics**(#93)
- Maurizio Repetto, Fabio Freschi, Daniela Tordella, Michele Iovieno - **Synthesis Of Magnetic Field Distribution For Astrophysics Plasma Experiment** (# 42)
- Gabriele Maria Lozito, Salvatore Coco, Antonino Laudani, Francesco Riganti Fulginei, Alessandro Salvini - **Sensitivity Analysis Of The Reduced Forms Of The One-Diode Model For Photovoltaic Devices**(#98)
- Andreea Zaharia, Stephane Brisset, Mircea Radulescu -**Design Of A Brushless Dc Permanent Magnet Generator For Use In Micro Wind Turbine Applications** (#37)
- Jinlin Gong, Frederic Gillon , Nicolas Bracikowski - **Comparison Of Space Mapping Techniques On The Optimization Of A 5-Phase Linear Induction Motor** (#21)
- Stephane Brisset- **Collaborative And Multilevel Optimizations Of A Hybrid Railway Power Substation**(#30)
- HwanKyu Jeong, JungHo Lee, YoungHyun Kim , **Studies Of Holding Torque Output According To The Change Of Energy Storage Device In Induction Motor For Electronic Vehicle** (#59)
- Mirko Barbuto, Alessio Monti, Davide Ramaccia, Antonino Tobia, Stefano Vellucci, Filiberto Bilotti, Alessandro Toscano - **Optimal Design Of Metamaterial-Inspired Devices For Improving The Performances Of Horn Antennas**(#75)
- SangMan Shin, Jung Ho Lee, Young Hyun Kim - **Calculation On Proportion Of Rotor Shape For Torque Ripple Reduction Of Axially Laminated Type Synchronous Reluctance Motor** (#57)
- Zoubida Belli - **Optimal Design Of Segmented Permanent Magnets for Eddy Current Losses Reduction** (#68)
- Zoubida Belli , Kheireddine Bourahla - **Application Of Pso And Tlbo Algorithms With Neural Network For Optimal Design Of Electrical Machines** (#69)
- Zoubida Belli, Imed Achoui - **Optimal Design Of Reluctance Linear Motor With The Aim Of Losses Reduction** (#82)
- Anton Duca, Laurentiu Duca, Daniel Ioan - **High Performance Computing Approaches To Accelerate A Ndet Forward Problem** (#95) (to be confirmed)
- Housseem Boughedda, Tarik Hacib, Omar Mekideche and Yann Le Bihan - **Improving the Sensitivity Of An Electromagnetic Acoustic Transducer Using Particle Swarm Optimization** (#79) (to be confirmed)
- Seong soo Lee, Jung Ho Lee , Young Hyun Kim - **Optimum Design Of Interior Permanent Magnet Synchronous Motor For Torque Ripple Improvement Of Electric Railway Vehicle** (#58)
- HwanKyu Jeong, JungHo Lee, YoungHyun Kim - **Optimum Design Of Spoke Type Motor And Magnetizer Using Fem And Rsm** (#61)
- Jaejoon Kim - **Impedance Characteristics And Mitigation Of Lifftoff Distance Effect On Eddycurrent Nondestructive Testing** (#6)
- Ermanno Cardelli, Antonio Faba, **Artificial intelligence genetic approach to ferromagnetic material modeling** (#101)

15th September 2016

ORAL Session V

9:00 – 10:30

Algorithms and Software Methodologies II

Chair: Guillaume Crevecour

- Alberto Oliveri, Flavio Stellino, Matteo Lodi, Mauro Parodi, Marco Storage- **Parameter Optimization Of A Power-Law Rate-Dependent Hysteresis Model (#62)**
- Roland Eichardt, Jens Haueisen, Alexander Hunold, Uwe Graichen - **Scheduling of Machines with Storage and Limited Availability using a Radom Search Heuristic (#44)**
- David Lowther , Min Li , Arber Caushaj, Rodrigo Silva - **A Neural Network Solution for Electromagnetic Based Ore Sorting on Artificial Rocks (#71)**
- Benoit Delinchant, Guillaume Mandil, Frédéric Wurtz - **Technico Economico Environmental Life Cycle Optimization Of A Low Voltage Dry Type Distribution Transformer (#84)**
- Marcin Ziolkowski, Adam Zywica, Stanislaw Gratkowski - **Analytical And Numerical Models Of The Forward Problem Of Magnetoacoustic Tomography With Magnetic Induction (#67)**

Coffee break

10:30 – 11:00

ORAL Session VI

11:00 – 13:00

Inverse problem and non destructive diagnostic

Chair: Alessandro Formisano

- Sara Carcangiu, Alessandra Fanni, Augusto Montisci -**Electric Capacitance Tomography For Nondestructive Testing Of Standing Trees (#80)**
- Simone Minucci, Raffaele Albanese, Massimiliano De Magistris, Vincenzo Paolo Loschiavo - **Test Of A Novel Technique For The Reconstruction Of 3d Magnetic Fields In Tokamaks (#14)**
- Vinicius Oiring de Castro Cezar, Laure-Line Rouve, Olivier Chadebec , Jean-Louis Coulomb, François-Xavier Zgainski, Bruno Caillau - **Evaluation of the residual flux using the inverse problem method. Application to a single-phase transformer (#66)**
- Judith Mengelkamp, Matthias Carlstedt, Marek Ziolkowski, Hartmut Brauer, Jens Haueisen - **Flaw Identification In GLARE Using Goal Function Scan (#43)**
- Lyes Ifrek, Gilles Cauffet, Olivier Chadebec, Yann Bultel, Sebastien Rosini, Luc Rouveyre - **Comparison Between 3d Current Density Basis Used For Faults Identification In Fuel Cell Stack From External Magnetic Field Measurements (#63)**
- Gabriele Maria Lozito, Salvatore Coco, Antonino Laudani, Giuseppe Pollicino - **Effective Permeability Estimation Of A Composite Magnetic Shielding Mortar By Using Swarm Intelligence(#97)**

Lunch

13:00 – 14:30

ORAL Session VII

14:30 - 16:00

Applications II

Chair: Salvatore Coco

- Matthias Ratajczak, Thomas Gundrum, Thomas Wondrak, Robert Martin , Frank Stefani - **New developments in contactless inductive flow tomography** (#64)
- Sergio P Pellegrini , Flávio C Trigo , Raul G Lima - **Solving the Electrical Impedance Tomography inverse problem for logarithmic conductivity: numerical sensitivity** (#36)
- Elisabetta Sieni, Paolo Di Barba, Fabrizio Dughiero, Michele Forzan - **Uncertainty-Tolerant Magnetic Field Synthesis** (#13)
- Stephane brisset - **Pareto-Based Branch And Bound Algorithm For Multiobjective Optimization Of A Safety Transformer**(#23)
- Guillaume Crevecoeur, Arne De Keyser, Matthias Vandeputte - **Optimal Torque Actuations Of An Electric Drivetrain Using Convex Optimized Power Flows** (#70)

Emerald Award Proclamation

16:00 – 16:15

Recognition Award from OIPE Community to Prof. A. Savini

16.15 - 17.00

Closing

17.00 - 17.30

Farewell Toast

17.30 - 18.00