IPDO-2013: INVERSE PROBLEMS, DESIGN AND OPTIMIZATION SYMPOSIUM
Albi, France, June 26-28, 2013
http://ipdo2013.congres-scientifique.com

	June 26, 2013 Wednesday		June 27, 2013 Thursday		June 28, 2013 Friday	
	8:00-8:45 Registration					
08:30–09:30	8:45 – 9:00 **Opening**		**Plenary 3 M. Klibanov**		**Plenary 4 C. Poloni**	
	9:00 – 10:00 **Plenary 1 J. Howell**		*Amphithéâtre d'Honneur* **Session 1B**	*Amphi 2* **Session 5**	*Amphithéâtre d'Honneur* **Session 7**	*Amphi 2* **Session 8**
09:30– 09:50			A6323JY	A8039SM	*A6343RC**	A6380SA
09:50– 10:10	*Amphithéâtre d'Honneur* **Session 1A**	*Amphi 2* **Session 2**	A6330WQ	A6599SR	A6326ZX	A6360EI
10:10– 10:30	A6593MS	A6754EB	A7881RF	A6372MS	A6322VS	A6604AS
10:30– 10:50	A6804JB	A6631HO	***Drinks Break - Posters***		***Drinks Break - Posters***	
10:50– 11:10	***Drinks Break - Posters***		A7687MJ	A6324CC	A6385LN	A6595OF
11:10– 11:30	A6427YR	A6412MC	A6596FA	A6290HH	A6339sz	A6394OP
11:30– 11:50	A6358sr	A6382HC	A6417JB	A6423JD	*A6378MS**	A6383DW
11:50– 12:10	A6589BL	**Session 4** *A7347BA**	A6387LP	A6424JD		A6331RH
12:10– 12:30	***Lunch***		***Lunch***			
12:30–13:30					***Lunch***	
13:30–14:30	**Plenary 2 V. Toropov**		**Keynote 3 P. Thiran**	**Keynote 4 D. Henrion**	**Keynote 5 A. Hasanov**	**Keynote 6 I. Elishakof**
	Amphithéâtre d'Honneur	*Amphi 2*	*Amphithéâtre d'Honneur*	**Amphi 2**	*Amphithéâtre d'Honneur*	*Amphi 2*
14:30–14:50	**Keynote 1 E. de Cursi**	**Keynote 2 A.K. Louis**	A6386LN	A6364FR	***Departure to Airbus visit and Toulouse Airport***	
14:50–15:10			A6350DK	A6351ZP		
15:10–15:30			A6328KH	A6390AA		
15:30–16:00	***Drinks Break - Posters***		***Drinks Break - Posters***			
	Session 3	**Session 4**				
16:00–16:20	A6401LA	A6345FL	A6381PO	A6359aj		
16:20–16:40	A6376HW	A6397NM	*A6615HR**	A6347AJ		
16:40–17:00	A6374TV	A6393AG	**Session 6** A6945YK	A5052SG		
17:00–17:20	A6365AY	A6317MN	A6576JF	A4867SG		
17:20–17:40	A6337MN	A6632RA	A6447DM	**Session 7** A6369JL		
17:40-18:00	A6329YM	A6416YF	A6429EP	A6396FO		
18:00-19:00	**Tutorial H. Orlande**					
19:30	**Welcome cocktail and free evening**		**IPDO-2013 banquet Lecture by R. Carcaillet**			

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PLENARY LECTURES

Prof. John Howell
Department of Mechanical Engineering, University of Texas at Austin, US
Title: « Inverse Methods in Radiative Heat Transfer »

Prof. Vassili Toropov
School of Civil Engineering, School of Mechanical Engineering, University of Leeds, UK
Title: « Aerospace applications of multidisciplinary optimization »

Prof. Michael V. Klibanov
Department of Mathematics, University of North Carolina at Charlotte, Charlotte, NC 28223, USA
Title: « Global convergence for coefficient inverse problems »
Joint talk with Larisa Beilina and Thanh Nguyen

Prof. Carlo Poloni
President ESTECO
ESTECO - Trieste - ITALY
Title: « Inverse Problems and Design Optimization: a multidisciplinary industrial perspective »

KEYNOTE LECTURES

Keynote Lecture 1 **Prof. Eduardo Souza de Cursi**
Laboratoire d'Optimisation et Fiabilité en Mécanique des Structures, INSA - Rouen, France
Title: « Uncertainty Quantification in Numerical Optimization »

Keynote Lecture 2 **Prof. Alfred K. Louis**
Institute of Applied Mathematics, Department of Mathematics, Saarland University
Saarbrücken, Germany
Title: « Feature Reconstruction in Tomography »

Keynote Lecture 3 **Prof. Patrick Thiran**
Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
Title: « Locating the Source of Diffusion in Large-Scale Networks »

Keynote Lecture 4 **Prof. Didier Henrion**
LAAS-CNRS, University of Toulouse, France
Title: "*Polynomial optimization and semidefinite programming*"

Keynote Lecture 5 **Prof. Alemdar Hasanoğlu (Hasanov)**
Department of Mathematics and Computer Sciences, Izmir University
Title: « Inverse source problems related to vibrating cantilevered beam, based on boundary or/and final data measurements »

Keynote Lecture 6 **Prof. I. Elishakof**
Department of Ocean and Mechanical Engineering, Florida Atlantic University, USA
Title: "Recent developments in mechanics of structures with uncertainties"

BANQUET LECTURE

Richard Carcaillet
Director Product Marketing, A380, AIRBUS, Toulouse, France
« From A3XX to A380 – and from entry into service to 5 years later: design, achievements and perspectives »
This talk will be given in the beautiful Mauriac castle http://www.chateaudemauriac.com during the social dinner

TUTORIAL

Helcio R.B. Orlande
Department of Mechanical Engineering, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
Title: « Bayesian Methods in Inverse Heat Transfer »

LIST OF SESSIONS

Session 1 Heat and Mass Transfer A	Chair: Prof. Jean-Luc Battaglia	
Reference	**First author**	**Title**
A6593MS	SLODICKA Marian	RECOVERY OF BOUNDARY CONDITIONS IN HEAT TRANSFER
A6804JB	BENEVIDES FERREIRA Jose Flavio	THERMAL EFFECTS OF CO2 CAPTURE BY SOLID ADSORBENTS: SOME APPROACHES BY IR IMAGE PROCESSING
A6427YR	ROUIZI Yassine	FLUID BULK TEMPERATURE PROFILE IN MINI-CHANNEL: EXPERIMENTAL INVERSION FROM EXTERNAL SURFACE SOURCE AND TEMPERATURE MEASUREMENTS
A6358sr	ROUQUETTE Sebastien	ESTIMATION OF THE HEAT FLUX EXCHANGED BETWEEN ARGON ELECTRICAL ARC PLASMA AND STAINLESS STEEL ANODE: APPLICATION TO A GTAW EXPERIMENT.
A6589BL	LAMIEN Bernard	APPROXIMATION ERROR MODEL TO ACCOUNT FOR CONVECTIVE EFFECTS IN LIQUIDS CHARACTERIZED BY THE LINE HEAT SOURCE PROBE
Session 1 Heat and Mass Transfer B	**Chairs: Prof. Yvon Jarny (AM) and Prof. Jijun Liu (PM)**	
A6323JY	YE Jing	HEAT SOURCE IDENTIFICATION IN PRESENCE OF ADVECTION USING A SPECTRAL BRANCH BASIS
A6330WQ	QIAN Wei-Qi	IDENTIFIABILITY ANALYSIS OF SURFACE HEAT FLUX ESTIMATIONFROM INTERIOR TEMPERATURE MEASUREMENT
A7881RF	FERNANDES BRITO Rogerio	INVERSE PROBLEM TECHNIQUE AND COMSOL IN THERMAL CHARACTERIZATION OF A MACHINING PROCESS
A7687MJ	J. COLACO Marcelo	NON-INTRUSIVE TRANSIENT METHOD FOR ESTIMATING SPACIAL THERMAL CONTACT RESISTANCE USING THE RECIPROCITY FUNCTIONAL APPROACH
A6596FA	ABSI Farith	THERMAL CHARACTERIZATION OF A TRANSMISSION LINE CABLE
A6417JB	BATTAGLIA Jean-Luc	ESTIMATION OF THERMAL PARAMETERS FROM PICOSECONDS THERMOREFLECTANCE
A6387LP	PEREZ Laetitia	OBSERVATION STRATEGIES FOR MOBILE HEATING SOURCE TRACKING
A6386LN	NAZAROVA Larisa	EVALUATION OF GAS CONTENT AND DIFFUSION PARAMETERS OF COAL BASED ON NONLINEAR INVERSE PROBLEM SOLUTION
A6350DK	KNUPP Diego	INVESTIGATION OF A NEW MODEL FOR DIFFUSION WITH RETENTION PHENOMENA BY MEANS OF AN INVERSE ANALYSIS
A6328KH	HE Kai-Feng	ESTIMATION OF SURFACE HEAT FLUX FOR VARIABLE GEOMETRY HEAT CONDUCTION PROBLEM
A6381PO	OLIVA SOARES Patricia	ATMOSPHERIC TEMPERATURE PROFILE ESTIMATION UNDER CLOUDS BY SELFCONFIGURING NEURAL NETWORK
*A6615HR**	*REINHARDT Hans-Jürgen*	ILL-POSED SINGULARLY PERTURBED BOUNDARY VALUE PROBLEMS FOR PARABOLIC DIFFERENTIAL EQUATIONS
Session 2 State estimation and Data assimilation methods	**Chair: Prof. Harry H. Hilton**	
Reference	**First author**	**Title**
A6754EB	BARBOSA Euler	CONTROL PROBLEM ANALYSIS USING INVERSE SIMULATION APPLIED TO THE BRAZILIAN SATELLITE LAUNCHER DURING FIRST AND SECOND STAGE OF FLIGHT
A6631HO	ORLANDE Helcio	STATE ESTIMATION PROBLEM FOR HODGKIN-HUXLEY´S MODEL: A COMPARISON OF PARTICLE FILTER ALGORITHMS
A6412MC	COLACO Marcelo	APPLICATION OF PARTICLE FILTERS IN MOVING FRONTIER PROBLEMS
A6382HC	CAMPOS VELHO Haroldo	DATA ASSIMILATION BY NEURAL NETWORK ON HARDWARE DEVICE
Session 3 - Regularization	**Chair: Prof. Thamban Nair**	
Reference	**First author**	**Title**
A6401LA	ARNOLD Lilian	JUSTIFICATION OF REGULARIZATIONS FOR THE PARABOLIC-ELLIPTIC EDDY CURRENT EQUATION
A6376HW	WANG Haibing	A NUMERICAL METHOD OF A CAUCHY PROBLEM FOR THE HELMHOLTZ EQUATION
A6374TV	VORONINA Tatyana	A TRUNCATED SVD APPROACH FOR AN INVERSE PROBLEM OF INITIAL TSUNAMI WAVEFORM RECONSTRUCTION

A6365AY	YAGOLA Anatoly	REGULARIZING ALGORITHM FOR RECOVERING SOLUTIONS OF ILL-POSED PROBLEMS ON THE SET OF BOUNDED PIECEWISE-CONVEX FUNCTIONS
A6337MN	NAIR M. Thamban	A FAST ALOGRITHM FOR PARAMETER IDENTIFICATON PROBLEMS BASED ON MULTILEVEL AUGEMENTATION METHOD
A6329YM	MENSHIKOV Yuri	SOLUTION ESTIMATIONS OF MEASUREMENT'S INVERSE PROBLEM
Session 4 - Shape reconstruction and Tomography	**Chair: Prof. Denis Maillet**	
Reference	**First author**	**Title**
*A7347BA**	*ABDELAZIZ Batoul*	*IDENTIFICATION OF MULTIPOLAR SOURCES IN THE ELLIPTIC EQUATION:*
A6345FL	LOBATO Fran	SHAPE IDENTIFICATION IN INVERSE HEAT CONDUCTION PROBLEMS USING BOUNDARY ELEMENT METHOD AND DIFFERENTIAL EVOLUTION
A6397NM	MARTINS Nuno F. M.	ON THE IDENTIFICATION OF PERFECTLY CONDUCTING OR INSULATING INCLUSIONS FROM ONE SINGLE BOUNDARY MEASUREMENT
A6393AG	GREBENNIKOV Alexandre	RECONSTRUCTION OF SPACE DISTRIBUTION OF ELECTRICAL CHARACTERISTICS IN COMPOUND STRUCTURES BY GENERAL RAY METHOD
A6317MN	NEUMAYER Markus	ROBUST H-INFINITY PARAMETER ESTIMATION IN THE PRESENCE OF MODEL AND MEASUREMENT ERRORS IN ULTRASOUND REFLECTION TOMOGRAPHY
A6632RA	AYKROYD Robert	A BAYESIAN APPROACH FOR SHAPE ESTIMATION OF OBJECTS
A6416YF	FAVENNEC Yann	MIXING REGULARIZATION TOOLS FOR ENHANCING REGULARITY IN OPTICAL TOMOGRAPHY APPLICATIONS
Session 5 - Optimal design and Global Optimization	**Chairs: Prof. George Dulikravich (AM) and Prof. Marcelo Colaço**	
Reference	**First author**	**Title**
A8039SM	MOROZOV Sergey	MULTI-OBJECTIVE OPTIMIZATION OF AIRCRAFTS FAMILY AT CONCEPTUAL DESIGN STAGE
A6599SR	RAHMAN Sharif	STOCHASTIC DESIGN OPTIMIZATION OF COMPLEX SYSTEMS
A6372MS	SCHARRER Matthias	A NEW SPACE MAPPING PARAMETER SURROGATE OPTIMIZATION FOR LITHIUM-ION CELL MODELS
A6324CC	CRAVERO Carlo	TURBOMACHINERY DESIGN OPTIMIZATION BASED ON METAMODELS
A6290HH	HILTON Harry H.	DESIGNER SYSTEMS OF SYSTEMS – A RATIONAL INTEGRATED APPROACH OF SYSTEM ENGINEERING TO TAILORED AERODYNAMICS, AEROELASTICITY, STABILITY, CONTROL, GEOMETRY, MATERIALS, STRUCTURES, PROPULSION, PERFORMANCE, SIZING, WEIGHT, COST
A6423JD	DESIDERI Jean-Antoine	A COMPETITIVE ALGORITHM FOR TWO-OBJECTIVE OPTIMIZATION : NASH GAME WITH TERRITORY SPLITTING
A6424JD	DESIDERI Jean-Antoine	A COOPERATIVE ALGORITHM FOR MULTI-OBJECTIVE OPTIMIZATION : MULTIPLE-GRADIENT DESCENT ALGORITHM (MGDA)
A6364FR	RAMOS Fernando	GENERALIZATION OF THE CONJUGATE GRADIENT OPTIMIZATION METHOD USING Q-CALCULUS
A6351ZP	PEI-HONG Zhang	THE DISCRETE ADJOINT OPTIMIZING METHOD BASED ON UNSTRUCTURED HYBRID GRID
A6390AA	AGAZZI Alban	OPTIMAL DESIGN OF A COOLING SYSTEM – INFLUENCE OF THE OBJECTIVE FUNCTION- APPLICATION TO A THERMOPLASTIC INJECTION PROCESS
A6359aj	JAHANGIRIAN Alireza	AERODYNAMIC OPTIMIZATION OF MORPHING WINGS EMPLOYING AN EFFICIENT SHAPE PARAMETERIZATION TECHNIQUE
A6347AJ	JAHANGIRIAN Alireza	ACCELERATING AIRFOIL SHAPE OPTIMIZATION WITH ADAPTIVE EVOLUTIONARY ALGORITHM
A5052SG	GRIEU Stéphane	OPTIMAL DESIGN OF ENERGY PRODUCTION AND STORAGE SYSTEMS IN BUILDINGS
A4867SG	GRIEU Stéphane	OPTIMAL DESIGN OF THERMAL STORAGE TANKS FOR MULTI-ENERGY DISTRICT BOILERS
Session 6 - Uncertainty and error assessement	**Chair: Eduardo Souza de Cursi**	
Reference	**First author**	**Title**
A6945YK	KOROLEV Yury	METHODS OF ERROR ESTIMATION IN INVERSE PROBLEMS ON

Session 6 - Uncertainty and error assessement	Chair: Eduardo Souza de Cursi	
Reference	**First author**	**Title**
A6945YK	KOROLEV Yury	METHODS OF ERROR ESTIMATION IN INVERSE PROBLEMS ON COMPACT SETS IN BANACH LATTICES – THEORY AND APPLICATIONS IN ICE SHEET MODELING
A6576JF	FERNÁNDEZ MARTÍNEZ Juan Luis	NOISE, REGULARIZATION AND UNCERTAINTY: NEW INSIGHTS FOR LINEAR AND NONLINEAR INVERSE PROBLEMS.
A6447DM	MAILLET Denis	PARAMETER VECTOR ITERATIVE RENORMALIZATION IN LEAST SQUARES MINIMIZATION FOR NON LINEAR PARAMETER ESTIMATION
A6429EP	PAGNACCO Emmanuel	STATISTICS ON FREQUENCY RESPONSES AMPLITUDES OF OPTIMAL DYNAMICAL SYSTEMS SUBJECTED TO UNCERTAIN LOADS – APPLICATIONS TO TWO SIMPLE SYSTEMS
Session 7 - Acoustic waves and Mech structures	**Chair: Prof. Alemdar Hasanoğlu (Hasanov)**	
Reference	**First author**	**Title**
A6369JL	LIU Jijun	ON INVERSE SCATTERING PROBLEMS FOR ACOUSTIC WAVES: THE EFFECT OF IMPEDANCE BOUNDARY
A6396FO	OTERO Fernando	A BAYESIAN APPROACH FOR THE ESTIMATION OF THE PARTICLE SIZE DISTRIBUTION COMBINING STATIC LIGHT SCATTERING AND SCANNING ELECTRON MICROSCOPY
A6343RC*	CELORRIO Ricardo	NUMERICAL RETRIEVAL OF VERTICAL CRACKS BY LOCK-IN VIBROTHERMOGRAPHY
A6326ZX	XIANG Zhihai	AN ACCURATE FORMULATION OF ELASTODYNAMIC EQUATIONS FOR INHOMOGENEOUS MEDIA
A6322VS	SEROV Valery	INVERSE BACKSCATTERING AND FIXED ANGLE SCATTERING PROBLEMS FOR THREE-DIMENSIONAL NONLINEAR SCHRÖDINGER OPERATOR
A6385LN	NAZAROV Leonid	METHOD FOR IN SITU DETERMINATION OF NATURAL STRESSES AND ROCK MASS PROPERTIES BY INVERSE PROBLEMS SOLUTION
A6339sz	ZHAOPU Shen	A BRIDGE INSPECTION VEHICLE BASED ON THE TAP-SCAN METHOD
A6378MS*	SHISHLENIN Maxim	REGULARIZATION OF CONTINUATION PROBLEM FOR HELMHOLTZ EQUATION
Session 8 - Metaheuristic methods		
Reference	**First author**	**Title**
A6380SA	ANDERSON Stuart	ACCELERATED CONVERGENCE OF GENETIC ALGORITHMS FOR APPLICATION TO REAL-TIME INVERSE PROBLEMS
A6360EI	INCLAN Eric	MODERN OPTIMIZATION ALGORITHMS AND PARTICLE SWARM VARIATIONS
A6604AS	SILVA NETO Antônio	DIAGNOSIS OF INCIPIENT TIME DEPENDING FAULTS BASED ON INVERSE PROBLEM FORMULATION AND STOCHASTIC ALGORITHMS
A6595OF	FARGES Olivier	OPTIMIZATION OF SOLAR CENTRAL RECEIVER SYSTEM BY COUPLING OF PARTICLE SWARM OPTIMIZATION AND MONTE CARLO ALGORITHM
A6394OP	PEKCAN Onur	SOIL PARAMETER IDENTIFICATION BY DIFFERENTIAL EVOLUTION
A6383DW	WATZENIG Daniel	NUISANCE PARAMETER RECONSTRUCTION FOR MARINE DIESEL ENGINE FAILURE DETECTION USING PARTICLE SWARM OPTIMIZATION
A6331RH	HERNÁNDEZ TORRES Reynier	PARAMETER ESTIMATION OF THE GENERAL RATE MODEL OF LIQUID CHROMATOGRAPHY USING DIFFERENT STOCHASTIC METHODS

** Extended abstract available, but no full paper submitted*

POSTERS		
A7989TP	PIRES Thiago S.	MULTI-OBJECTIVE OPTIMIZATION OF AN EVAPORATIVE-REGENERATIVE CYCLE
A7686MT	TURGUT Mert Sinan	COUPLING OF HYBRID HARMONY SEARCH AND ARTIFICIAL BEE COLONY ALGORITHMS WITH THE NELDER-MEAD TECHNIQUE FOR GLOBAL OPTIMIZATION PROBLEMS
A6598DE	ENORÉ Diego	OPERATIONALIZATION OF ATMOSPHERIC TEMPERATURE PROFILES INFERENCE FROM HIRS SENSOR DATA USING ARTIFICIAL NEURAL NETWORKS
A6388FO	OULED SAAD Fatma	ESTIMATION OF THE ELECTRICAL CONDUCTIVITY FOR THE ELECTRICAL RESISTANCE TOMOGRAPHY
A6375DD	DE SOUSA Denis Mota	RECONSTRUCTION OF A CHARACTERISTIC SOURCE IN A DIFFUSIVE-ADVECTIVE MODEL
A6354AA	APARTSYN Anatoly	MODELING OF DEVELOPING SYSTEMS ON THE BASIS OF NON-CLASSICAL VOLTERRA INTEGRAL EQUATIONS OF THE FIRST KIND
A6353AA	APARTSYN Anatoly	ON THE THEORY OF NON-CLASSICAL VOLTERRA EQUATIONS OF THE FIRST KIND
A6348AC	CEBULA Artur	A MEASURING TECHNIQUE FOR EXPERIMENTAL DETERMINATION OF TRANSIENT HEAT FLUX ON THE CONTROL ROD SURFACE BASED ON THE SOLUTION OF THE INVERSE PROBLEM.
A6344FL	LOBATO Fran	SOLUTION OF AN INVERSE BIO-HEAT TRANSFER PROBLEM APPLIED TO TUMOR LOCATION USING DIFFERENTIAL EVOLUTION
A6335GG	GUIMARÃES Gilmar	UNIFORM TEMPERATURE OPTIMIZATION INSIDE AN ELETRCIC OVEN USING INVERSE PROBLEM TECHNIQUE
A6321LJ	JENISCH RODRIGUES Leticia	VERIFICATION OF THE INVERSE METHOD TO ILLUMINATION BY OPTIMIZATION TECHNIQUE – IMIbyOPTIM – BY AN EXPERIMENTAL WORKBENCH FOR ARTIFICIAL LIGHTING DESIGNS IN CLOSED ENVIRONMENTS
A6313HH	HIDALGO Hugo	ITERATIVE ALGORITHMS FOR GEOSOUNDING INVERSION
A4924SG	GRIEU Stéphane	NEW INTELLIGENT APPROACHES FOR ESTIMATING THERMOPHYSICAL PROPERTIES
A6921GS	SAVU George	30 YEARS WITH THE POROUS TRANSONIC WINGS AND BODIES