

# Monday, June 3rd

	<i>Room Orchidée 1</i>	<i>Room Orchidée 2</i>	<i>Room Orchidée 3</i>	<i>Room Orchidée 4</i>	<i>Room Orchidée 5</i>
9:00am - 10:00am	<b>Room Tulipe</b> <b>Marcus Grote “Explicit local time-stepping methods for wave propagation”</b> <i>Chair : Julien Diaz</i>				
10:00am - 10:30am	<b>Coffee Break</b>				
10:30am - 12:30pm	<b>INV 1</b>	<b>NMTD 1</b>	<b>RPM 1</b>	<b>ST 1</b>	<b>Mini symposium</b> <b>“Geophysics”</b>
12:30pm - 2:00pm	<b>Lunch</b>				
2:00pm - 3:00pm	<b>Room Tulipe</b> <b>Chrysoula Tsogka “Array imaging in heavy clutter”</b> <i>Chair : Tilo Arens</i>				
3:00pm - 3:30pm	<b>Coffee Break</b>				
3:30pm - 5:30pm	<b>INV 2</b>	<b>NMTH 1</b>	<b>ABC 1</b>	<b>HF 1</b>	<b>Mini symposium</b> <b>“Piano acoustics”</b>

## Monday, June 3rd, 10:30am - 12:30pm

### Room Orchidée 1 (10:30am - 12:30pm) - (INV 1) Inverse problems

Chair : Guy Chavent

10:30am - 11:00am	Guy Chavent, Kirill Gadylyshin and Vladimir Tcheverda "Comparative SVD-analysis of standard $L_2$ Full Waveform Inversion and its Migration Based Travel Time formulation"
11:00am - 11:30am	Loredana Gaudio, Marcus J. Grote and Olaf Schenk "Interior point method for time-dependent inverse problems"
11:30am - 12:00pm	Yann Grisel, Vincent Mouysset and Jean-Pierre Raymond "Defects localization applied to inverse medium problem"
12:00pm - 12:30pm	Rim Gouia-Zarrad "Reconstruction of the circular Radon transform from partial data"

### Room Orchidée 2 (10:30am - 12:30pm) - (NMTD 1) Numerical methods for time dependent wave problems

Chair : Juliette Chabassier

10:30am - 11:00am	Toufic Abboud, Patrick Joly and Jerónimo Rodríguez García "Transient BEM-FEM coupling for symmetric hyperbolic Friedrichs systems on unbounded domains"
11:00am - 11:30am	Alessandra Aimi, Mauro Diligenti, Attilio Frangi and Chiara Guardasoni "Energetic BEM-FEM coupling for wave propagation in unbounded domains"
11:30am - 12:00pm	Stéphane Lanteri, Claire Scheid and Jonathan Viquerat "Discontinuous Galerkin Time-domain methods for nano-photonics"
12:00pm - 12:30pm	Marcus J. Grote, Michaela Mehlin and Teodora Mitkova "Runge-Kutta type explicit local time-stepping methods"

### Room Orchidée 3 (10:30am - 12:30pm) - (RPM 1) Random and periodic media

Chair : Shari Moskow

10:30am - 11:00am	Kazuki Niino and Naoshi Nishimura "On the Müller formulation for periodic electromagnetic wave scattering problems"
11:00am - 11:30am	Harun Kurkcü, Fernando Reitich and Alexandra Ortan "An efficient integral equation solver for two-dimensional simulations in nanoplasmonics"
11:30am - 12:00pm	Mathieu Chamillard, Patrick Joly and Housseem Haddar "Effective boundary conditions for thin periodic coatings"
12:00pm - 12:30pm	Ellis Barnwell, David Abrahams and William Parnell "Reflection of pulses by heterogeneous media"

### Room Orchidée 4 (10:30am - 12:30pm) - (ST 1) Theoretical issues in time harmonic scattering

Chair : Lucas Chesnel

10:30am - 11:00am	Euan Spence and Andrea Moiola "Is the Helmholtz equation really sign-indefinite?"
11:00am - 11:30am	Bruno Després, Ricardo Weber and Lise-Marie Imbert-Gérard "Theoretical features of the hybrid resonance for time harmonic Maxwell's equations"
11:30am - 12:00pm	Simon Chandler-Wilde and Euan Spence "Coercive modifications of the double-layer potential on Lipschitz domains"
12:00pm - 12:30pm	Jean-Francois Mercier and Florence Millot "Aeroacoustics in a waveguide with a shear flow"

### Room Orchidée 5 (10:30am - 12:30pm) - Mini Symposium : "Geophysics"

Chair : Sébastien Tordeux

10:30am - 11:00am	Kirill Voronin and Yuri Laevsky "Splitting schemes for geothermal processes simulation"
11:00am - 11:30am	Tatyana Kandryukova and Yuri Laevsky "Numerical simulation of filtration gas combustion"
11:30am - 12:00pm	Evgeny Landa, Galina Reshetova and Vladimir Tcheverda "Exploding reflectors revisited : 3D multiscale media"
12:00pm - 12:30pm	Vadim Lisitsa, Galina Reshetova, Vladimir Tcheverda and Dmitry Vishnevsky "Parallel algorithm for numerical simulation of wave propagation in presence of seismic attenuation"

## Monday, June 3rd, 3:30pm - 5:30pm

### Room Orchidée 1 (3:30pm - 5:30pm) - (INV 2) Inverse problems

Chair : Slim Chaabane

3:30pm - 4:00pm	<a href="#">Bojan Guzina</a> "On the high frequency behavior of topological sensitivity as an obstacle indicator function"
4:00pm - 4:30pm	<a href="#">Maxence Cassier</a> , <a href="#">Christophe Hazard</a> and <a href="#">Patrick Joly</a> "Selective focusing on unknown scatterers"
4:30pm - 5:00pm	<a href="#">Dinh Liem Nguyen</a> "Shape identification of diffraction gratings from spectral data : the TM case"
5:00pm - 5:30pm	<a href="#">Evgeny Lakshtanov</a> and <a href="#">Boris Vainberg</a> "Application of elliptic operator theory to the interior transmission eigenvalue problem"

### Room Orchidée 2 (3:30pm - 5:30pm) - (NMTH 1) Numerical methods for time harmonic wave problems

Chair : Alessandra Aimi

3:30pm - 4:00pm	<a href="#">Benoit Lizé</a> and <a href="#">Guillaume Sylvand</a> "H-Matrix vs. FMM : Fast methods applied to BEM solvers"
4:00pm - 4:30pm	<a href="#">Tuomas Airaksinen</a> and <a href="#">Jari Toivanen</a> "An Active Noise Control Method based on Stochastic Finite Element Models"
4:30pm - 5:00pm	<a href="#">Marion Darbas</a> , <a href="#">Eric Darrigrand</a> and <a href="#">Yvon Lafranche</a> "Combining analytic preconditioner and fast multipole method for the 3-D Helmholtz equation"
5:00pm - 5:30pm	<a href="#">Ambuj Pandey</a> , <a href="#">Jagabandhu Paul</a> and <a href="#">Akash Anand</a> "A high-order Nystrom scheme for acoustic scattering by inhomogeneous penetrable media in two dimensions"

### Room Orchidée 3 (3:30pm - 5:30pm) - (ABC 1) Absorbing boundary conditions and PMLs

Chair : Gunilla Kreiss

3:30pm - 4:00pm	<a href="#">Seungil Kim</a> and <a href="#">Thomas Hagstrom</a> "Complete radiation boundary conditions for the helmholtz equation on a domain with corners"
4:00pm - 4:30pm	<a href="#">Helene Barucq</a> , <a href="#">Chokri Bekkey</a> and <a href="#">Julien Diaz</a> "Performance assesment of a fractional radiation boundary condition for the Helmholtz equation" <b>moved in (ABC2) on Wednesday at 12:00pm</b>
4:30pm - 5:00pm	<a href="#">Axel Modave</a> , <a href="#">Jonathan Lambrechts</a> , <a href="#">Eric Delhez</a> and <a href="#">Christophe Geuzaine</a> "A PML for convex truncated domains in time-dependent acoustics with a DG-FE discretization"
5:00pm - 5:30pm	<a href="#">Anne-Sophie Bonnet-Ben Dhia</a> , <a href="#">Camille Carvalho</a> , <a href="#">Lucas Chesnel</a> and <a href="#">Patrick Ciarlet</a> "Plasmonic cavity modes with sign changing permittivity"

### Room Orchidée 4 (3:30pm - 5:30pm) - (HF 1) High frequency approximation and numerics

Chair : Olivier Lafitte

3:30pm - 4:00pm	<a href="#">Olof Runborg</a> , <a href="#">Hailiang Liu</a> , <a href="#">James Ralston</a> and <a href="#">Nick Tanushev</a> "Error Estimates for Helmholtz Gaussian Beam Superpositions"
4:00pm - 4:30pm	<a href="#">Dmitry Pelinovsky</a> and <a href="#">Dmitry Ponomarev</a> "On justification of a NLS model for laser beams in photopolymers"
4:30pm - 5:00pm	<a href="#">Maxim Protasov</a> "Gaussian Beam Propagation through Irregular Interfaces"
5:00pm - 5:30pm	<a href="#">Mahadevan Ganesh</a> and <a href="#">Stuart Hawkins</a> "Efficient approximation and analysis of wideband integrals for high frequency scattering."

### Room Orchidée 5 (3:30pm - 5:30pm) - Mini Symposium : "Piano acoustics"

Chair : Antoine Chaigne

3:30pm - 4:00pm	<a href="#">Anders Thorin</a> "A non-smooth simulation of the dynamics of the grand piano action"
4:00pm - 4:30pm	<a href="#">Xavier Boutillon</a> and <a href="#">Kerem Ege</a> "Vibration models of piano soundboards"
4:30pm - 5:00pm	<a href="#">Antoine Chaigne</a> , <a href="#">Juliette Chabassier</a> and <a href="#">Patrick Joly</a> "Modelling the grand piano"
5:00pm - 5:30pm	<a href="#">Juliette Chabassier</a> , <a href="#">Patrick Joly</a> , <a href="#">Marc Duruflé</a> and <a href="#">Antoine Chaigne</a> "Modelling the grand piano : Numerical aspects"

# Tuesday, June 4th

	Room Orchidée 1	Room Orchidée 2	Room Orchidée 3	Room Orchidée 4	Room Orchidée 5
9:00am - 10:00am	<p style="text-align: center;"><b>Room Tulipe</b>  <b>Francisco Sayas “A primer in the theory of Time domain Boundary Integral equations”</b>  <i>Chair : Naoshi Nishimura</i></p>				
10:00am - 10:30am	<p style="text-align: center;"><b>Coffee Break</b></p>				
10:30am - 12:30pm	<b>INV 3</b>	<b>NMTD 2</b>	<b>RPM 2</b>	<b>ST 2</b>	<p style="text-align: center;"><b>Mini symposium</b>  <b>“Data assimilation for waves”</b></p>
12:30pm - 2:00pm	<p style="text-align: center;"><b>Lunch</b></p>				
2:00pm - 3:00pm	<p style="text-align: center;"><b>Mourad Bellasoued “Dynamical DtN map for the anisotropic wave equations and application to the inverse spectral problem”</b>  <i>Chair : Jérôme Le Rousseau</i></p>				
3:00pm - 3:30pm	<p style="text-align: center;"><b>Coffee Break</b></p>				
3:30pm - 5:30pm	<b>INV 4</b>	<b>NMTH 2</b>	<b>AM 1</b>	<b>DG 1</b>	<p style="text-align: center;"><b>Minisymposium</b>  <b>“Geophysics”</b></p>

**Tuesday, June 4th, 10:30am - 12:30pm**

**Room Orchidée 1 (10:30am - 12:30pm) - (INV 3) Inverse problems**

**Chair : Lahcène Chorfi**

<b>10:30am - 11:00am</b>	Chrysoula Tsogka, <u>Dimitris Mitsoudis</u> and Simeon Papadimitropoulos "Imaging extended reflectors in a two-dimensional waveguide"
<b>11:00am - 11:30am</b>	Franck Assous, Marcus Grote, Marie Kray and Frédéric Nataf "Time Reversed Absorbing conditions: discrimination between one and two nearby inclusions in the partial aperture case"
<b>11:30am - 12:00pm</b>	Thorsten Hohage and Frank Werner "Convergence in expectation results for phase retrieval problems in x-ray diffraction imaging"
<b>12:00pm - 12:30pm</b>	<u>Lorenzo Audibert</u> , Houssein Haddar and Alexandre Girard "Qualitative non-destructing testing of concrete-like materials"

**Room Orchidée 2 (10:30am - 12:30pm) - (NMTD 2) Numerical methods for time dependent wave problems**

**Chair : Guillaume Sylvand**

<b>10:30am - 11:00am</b>	<u>Toru Takahashi</u> "A Time-domain BIEM for wave equation accelerated by Fast Multipole Method using interpolation"
<b>11:00am - 11:30am</b>	Alessandra Aimi, Chiara Guardasoni and <u>Stefano Panizzi</u> "BEM-FEM coupling for the one-dimensional Klein-Gordon equation"
<b>11:30am - 12:00pm</b>	<u>Dhia Mansour</u> "Full discretization of wave equations on evolving surfaces"
<b>12:00pm - 12:30pm</b>	<u>Kenneth Duru</u> and Kritoffer Virtta "Stable and high order accurate difference methods for the elastic wave equation in discontinuous media"

**Room Orchidée 3 (10:30am - 12:30pm) - (RPM 2) Random and periodic media**

**Chair : Kersten Schmidt**

<b>10:30am - 11:00am</b>	<u>Thomas Arnold</u> and Andreas Rathsfeld "On Born approximation for scattering by rough surfaces"
<b>11:00am - 11:30am</b>	<u>Ruth Voisey</u> , David Abrahams and William Parnell "Acoustic wave propagation in quasiperiodic media"
<b>11:30am - 12:00pm</b>	<u>Dirk Klindworth</u> and Kersten Schmidt "An efficient calculation of photonic crystal band structures using Taylor expansions"
<b>12:00pm - 12:30pm</b>	Assyr Abdulle, Marcus Grote and <u>Christian Stohrer</u> "Finite Element Heterogeneous Multiscale Method for the wave equation : long-time effects"

**Room Orchidée 4 (10:30am - 12:30pm) - (ST 2) Theoretical issues in time harmonic scattering**

**Chair : Euan Spence**

<b>10:30am - 11:00am</b>	<u>David Hewett</u> and Simon Chandler-Wilde "Wavenumber-explicit coercivity estimates in scattering by screens"
<b>11:00am - 11:30am</b>	Geoffrey Beck, Sébastien Impériale and <u>Patrick Joly</u> "A rigorous approach to the propagation of electromagnetic waves in co-axial cables"
<b>11:30am - 12:00pm</b>	Martin Costabel, Eric Darrigrand and <u>Hamdi Sakly</u> "On the essential spectrum in the diffraction theory of electromagnetic waves"
<b>12:00pm - 12:30pm</b>	<u>Lucas Chesnel</u> , Xavier Claeys and Serguei Nazarov "A curious instability phenomenon for a rounded corner in presence of a negative material"

**Room Orchidée 5 (10:30am - 12:30pm) - Mini Symposium : "Data assimilation for waves"**

**Chair : Philippe Moireau**

<b>10:30am - 11:00am</b>	<u>Didier Auroux</u> , Jacques Blum and Sébastien Marinesque "Data assimilation : variational methods and back and forth nudging algorithm. Application to thermoacoustic tomography"
<b>11:00am - 11:30am</b>	<u>Ghislain Haine</u> "Reconstructing initial data using iterative observers for wave type systems"
<b>11:30am - 12:00pm</b>	Lucie Baudouin, Maya de Buyan and <u>Sylvain Ervedoza</u> "Carleman estimates and applications to an inverse problem for waves"
<b>12:00pm - 12:30pm</b>	Dominique Chapelle, Nicolae Cindea and <u>Philippe Moireau</u> "Improving numerical analysis via data assimilation - the wave equation case"

**Tuesday, June 4th, 3:30pm - 5:30pm**

**Room Orchidée 1 (3:30pm - 5:30pm) - (INV 4) Inverse problems**

**Chair : Bojan Guzina**

<b>3:30pm - 4:00pm</b>	<u>Rebecca Haunton</u> and Simon Chandler-Wilde “ <i>The Point Source Method for inverse scattering in waveguides</i> ”
<b>4:00pm - 4:30pm</b>	<u>Sonia Fliss</u> and Patrick Joly “ <i>On the Far Field of scattering solutions in a periodic waveguide. Part I : the forward problem</i> ”
<b>4:30pm - 5:00pm</b>	<u>Laurent Bourgeois</u> and Sonia Fliss “ <i>On the Far Field of scattering solutions in a periodic waveguide. Part II : the inverse problem</i> ”
<b>5:00pm - 5:30pm</b>	<u>Sharefa Asiri</u> , Taous Meriem Laleg and Chadia Zayane “ <i>Inverse Source Problem for a one-dimensional wave equation using observer</i> ”

**Room Orchidée 2 (3:30pm - 5:30pm) - (NMTH 2) Numerical methods for time harmonic wave problems**

**Chair : Mahadevan Ganesh**

<b>3:30pm - 4:00pm</b>	<u>Stéphanie Chaillat</u> and <u>Marc Bonnet</u> “ <i>Fast Multipole Accelerated Boundary Element Method for problems in an elastic half-space</i> ”
<b>4:00pm - 4:30pm</b>	<u>Fabien Casenave</u> , Alexandre Ern, Tony Lelièvre and Guillaume Sylvand “ <i>Reduced basis strategies for aeroacoustic simulations</i> ”
<b>4:30pm - 5:00pm</b>	<u>Siegfried Cools</u> , Bram Reps and Wim Vanroose “ <i>An Efficient Multigrid Calculation of the Far Field Map for Helmholtz Equations</i> ”
<b>5:00pm - 5:30pm</b>	<u>Wim Vanroose</u> , Siegfried Cools and Bram Reps “ <i>An efficient Multigrid calculation of the Far Field Map for Schrödinger Equations</i> ”

**Room Orchidée 3 (3:30pm - 5:30pm) - (AM 1) Asymptotic modelling**

**Chair : Abderrahmane Bendali**

<b>3:30pm - 4:00pm</b>	<u>Vanessa Mattesi</u> and Sebastien Tordeux “ <i>Equivalent source modelling of small heterogeneities in the context of 3D time-domain wave propagation equation</i> ”
<b>4:00pm - 4:30pm</b>	<u>Fioralba Cakoni</u> and <u>Shari Moskow</u> “ <i>Perturbation of transmission eigenvalues due to small inhomogeneities in the media</i> ”
<b>4:30pm - 5:00pm</b>	<u>Simon Marmorat</u> , Patrick Joly and Xavier Claeys “ <i>Time domain computation of the scattering of waves by small heterogeneities</i> ”
<b>5:00pm - 5:30pm</b>	<u>Kersten Schmidt</u> and Ralf Hiptmair “ <i>An asymptotic boundary element method for thin conducting sheets</i> ”

**Room Orchidée 4 (3:30pm - 5:30pm) - (DG 1) Discontinuous methods**

**Chair : Andrea Moiola**

<b>3:30pm - 4:00pm</b>	<u>Charlotta Howarth</u> , Simon Chandler-Wilde, Stephen Langdon and Paul Childs “ <i>Enriching a Hankel basis by ray tracing in the ultra weak variational formulation</i> ”
<b>4:00pm - 4:30pm</b>	<u>Lise-Marie Imbert-Gérard</u> and Bruno Desprès “ <i>About numerical approximation of Maxwell’s equations with singular solutions</i> ”
<b>4:30pm - 5:00pm</b>	<u>Radek Tezaur</u> , Irina Kalashnikova and Charbel Farhat “ <i>Discontinuous enrichment method for smoothly variable wavenumber medium-frequency Helmholtz problems</i> ”
<b>5:00pm - 5:30pm</b>	Mohamed Amara, Sharang Chaudry, Rabia Djellouli, Julien Diaz and <u>Steven Fiedler</u> “ <i>Local basis set optimization to efficiently solve Helmholtz problems</i> ”

**Room Orchidée 5 (3:30pm - 5:30pm) - Mini Symposium : “Geophysics”**

**Chair : Sébastien Tordeux**

<b>3:30pm - 4:00pm</b>	Helene Barucq, Henri Calandra, Julien Diaz and <u>Florent Ventimiglia</u> “ <i>High Order Time Discretization of the Wave Equation. Application to the Reverse Time Migration</i> ”
<b>4:00pm - 4:30pm</b>	<u>Maxim Protasov</u> , Maria Kutovenko and Vladimir Tcheverda “ <i>True Amplitude Imaging of Ocean Bottom Cable Data by Gaussian Beams Based Weighted Summation</i> ”
<b>4:30pm - 5:00pm</b>	<u>Lionel Boillot</u> , Helene Barucq, Henri Calandra and Julien Diaz “ <i>Absorbing Boundary Conditions for Tilted Transverse Isotropic waves in Reverse Time Migration context</i> ”
<b>5:00pm - 5:30pm</b>	<u>Ludovic Metivier</u> , Romain Brossier, Stéphane Operto and Jean Virieux “ <i>Application of a preconditioned truncated Newton method to Full Waveform Inversion</i> ”

# Wednesday, June 5th

	Room Orchidée 1	Room Orchidée 2	Room Orchidée 3	Room Orchidée 4	Room Orchidée 5
9:00am - 10:00am	<b>Room Tulipe</b> <b>Laurent Gizon “Seismology of the Sun”</b> <i>Chair : Thorsten Hohage</i>				
10:00am - 10:30am	<b>Coffee Break</b>				
10:30am - 12:30pm	<b>INV 5</b>	<b>NMTD 3</b>	<b>ABC 2</b>	<b>WG</b>	<b>Mini symposium</b> <b>“Control for the wave equation”</b>
12:30pm - 2:00pm	<b>Lunch</b>				
3:00pm - 6:00pm	<b>Visit at Carthage</b>				
8:00pm - ...	<b>Conference dinner at Kobbet Ennhass</b>				

## Wednesday, June 5th, 10:30am - 12:30pm

### Room Orchidée 1 (10:30am - 12:30pm) - (INV 5) Inverse problems

Chair : Marc Bonnet

10:30am - 11:00am	Brahim Boudamouz, <u>Nadia Maaref</u> , Patrick Millot and Xavier Ferrières “Modeling of Imaging Method to Localize Targets Inside Buildings”
11:00am - 11:30am	<u>Damien Fournier</u> , Thorsten Hohage and Laurent Gizon “Inversion of Reynolds stresses in the solar interior”
11:30am - 12:00pm	<u>Kirill Voronin</u> and Tatiana Voronina “An Inverse Algorithm for Reconstructing an Initial Tsunami Waveform”
12:00pm - 12:30pm	<u>Andreas P Wijaya</u> and E. Van Groesen “Prediction of Long-Crested Wind Waves from Inaccurate Input”

### Room Orchidée 2 (10:30am - 12:30pm) - (NMTD 3) Numerical methods for time dependent wave problems

Chair : Bruno Desprès

10:30am - 11:00am	Alessandra Aimi, Mauro Diligenti and <u>Chiara Guardasoni</u> “Platonic Solids, Restrictions Matrices and Space-Time Energetic Galerkin BEM”
11:00am - 11:30am	<u>Ken Mattsson</u> , Martin Almquist and Stefan Engblom “Stable and accurate wave simulations in complex geometries and discontinuous media”
11:30am - 12:00pm	<u>Juliette Chabassier</u> and Sebastien Imperiale “Stability and dispersion analysis of improved time discretization for simply supported prestressed Timoshenko systems”
12:00pm - 12:30pm	Viktor Kostin, <u>Vadim Lisitsa</u> , Galina Reshetova, Vladimir Tcheverda and Dmitry Vishnevsky “Hybrid parallel algorithm for numerical simulation of seismic wave propagation in complex 3D models : anisotropy, attenuation, small-scale heterogeneity”

### Room Orchidée 3 (10:30am - 12:30pm) - (ABC 2) Absorbing boundary conditions and PMLs

Chair : Francis Collino

10:30am - 11:00am	Hélène Barucq, Julien Diaz and <u>Mounir Tlemçani</u> “Perfectly Matched Layers for linearized and non linear Shallow Water equation”
11:00am - 11:30am	<u>Gunilla Kreiss</u> and Kenneth Duru “Boundary waves and stability of a perfectly matched layers I”
11:30am - 12:00pm	<u>Kenneth Duru</u> , Jeremy Kozdon and Gunilla Kreiss “Boundary waves and stability of perfectly matched layers II : Extensions to first order systems and numerical stability”
12:00pm - 12:30pm	Helene Barucq, <u>Chokri Bekkey</u> and Julien Diaz “Performance assesment of a fractional radiation boundary condition for the Helmholtz equation”

### Room Orchidée 4 (10:30am - 12:30pm) - (WG) Waveguides

Chair : Nabil Gmati

10:30am - 11:00am	<u>Vahan Baronian</u> , Anne-Sophie Bonnet-Ben Dhia, Sonia Fliss and Antoine Tonnoir “Decomposition domain methods for scattering problems in elastic waveguides”
11:00am - 11:30am	<u>Tobias Rienmueller</u> “A spectral volumetric integral equation method for ocean acoustics with depth-dependent background sound speed”
11:30am - 12:00pm	<u>Khac Long Nguyen</u> , Fabien Treyssède, Anne-Sophie Bonnet-Ben Dhia and Christophe Hazard “Computation of leaky modes in three-dimensional open elastic waveguides”
12:00pm - 12:30pm	<u>Simon Gaultier</u> and Nicholas Biggs “Wave trapping in slowly-varying waveguides”

### Room Orchidée 5 (10:30am - 12:30pm) - Mini Symposium : “Control for the wave equation”

Chair : Belhassen Dehman

10:30am - 11:00am	<u>Moez Daoulati</u> “Behaviors of the energy of solutions of the wave equation with damping term”
11:00am - 11:30am	<u>Jérôme Le Rousseau</u> “Controllability of two coupled wave equations on a compact manifold”
11:30am - 12:00pm	<u>Moez Khenissi</u> “Large Time Behaviour of some Damped Equations”
12:00pm - 12:30pm	<u>L. Miguel Rodrigues</u> , Matthew Johnson, Pascal Noble and Kevin Zumbrun “Slow modulation and large-time asymptotic behavior about periodic traveling waves in general systems of hyperbolic-parabolic composite type”



# Thursday, June 6th

	<i>Room Orchidée 1</i>	<i>Room Orchidée 2</i>	<i>Room Orchidée 3</i>	<i>Room Orchidée 4</i>	<i>Room Orchidée 5</i>
9:00am - 10:00am	<b>Ivan Graham “The analysis of shifted Laplace and related preconditioners for FE approximations of the Helmholtz equation”</b> <i>Chair : Simon Chandler-Wilde</i>				
10:00am - 10:30am	<b>Coffee Break</b>				
10:30am - 12:30pm	<b>INV 6</b>	<b>NMTD 4</b>	<b>RPM 3</b>	<b>ABC 3</b>	<b>Mini symposium “Domain decomposition methods”</b>
12:30pm - 2:00pm	<b>Lunch</b>				
2:00pm - 3:00pm	<b>Room Tulipe</b> <b>Sergey Nazarov “Enforced stability of embedded eigenvalues and “invisible” obstacles in waveguides”</b> <i>Chair : Anne-Sophie Bonnet-Ben Dhia</i>				
3:00pm - 3:30pm	<b>Coffee Break</b>				
3:30pm - 5:30pm	<b>INV 7</b>	<b>HF 2</b>	<b>DG 2</b>	<b>AM 2</b>	<b>Mini symposium “Domain decomposition methods”</b>

Thursday, June 6th, 10:30am - 12:30pm

**Room Orchidée 1 (10:30am - 12:30pm) - (INV 6) Inverse problems**

**Chair : Juliette Leblond**

10:30am - 11:00am	Mabrouka El-Guedri, Housseem Haddar, <u>Zixian Jiang</u> and Armin Lechleiter "Eddy Current Tomography of Deposits in Steam Generators"
11:00am - 11:30am	<u>Lahcène Chorfi</u> and Bisma Berhail "Inverse scattering problem in perturbed half-plane"
11:30am - 12:00pm	Takashi Ohe and Masaru Ikehata "Numerical method for an inverse obstacle scattering problem based on the logarithmic differential of indicator function in the enclosure method"
12:00pm - 12:30pm	<u>Abeer Aldoghaither</u> and Taous Meriem Laleg-Kirati "Inverse Source Problem for a Space Fractional Advection-Dispersion Equation"

**Room Orchidée 2 (10:30am - 12:30pm) - (NMTD 4) Numerical methods for time dependent wave problems**

**Chair : Christophe Hazard**

10:30am - 11:00am	Bruno Lombard and <u>Jean-François Mercier</u> "Numerical modeling of nonlinear acoustic waves with fractional derivatives"
11:00am - 11:30am	<u>Saida Sari</u> "A Predictor-Corrector Algorithm for Animating Nonlinear Water Waves"
11:30am - 12:00pm	<u>Michael Meylan</u> "The Transient Motion of a Floating Rigid or Elastic Body"
12:00pm - 12:30pm	<u>Martin Almquist</u> , Ken Mattsson and Tomas Edvinsson "Stable and accurate simulation of phenomena in relativistic quantum mechanics"

**Room Orchidée 3 (10:30am - 12:30pm) - (RPM 3) Random and periodic media**

**Chair : Eric Darrigrand**

10:30am - 11:00am	<u>Thomas Rösch</u> and Tilo Arens "A Super-Algebraic Convergent Solver for Scattering by Biperiodic Gratings"
11:00am - 11:30am	<u>Victoria Andrew</u> , David Abrahams and William Parnell "Acoustic Wave Scattering from Periodic Arrays of Non-Spherical Scatterers by the Boundary Element Method"
11:30am - 12:00pm	<u>Beatrice Bugert</u> and Gunther Schmidt "Electromagnetic Scattering by biperiodic multilayer gratings: A recursive integral equations approach"
12:00pm - 12:30pm	Oscar. P. Bruno and Bérangère Delourme "2D-Rapidly convergent quasi-periodic Green function for the scattering of acoustic waves from rough surfaces throughout the spectrum--including Wood Anomalies."

**Room Orchidée 4 (10:30am - 12:30pm) - (ABC 3) Absorbing boundary conditions and PMLs**

**Chair : Seungil Kim**

10:30am - 11:00am	<u>Ludovic Metivier</u> , Laurence Halpern and Jeffrey Rauch "Perfectly Matched Layers and Harmoniously Matched Layers: a numerical comparison for 2D acoustic propagation in heterogeneous media"
11:00am - 11:30am	<u>Adrien Semin</u> and Kersten Schmidt "Dirichlet-to-Neumann boundary conditions for viscous acoustic equations"
11:30am - 12:00pm	<u>Antoine Tonnoir</u> , Anne-Sophie Bonnet Ben-Dhia and Sonia Fliss "New transparent boundary condition for time harmonic acoustic diffraction in anisotropic media"
12:00pm - 12:30pm	<u>Silvia Falletta</u> and Giovanni Monegato "An exact NRBC for 2D wave equation problems in unbounded domains"

**Room Orchidée 5 (10:30am - 12:30pm) - Mini Symposium : "Domain decomposition methods"**

**Chair : Faker Ben Belgacem**

10:30am - 11:00am	<u>Victorita Dolean</u> , Martin J. Gander and Stéphane Lanteri "Optimized Schwarz Methods for curl-curl time-harmonic Maxwell's equations"
11:00am - 11:30am	<u>Abderrahmane Bendali</u> "Some domain decomposition approaches in scattering and radiation of waves"
11:30am - 12:00pm	Martin J. Gander and <u>Hui Zhang</u> "Domain Decomposition Methods for the interior Helmholtz problem: Spectral Analysis and Numerical Experiments"
12:00pm - 12:30pm	<u>Alexandre Vion</u> , Rosalie Bélanger-Rioux, Laurent Demanet and Christophe Geuzaine "A DDM double sweep preconditioner for the Helmholtz equation with matrix probing of the DtN map"

**Thursday, June 6th, 3:30pm - 5:30pm**

**Room Orchidée 1 (3:30pm - 5:30pm) - (INV 7) Inverse problems**

**Chair : Fehmi Ben Hassen**

<b>3:30pm - 4:00pm</b>	<u>Tilo Arens</u> and John Sylvester “ <i>Characterizing non-scattering of electromagnetic waves</i> ”
<b>4:00pm - 4:30pm</b>	Anne-Sophie Bonnet-Ben Dhia, Eric Lunéville and Sergei Nazarov “ <i>Numerical computation of non-scattering boundary deformations of a 2D acoustic waveguide</i> ”
<b>4:30pm - 5:00pm</b>	Emadeldeen Hassan, Eddie Wadbro and <u>Martin Berggren</u> “ <i>Conductive Material Distribution Optimization for Ultrawideband Antennas</i> ”
<b>5:00pm - 5:30pm</b>	<u>Nikolaos Tsitsas</u> and Paul Martin “ <i>Analytical Algorithms for the Inverse Source Problem in a Sphere</i> ”

**Room Orchidée 2 (3:30pm - 5:30pm) - (HF 2) High frequency approximation and numerics**

**Chair : David Hewett**

<b>3:30pm - 4:00pm</b>	Simon Chandler-Wilde, David Hewett, <u>Stephen Langdon</u> , Ashley Twigger “ <i>A high frequency boundary element method for scattering by two-dimensional screens</i> ”
<b>4:00pm - 4:30pm</b>	<u>Andreas Asheim</u> and U. Peter Svensson “ <i>An edge source integral equation for the scattering from a flat plate</i> ”
<b>4:30pm - 5:00pm</b>	<u>Victor Dominguez</u> , Ivan Graham and Tatiana Kim “ <i>Robust methods for highly oscillatory integrals with weak singularities and stationary points</i> ”
<b>5:00pm - 5:30pm</b>	<u>Samuel Groth</u> , David Hewett and Stephen Langdon “ <i>Hybrid numerical-asymptotic approximation of high frequency scattering by penetrable convex polygons</i> ”

**Room Orchidée 3 (3:30pm - 5:30pm) - (DG 2) Discontinuous methods**

**Chair : Jerónimo Rodríguez García**

<b>3:30pm - 4:00pm</b>	Helene Barucq, Juliette Chabassier, <u>Julien Diaz</u> and Elodie Estecahandy “ <i>Numerical Analysis of a reduced formulation of an elasto-acoustic scattering problem</i> ”
<b>4:00pm - 4:30pm</b>	Ralf Hiptmair, <u>Andrea Moiola</u> , Ilaria Perugia and Christoph Schwab “ <i>Trefftz-discontinuous Galerkin methods: hp-version and exponential convergence</i> ”
<b>4:30pm - 5:00pm</b>	Jay Gopalakrishnan, <u>Ignacio Muga</u> and Nicole Olivares “ <i>Dispersion of the Lowest Order DPG Method for Helmholtz Equation with Scaled Norms</i> ”
<b>5:00pm - 5:30pm</b>	<u>Marie Mounier</u> , Yoann Ventribout and Eric Sonnendrücker “ <i>Divergence Correction techniques for the resolution of the time domain Maxwell's equations with a nonconforming discontinuous Galerkin Method</i> ”

**Room Orchidée 4 (3:30pm - 5:30pm) - (AM 2) Asymptotic modelling**

**Chair : Fioralba Cakoni**

<b>3:30pm - 4:00pm</b>	Marc Bonnet, <u>Aliénor Burel</u> and Patrick Joly “ <i>Effective Transmission Conditions for Thin-Layer Transmission Problems in Elastodynamics</i> ”
<b>4:00pm - 4:30pm</b>	<u>Anastasia Thöns-Zueva</u> and Kersten Schmidt “ <i>Impedance boundary conditions for viscous acoustic equations close to rigid walls</i> ”
<b>4:30pm - 5:00pm</b>	Fioralba Cakoni, <u>Nicolas Chaulet</u> and Housseem Haddar “ <i>Asymptotic analysis of transmission eigenvalues for perfect conducting body coated by a thin dielectric layer</i> ”
<b>5:00pm - 5:30pm</b>	Julien Diaz and <u>Victor Péron</u> “ <i>Equivalent Conditions for Elasto-Acoustics</i> ”

**Room Orchidée 5 (3:30pm - 5:30pm) - Mini Symposium : “Domain decomposition methods”**

**Chair : Faker Ben Belgacem**

<b>3:30pm - 4:00pm</b>	<u>Francis Collino</u> , Patrick Joly, Matthieu Lecouvez and Bruno Stupfel “ <i>Riesz potentials and quasi-local transmission condition for optimizing the convergence of iterative non overlapping domain decomposition methods for the Helmholtz equation</i> ”
<b>4:00pm - 4:30pm</b>	<u>Takashi Hattori</u> , Simon Labrunie, Jean-Rodolphe Roche and Pierre Bertrand “ <i>Domain decomposition for Full-Wave simulation in a tokamak plasma</i> ”
<b>4:30pm - 5:00pm</b>	Eric Darrigrand, Nabil Gmati and <u>Rania Rais</u> “ <i>Convergence analysis of GMRES method for exterior Maxwell problem</i> ”
<b>5:00pm - 5:30pm</b>	<u>Douglas Shanks</u> , Paul Childs and Ivan Graham “ <i>Shifted Laplace DDM preconditioners for the Helmholtz equation</i> ”

# Friday, June 7th

	Room Orchidée 1	Room Orchidée 2	Room Orchidée 3	Room Orchidée 4	Room Orchidée 5
9:00am - 10:00am	<b>Room Tulipe</b> <b>Grégoire Allaire “Diffraction effects for Bloch wave packets in periodic media”</b> <i>Chair : Patrick Joly</i>				
10:00am - 10:30am	<b>Coffee Break</b>				
10:30am - 12:30pm	<b>INV 8</b>	<b>NMTH 3</b>	<b>EW</b>		
12:30pm - 2:00pm	<b>Lunch</b>				

**Friday, June 7th, 10:30am - 12:30pm**

**Room Orchidée 1 (10:30am - 12:30pm) - (INV 8) Inverse problems**

**Chair : Laurent Bourgeois**

<b>10:30am - 11:00am</b>	Laurent Baratchart, Maureen Clerc and <u>Leblond Juliette</u> "Silent electrical sources in a sphere"
<b>11:00am - 11:30am</b>	Giovanni Migliorati and Housseem Haddar "Numerical analysis of the Factorization Method for Electrical Impedance Tomography in uncertain background"
<b>11:30am - 12:00pm</b>	<u>Slim Chaabane</u> "Reconstruction of piecewise constant Robin parameter in two or three dimensional case"

**Room Orchidée 2 (10:30am - 12:30pm) - (NMTH 3) Numerical methods for time harmonic wave problems**

**Chair : Marc Lenoir**

<b>10:30am - 11:00am</b>	<u>Mohd Al Azah</u> , Simon Chandler-Wilde and Scott La Porte "Computing Fresnel Integrals via Modified Trapezium Rules"
<b>11:00am - 11:30am</b>	<u>Roberto Armenta</u> "Embedding Circular Material Interfaces in Rectangular Domain Boundaries in Structured Finite-Difference Discretisations of Maxwell's Equations"
<b>11:30am - 12:00pm</b>	<u>Anton Krynkin</u> and Kirill Horoshenkov "Approximations to wave propagation problem in the waveguide with statistically rough walls"
<b>12:00pm - 12:30pm</b>	<u>Paul Childs</u> , Ivan Graham and Douglas Shanks "Hybrid sweeping preconditioners for the Helmholtz equation"

**Room Orchidée 3 (10:30am - 12:30am) - (EW) Elastic waves**

**Chair : Mike Meylan**

<b>10:30am - 11:00am</b>	<u>Kristoffer Virta</u> and Gunilla Kreiss "Surface Waves in Almost Incompressible Elastic Materials"
<b>11:00am - 11:30am</b>	<u>Olivier Lafitte</u> "Reflection of elastic waves by a continuous, non differentiable acoustic velocity"
<b>11:30am - 12:00pm</b>	<u>Eduardo Godoy</u> , Mario Durán and Jean-Claude Nédélec "Existence of surface waves in an elastic half-plane with impedance boundary conditions"
<b>12:00pm - 12:30pm</b>	M.S. Mahmood, <u>Omar Laghrouche</u> and Jon Trevelyan "Multi-wavelength sized finite elements for three-dimensional elastic wave problems"