

**NumAn  
2012**

**CONFERENCE PROGRAM  
Fifth Conference  
in Numerical Analysis  
Ioannina, September 5-8, 2012**

**Wednesday, September 5**

08:45-09:15	<i>Registration</i>
09:15-09:30	<i>Opening</i>
<b>Chairman: Georgios Akrivis</b>	
09:30-10:30	<b>Keynote KW Stig Larsson</b> (Chalmers U. of Technology) <i>Numerical solution of stochastic evolution PDEs</i>
10:30-11:00	<b>Babis Makridakis</b> (U. Crete) <i>Energy consistent schemes for phase separation problems</i>
<i>Coffee Break</i>	
<b>Chairman: Efstratios Gallopoulos</b>	
11:30-12:00	<b>Apostolos Hadjidimos</b> (U. Thessaly) <i>On extensions of Ostrowski's theorem</i>
12:00-12:30	<b>Lila Cvetkovic</b> (U. Novi Sad) <i>Benefits from Nekrasov matrices</i>
12:30-13:00	<b>Vladimir Kostic</b> (U. Novi Sad) <i>On stable formation of cortical cognitive maps via M-matrices</i>
13:00-13:30	<b>Panagiotis Psarrakos</b> (NTU Athens) <i>An envelope for the spectrum of a matrix</i>
<i>Lunch Break</i>	
<b>Chairperson: Lila Cvetkovic</b>	
15:00-15:30	<b>Efthymios Ioannidis</b> (NTU Athens) <i>On the performance of various parallel GMRES implementations on CPU and GPU clusters</i>
15:30-16:00	<b>Javad Farzi</b> (Sahand U. of Technology) <i>High order numerical solution of linear integral equations</i>
16:00-17:00	<b>Konstantinos Petsounis</b> (Mentor Hellas) <i>MATLAB workshop: Parallel and distributed computing using CPU and GPUs</i>
<i>Coffee Break</i>	
<b>Chairman: Nikolaos Stylianopoulos</b>	
17:30-18:00	<b>Georgios Kozyrakis</b> (FORTH) <i>Numerical modeling of sediment transport applied to coastal morphodynamics</i>
18:00-18:30	<b>Ioannis Nikas</b> (U. Patras) <i>An escape-from-local minima technique in unconstrained optimization using a grid-like approach and interval equations</i>
18:30-19:00	<b>Maria Predari</b> (U. Patras) <i>Parallel inclusion-exclusion algorithm on revealing pseudospectra</i>
19:00-19:30 Poster Session	<b>Karel van Bockstal</b> (Ghent U.) <i>Nonlocal problems for superconductivity</i> <b>Mevlude Ongun</b> (Suleyman Demirel U.) <i>Dynamics of fractional-order Hanta epidemic model using a nonstandard numerical scheme</i>

## Thursday, September 6

**Chairman: Dimitrios Noutsos**

**09:00-10:00** **Keynote KT1 Stefano Serra-Capizzano** (U. dell'Insubria)  
*Symbol approach (for structured matrices) in multigrid with applications in imaging*

**10:00-11:00** **Keynote KT2 Efstratios Gallopoulos** (U. Patras)  
*Matrix methods for some problems in data analysis*

*Coffee Break*

**Chairman: Apostolos Hadjidimos**

**11:30-12:00** **Panagiotis Chatzipantelidis** (U. Crete)  
*Some error estimates for the finite volume element method for a parabolic problem*

**12:00-12:30** **Yiorgos-Sokratis Smyrlis** (U. Cyprus)  
*On the analyticity of dispersive-dissipative infinite dimensional dynamical systems*

**12:30-13:00** **Christos Xenophontos** (U. Cyprus)  
*An hp finite element method for fourth order singularly perturbed problems*

**13:00-13:30** **Nikolaos Stylianopoulos** (U. Cyprus)  
*Bergman shift operators for Jordan domains*

*Lunch Break*

**Chairman: Yiannis Saridakis**

**15:00-15:30** **Vassilios Kalantzis** (U. Patras) *Accelerating Spike algorithms for the solution of sparse linear systems with multiple right-hand sides*

**15:30-16:00** **Paris Stratis** (T. U. Crete) *Optimization techniques for a model problem of saltwater intrusion in coastal aquifers*

**16:00-16:30** **Anastassios Sifalakis** (T. U. Crete) *Fokas method approach for a tumor invasion problem with discontinuous diffusion in 1+1 dimensions*

**16:30-17:00** **Marianna Papadomanolaki** (T. U. Crete) *Hermite-collocation and Fokas method for tumor invasion problem with discontinuous diffusion coefficient*

*Coffee Break*

**Chairperson: Elena Papadopoulou**

**17:30-18:00** **Maria Louka** (U. Athens)  
*Parallel 9-point local modified SOR method*

**18:00-18:30** **Christina Nikolakakou** (U. Patras) *A relaxation lexicographic optimization method for the unconstrained optimization problem*

**18:30-19:00** **Eleftheria Malihoutsaki** (U. Patras)  
*Efficient modified Newton's method for solving systems of nonlinear equations*

**19:00-19:30** **Dimitrios Triantafyllou** (Hell. Army Academy) *A direct numerical algorithm for solving systems of nonlinear equations using multidimensional logarithmic residue formulas*

**20:00-23:00** **Conference Dinner**

## Friday, September 7

**Chairman: Babis Makridakis**

09:00-10:00	<b>Keynote KF Emmanuil Georgoulis</b> (U. Leicester) <i>Error control and adaptivity for advection-dominated problems</i>
10:00-10:30	<b>Georgios Zouraris</b> (U. Crete) <i>An implicit-explicit finite difference method for a nonlinear Dirac system</i>
10:30-11:00	<b>Irene Kyza</b> (FORTH) <i>Time-discrete higher order ALE formulations: A posteriori error analysis</i>

*Coffee Break*

**Chairman: Stefano Serra-Capizzano**

11:30-12:00	<b>Theodoros Horikis</b> (U. Ioannina) <i>Solitons and spectral renormalization methods in nonlinear optics</i>
12:00-12:30	<b>Seiji Fujino</b> (Kyushu U.) <i>Variants of BiCGSafe and BiCGStab methods stemmed from consideration on product of two kinds of polynomials</i>
12:30-13:00	<b>Athanassios Bratsos</b> (TEI Athens) <i>An improved numerical scheme for the generalized Burgers-Fisher equation</i>
13:00-13:30	<b>Morufu Olayiwola</b> (Kyushu U.) <i>A modified variational iteration method for the solution of nonlinear partial differential equations</i>

*Lunch Break*

*15:00-16:00 Visit to the Archaeological Museum*

*16:00-22:00 Excursion to Zagorohoria*

## Saturday, September 8

**Chairman: Stig Larsson**

09:00-9:30	<b>Michael Xenos</b> (U. Ioannina) <i>A numerical technique for fluid-structure interaction applications</i>
9:30-10:00	<b>Paris Vassalos</b> (Athens UEB) <i>Spectral and structural analysis of FD matrix sequences arising in semi-elliptic differential equations</i>
10:00-10:30	<b>Konstantinos Margaritis</b> (U. Macedonia) <i>An experimental study for parallelizing basic kernels from scientific computing using multicore libraries</i>

*Coffee Break*

**Chairman: Emmanuil Georgoulis**

11:00-11:30	<b>Mehriban Imanova</b> (Baku State U.) <i>On a way for the numerical solution of Volterra integro-differential equations</i>
11:30-12:00	<b>Ademola Badmus</b> (Nigerian Defense Academy) <i>Note on method of obtaining order and error constants of linear multi-step method (LMM) for solving third order ODEs</i>
12:00-12:30	<b>Nefeli Lagopati</b> (U. Athens) <i>Quantitation of volume differences in 3D SPECT stress/rest images in myocardium perfusion imaging</i>

*Lunch*