International Conference

MATHEMATICAL PARTNERSHIP, PARALLEL COMPUTING AND COMPUTER ALGEBRA

MathParCA - 2014

Mochlos, Crete, Greece
July 26 – August 9

Preliminary Program (subject to change)

FIRST TRACK: 28 July-1 August

28 July

10:30-11:00 Registration:
at the Hotel Lobby of "Limenaria Apartments".
11:00 Opening of the Conference.
CAaaS "Math Partner". Gennadi Malaschonok
12:00 Work with mathematical formulas and Mathematica (Lect.1) Oleg Marichev
13:00 The Appell hypergeometric expansions of the solutions of the general Heun equation. Artur M. Ishkhanyan
14:00-16:00 Lunch.
16:00-18:00 Round Table: Work with mathematical formulas and Mathematica

29 July

11:00 ODEs, PDEs and Special Functions using Computer Algebra (Lect. 1). Edgardo S. Cheb-Terrab
12:00 The Gauss hypergeometric expansions of the solutions of the general Heun equation. Artur M. Ishkhanyan
13:00 Using CAS in teaching basic Calculus. Aleksandr Mylläri, Tatiana Mylläri, Thompson Cummings
13:30 On the applicability of pairwise separations method in astronomy. Tatiana Mylläri, Aleksandr Mylläri
14:00-16:00 Lunch.
16:00-18:00 Round Table: The Gauss hypergeometric expansions of the solutions of the general Heun equation.

30 July

11:00 Fast Matrix Algorithms in Domains. Gennadi Malaschonok
12:00 Work with mathematical formulas and Mathematica (Lect.2) Oleg Marichev
13:00 The Kummer and Tricomi confluent hypergeometric expansions of the solutions to the confluent and double-confluent Heun equations. Artur M. Ishkhanyan, Claude Leroy
14:00-16:00 Lunch.
16:00-18:00 Round Table: ODEs, PDEs and Special Functions using Computer Algebra

31 July

11:00 Physics using Computer Algebra (Lect. 1) Edgardo S. Cheb-Terrab
12:00 Physics using Computer Algebra (Lect. 2) Edgardo S. Cheb-Terrab
13:00 Solutions of the quantum two-state problem in terms of the Heun functions. Artur M. Ishkhanyan
14:00-16:00 Lunch.
16:00-18:00 Round Table: Solutions of the quantum two-state problem in terms of the Heun functions.

1 August

11:00 ODEs, PDEs and Special Functions using Computer Algebra (Lect. 2). Edgardo S. Cheb-Terrab
12:00 Constructive Description of Classical and Quantum Dynamics: Review Lecture. Vladimir V. Kornyak
13:00 TBA. Nikolay N. Vassiliev
14:00-16:00 Lunch.
16:00-18:00 Round Table: ODEs, PDEs and Special Functions using Computer Algebra

SECOND TRACK: 4-8 August

4 August

11:00 Solutions of the double- bi- and tri-confluent Heun equations in series of incomplete gamma functions. A.M. Manukyan, A. M. Ishkhanyan, M.V. Hakobyan and C. Leroy
12:00 Work with mathematical formulas and Mathematica (Lect.3) Oleg Marichev
13:00 Constructive Description of Classical and Quantum Dynamics: Basic concepts. Vladimir V. Kornyak
14:00-16:00 Lunch.
16:00-18:00 Round Table: Constructive Description of Classical and Quantum Dynamics

5 August

11:00 Modified Subresultant PRS for Sturm Sequences. Alkiviadis G. Akritas, Gennadi I. Malaschonok, Panagiotis S. Vigklas
12:00 MathPartner: matrix functions. Gennadi Malaschonok
13:00 Constructive Description of Classical and Quantum Dynamics: Discrete constructions. Vladimir V. Kornyak
14:00-16:00 Lunch.

16:00-18:00 Round Table: Subresultant PRS for Sturm Sequences

6 August

11:00 MathPartner: functional and polynomial computations. Gennadi Malaschonok

12:00 Quantum time-dependent level crossing models described by the Heun functions. Artur M. Ishkhanyan, Claude Leroy

13:00 Constructive Description of Classical and Quantum Dynamics: Dynamical systems. Vladimir V. Kornyak

14:00-16:00 Lunch.

16:00-18:00 Round Table: Dynamical systems

7 August

11:00 MathPartner: differential equations, series, functions of the probability theory and plots. Gennadi Malaschonok

12:00 Van Vleck Theorem Regarding Sturm Sequences. Alkiviadis G. Akritas, Gennadi I. Malaschonok, Panagiotis S. Vigklas

13:00 Constructive Description of Classical and Quantum Dynamics: Constructive description of quantum behavior. Vladimir V. Kornyak

14:00-16:00 Lunch.

16:00-18:00 Round Table: Constructive description of quantum behavior

8 August

11:00 A numerical-symbolic method for solving differential equations with delayed argument. Natasha Malashonok

12:00 MathPartner: programming, parallel computations and solutions of physical problems. Gennadi Malaschonok

13:00 Constructive Description of Classical and Quantum Dynamics: Measurements and interpretations of quantum mechanics. Vladimir V. Kornyak

14:00-16:00 Lunch.

16:00-18:00 Round Table: Measurements and interpretations of quantum mechanics

Closing of the Conference