# 16th Conference "Mathematics in Technical and Natural Sciences"
## Kościelisko, 30th June - 5th July, 2019

# Agenda

## SUNDAY, 30TH JUNE, 2019

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| 16.00 | Departure of the conference bus from Kraków (AGH-UST) to Kościelisko (Marymont hotel) |
| 19.30-20.30 | Hot dinner |
| 20.30-22.00 | On-site registration (conference office, i.e. room 8, Marymont hotel) |

## MONDAY, 1ST JULY, 2019

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| 8.00-9.00 | Breakfast | |
| 9.00-9.15 | Opening of the Conference | |
| **Session I, <u>Chair: A. Pogrebkov</u>** | | |
| 9.15-9.55 | F. Magri | *Haantjes Manifolds and Coxeter Groups* |
| 10.00-10.25 | A. Doliwa | *Discrete Integrable Equations with Sources* |
| 10.30-10.55 | P. Gaillard | *The NLS Equation and its Rough Waves, Multiparametric Deformations of the $P_N$ Breather* |
| 10.55-11.15 | Coffee break | |
| 11.15-11.40 | A. Aksenov | *Invariant Property of the Riemann's Function and its Construction Method* |
| 11.45-12.10 | O. Mokhov, <u>N. Strizhova</u> | *On the Hamiltonian Reductions of the Associativity Equations* |
| 12.15-12.40 | G. Papamikos | *On Some Algebraic Properties of the Vector mKdV and Vector sG Equation* |
| 12.45–13.45 | Lunch | |
| 13.45-15.00 | Free time | |
| **Sesion II, Boris Dubrovin Memorial Session, <u>Chair: F. Magri</u>** | | |
| 15.00-15.40 | A. Pogrebkov | *Singular Symmetries of the Hirota Difference Equation and Relation* |
| 15.45-16.10 | I. Krasil'shchik | *Nonlocal Symmetries of Linearly Degenerate Integrable Equations* |
| 16.15-16.55 | <u>P. Grinevich</u>, P. Santini | *Cauchy problem for Anumalous Waves Periodic Initial Data for the Focusing Nonlinear Schrodinger Equation* |
| 16.55-17.15 | Coffee break | |
| 17.15-17.55 | O. Sheinman | *Hitchin Systems on Hyperelliptic Curves* |
| 18.00-18.25 | Yu. Fedorov | *On an "Impossible" Separation of Variables in Integrable Systems, Bad Defined Abel Quadratures, and their Inversion* |
| 18.30-18.55 | M. Pavlov | *A New Class of Exact Solutions for Three-Dimensional Quasilinear Systems of First Order* |
| 19.45 | Banquet | |

## TUESDAY, 2ND JULY, 2019

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| 8.00-9.00 | Breakfast | |
| **Session III, Chair: <u>Z. Peradzyński</u>** | | |
| 9.00-9.40 | <u>R. Kersner</u>,  M. Klincsik | *Periodic Solutions and their Stability in Some RD Systems with Non-Linear Cross-Diffusion* |
| 9.45-10.10 | S. Mykulyak, <u>S. Skurativskyi</u>, I. Skurativska | *Resonant Phenomena and Chaos in the Hierarchically Composed Oscillators Driven by the Harmonic Force* |
| 10.15-10.55 | S. Dobrokhotov | *Nonstandard Caustics in Problems of Propagation and Run-Up of Linear and Non-Linear Water Waves Generating by Localized Sources* |
| 10.55-11.15 | Coffee break | |
| 11.15-11.40 | <u>V. Vladimirov</u>, A. Gawlik, S. Skurativskyi | *Solitary Waves in the Model of Active Media Taking into Account Effects of Relaxation* |
| 11.45-12.10 | <u>A. Gawlik</u>, V. Vladimirov, S. Skurativskyi | *Solitary Wave Dynamics Governed by the Modified FHN Equation* |
| 12.15-12.40 | <u>A. Rasin</u>, J. Schiff | *Bäcklund Transformations Novikov and Associated Novikov Equations* |
| 12.45-13.25 | <u>J. Schiff</u>, M. Twiton | *A Classification of Real Solutions of Painlevé IV* |
| 13.30-14.30 | Lunch | |
| 14.30-15.30 | Free time | |
| **Session IV, Chair: <u>A. Doliwa</u>** | | |
| 15.30-16.10 | I. Marshall | *Action-Angle Duality for a Poisson-Lie Deformation of the Trigonometric BCn Sutherland System* |
| 16.15-16.40 | A. Smirnov | *Finite-gap solutions of multidimensional Mikhalev equation* |
| 16.45-17.25 | M. Dunajski | *Solitons on Wormholes* |
| 17.25-17.45 | Coffee break | |
| 17.45-18.25 | M. Babich | *On Connection of Different Parameterizations and Symmetries of Phase Space of Painlevé VI Equation* |
| 18.30-18.55 | A. Nikitin | *Superintegrable and Supersymmetric Systems with Position Dependent Masses and Matrix Potentials* |
| 19.00-19.25 | K. Trzeszczkowski | *Kinks and Solitons on Honeycomb Lattice* |
| 19.30-20.30 | Dinner | |

## WEDNESDAY, 3RD JULY, 2019

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| 8.00-9.00 | Breakfast | |
| 9.00-19.00 | Free time  (no lunch planned, lunch packs to be picked up after breakfast) | |
| 19.30-20.30 | Hot dinner | |

## THURSDAY, 4TH JULY, 2019

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| 8.00-9.00 | Breakfast | |
| **Session V, Chair: <u>A. Nikitin</u>** | | |
| 9.00-9.40 | V. Adamyan | *Extended Lax-Phillips Scattering Theory* |
| 9.45-10.25 | S. Kużel | *On Lax-Phillips Scattering Method in Studies of Non-self-adjoint Schrödinger Operators* |
| 10.30-10.55 | A. Główczyk | *On the Lax-Phillips Scattering Matrix of the Abstract Wave Equation* |
| 10.55-11.15 | Coffee break | |
| 11.15-11.40 | P. Goldstein | *Singularity Analysis as a Tool for Producing Special Solutions of the Vlasov Equation* |
| 11.45-12.10 | <u>M. Elaeva</u>, E. Blanter, A. Shapoval | *Stability of the Inverse Problem Solution in the Kuramoto Model with Three Non-Identical Oscillators* |
| 12.15-12.55 | I. Tsyfra | *On a Reduction of Nonlinear Evolution and Wave Type Equations via Generalized Symmetry Methods* |
| 13.00-13.25 | J. Vašíček | *Symmetries and Conservation Laws for a Generalization of Kawahara Equation* |
| 13.30-14.30 | Lunch | |
| 14.30-15.30 | Free time | |
| **Session VI, Chair: <u>V. Vladimirov</u>** | | |
| 15.30-16.10 | <u>A. Makarenko</u>, J. Brajon, Z. Ostrovski, A. Popov, V. Pribega | *New Cellular Automata with Non-Regular Space with Internal Boundaries: Gliders Gates and Two-Slit Experiment* |
| 16.15-16.55 | <u>Z. Peradzyński</u>, G. Baghaturia | *Involutive Exterior Differential Systems and Nonlinear Superposition of Solutions* |
| 16.55-17.15 | Coffee break | |
| 17.15-17.40 | <u>G. Baghaturia</u>, M. Menteshashvili | *General Integrals and Inverse Problems for the Second Order Quasi-Linear Equations of Mixed Type* |
| 17.45-18.10 | <u>L. Sapa</u>, B. Bożek, M. Danielewski | *Biological Ion Channels* |
| 18.15-18.30 | Closing of the Conference | |
| 18.30-19.30 | Dinner | |
| 20.00-21.00 | Classical music concert | |
| 21.00 | Slideshow of the conference photos | |

## FRIDAY, 5TH JULY, 2019

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| 8.00-9.00 | Breakfast |
| 9.30 | Departure of the conference bus back to Kraków (AGH-UST) |