

# Modern Achievements in Symmetries of Differential Equations (Symmetry 2022)

13 December 2022 — 16 December 2022

## Conference Program

Click here  zoom to join the conference

( Alternative — Zoom Meeting ID: 938 9059 4904 )

Conference web site: <https://math.sut.ac.th/conference>

*Accurate as of: December 14, 2022*

### *Time Conversion Table*

Thai+3	Moscow+7	C.Europe+9	GMT+10	CST+16	Queensland, Vladivostok
Thai+2	Moscow+6	C.Europe+8	GMT+9	CST+15	Yakutsk
Thai+1	Moscow+5	C.Europe+7	GMT+8	CST+14	China, Irkutsk
Thai	Moscow+4	C.Europe+6	GMT+7	CST+13	Thailand, Novosibirsk, Krasnoyarsk (KRAT)
Thai-1.5	Moscow+2.5	C.Europe+4.5	GMT+5.5	CST+11.5	India
Thai-2	Moscow+2	C.Europe+4	GMT+5	CST+11	Pakistan, Yekaterinburg, Ufa
Thai-4	Moscow	C.Europe+2	GMT+3	CST+9	Moscow, Grozny, St.Petersburg, Saudi Arabia, Turkey (MSK)
Thai-5	Moscow-1	C.Europe+1	GMT+2	CST+8	Greece, Moldova, South Africa
Thai-6	Moscow-2	C.Europe	GMT+1	CST+7	Algeria, Austria, Czechia, France, Germany, Norway, Italy, Poland, Spain
Thai-10	Moscow-6	C.Europe-4	GMT-3	CST+3	Brazil, Chile
Thai-12	Moscow-8	C.Europe-6	GMT-5	CST+1	New York, North Carolina, Ontario (EST)
Thai-13	Moscow-9	C.Europe-7	GMT-6	CST	Alabama, Minnesota, Saskatchewan (CST)

**Tuesday, 13 December 2022**

Thai/KRAT	Moscow	Ctr.Europe	US CST	
13.30 – 13.40	9.30 – 9.40	7.30 – 7.40	0.30 – 0.40	<i>Chair: Chaiyasena A. P.</i> Opening Address by <b>Prof. Dr. Santi Maensiri</b> Dean, Institute of Science, Suranaree University of Technology
13.40 – 13.55	9.40 – 9.55	7.40 – 7.55	0.40 – 0.55	Opening Remarks by <b>Prof. Dr. Alexander I. Aptekarev</b> Director of the Keldysh Institute of Applied Mathematics Moscow Center for Fundamental and Applied Mathematics
13.55 – 14.05	9.55 – 10.05	7.10 – 8.05	0.55 – 1.05	Opening Remarks by <b>Prof. Dr. Sibusiso Moyo</b> Deputy Vice-Chancellor for Research, Innovation and Postgraduate Studies, Stellenbosch University
14.05 – 14.15	10.05 – 10.15	8.05 – 8.15	1.05 – 1.15	Welcoming Remarks by <b>Asst.Prof. Dr. Jessada Tanthanuch</b> Former Head, School of Mathematics, Suranaree University of Technology
14.15 – 14.40	10.15 – 10.40	8.15 – 8.40	1.15 – 1.40	<b>Andreev V. K.</b> [A01] On one partially invariant solution of the hydrodynamics equations
Coffee Break				
15.00 – 15.25	11.00 – 11.25	9.00 – 9.25	2.00 – 2.25	<i>Chair: TBA</i> <b>Kaptsov E. I., Dorodnitsyn V. A., Meleshko S. V.</b> [A02] Symmetry-preserving conservative schemes for the one-dimensional MHD equations with spatial symmetries
15.25 – 15.50	11.25 – 12.50	9.25 – 9.50	2.25 – 2.50	<b>Hoque M. F., Šnobl L.</b> [A03] Families of 3D integrable and superintegrable classical Hamiltonian systems in magnetic fields
15.50 – 16.15	11.50 – 12.15	9.50 – 10.15	2.50 – 3.15	<b>Borovskikh A. V., Platonova K. S.</b> [A04] Group analysis of kinetic equations and the problem of the moment system closing
16.15 – 16.40	12.15 – 12.40	10.15 – 10.40	3.15 – 3.40	<b>Gomonova O. V., Senashov S. I.</b> [A05] Technique of application of conservation laws to solve elastoplastic problems
Lunch / Dinner Break				
18.00 – 18.25	14.00 – 14.25	12.00 – 12.25	5.00 – 5.25	<i>Chair: Borovskikh A. V.</i> <b>Manganaro N.</b> [A06] Some applications of the method of differential constraints
18.25 – 18.50	14.25 – 14.50	12.25 – 12.50	5.25 – 5.50	<b>Naz R.</b> [A07] Lie symmetries, conservation laws and exact solutions of a diffusive SIS epidemic model
18.50 – 19.15	14.50 – 15.15	12.50 – 13.15	5.50 – 6.15	<b>Campoamor-Stursberg R.</b> [A08] Beyond classical superposition principles
19.15 – 19.40	15.15 – 15.40	13.15 – 13.40	6.15 – 6.40	<b>Khalil R.</b> [A09] Iteratively split symmetry generators of complex scalar ordinary differential equations
Coffee Break				
20.30 – 21.00	16.30 – 17.00	14.30 – 15.00	7.30 – 8.00	<i>Chair: Manganaro N.</i> <b>Leon G., Paliathanasis A., Leach P.G.L.</b> [A10] Lie symmetry classification and qualitative analysis for the fourth-order Schrödinger equation
21.00 – 21.30	17.00 – 17.30	15.00 – 15.30	8.00 – 8.30	<b>Olver P. J.</b> [A11] Divergence invariant variational problems
21.30 – 22.00	17.30 – 18.00	15.30 – 16.00	8.30 – 9.00	<b>Anco S.</b> [A55] New conserved integrals, invariants, symmetries and Casimirs of radial compressible fluid flow in $n > 1$ dimensions

**Wednesday, 14 December 2022**

Thai/KRAT	Moscow	Ctr.Europe	US CST	
				<i>Chair: Moshkin N. P.</i>
13.00 – 13.25	9.00 – 9.25	7.00 – 7.25	0.00 – 0.25	<b>Grimshaw R. H., Smyth N. F., Stepanyants Y. A.</b> [A12] Decay of Benjamin–Ono solitons under the influence of dissipation
13.25 – 13.50	9.25 – 9.50	7.25 – 7.50	0.25 – 0.50	<b>Chesnokov A. A., Liapidevskii V. Yu.</b> [A13] Internal solitary waves with a trapped core and wave structures in multi-layer shallow water
13.50 – 14.15	9.50 – 10.15	7.50 – 8.15	0.50 – 1.15	<b>Grigoryev Yu.N., Ershov I.V.</b> [A14] Inviscid Rayleigh criteria for vibrational excited dissociated gas
14.15 – 14.40	10.15 – 10.40	8.15 – 8.40	1.15 – 1.40	<b>Pelinovsky E., Talipova T., Didenkulova E.</b> [A15] Algebraic solitons in the Gardner-like models
Coffee Break				
				<i>Chair: Chesnokov A. A.</i>
15.00 – 15.25	11.00 – 11.25	9.00 – 9.25	2.00 – 2.25	<b>Saccomandi G.</b> [A16] Bogus transformations in mechanics of continua
15.25 – 15.50	11.25 – 12.50	9.25 – 9.50	2.25 – 2.50	<b>Aksenov A. V., Druzhkov K. P., Kaptsov O. V.</b> [A17] Exact solutions of one-dimensional gas dynamics without gradient catastrophe
15.50 – 16.15	11.50 – 12.15	9.50 – 10.15	2.50 – 3.15	<b>Ruiz A., Muriel C.</b> [A18] Variational $\lambda$ -symmetries for damped position-dependent mass oscillators
16.15 – 16.40	12.15 – 12.40	10.15 – 10.40	3.15 – 3.40	<b>Pan-Collantes A. J., Ruiz A., Muriel C., Romero J. L.</b> [A19] Integration by $C^\infty$ -structures
Lunch / Dinner Break				
				<i>Chair: Meleshko S. V.</i>
18.00 – 18.25	14.00 – 14.25	12.00 – 12.25	5.00 – 5.25	<b>Kudryashov N. A.</b> [A20] Optical solitons of the generalized nonlinear Schrödinger equation with unrestricted dispersion
18.25 – 18.50	14.25 – 14.50	12.25 – 12.50	5.25 – 5.50	<b>Halder A. K., Seshadri R., Paliathanasis A., Leach P.G.L.</b> [A21] Classical and nonclassical symmetries of the Kudryashov-Sinelshchikov equation
18.50 – 19.15	14.50 – 15.15	12.50 – 13.15	5.50 – 6.15	<b>Agnus. S., Seshadri R., Halder A. K., Leach P.G.L.</b> [A22] One-Dimensional Optimal System of Subalgebras for the Ramani Equation
19.15 – 19.40	15.15 – 15.40	13.15 – 13.40	6.15 – 6.40	<b>Halder A. K., Seshadri R., Paliathanasis A., Leach P.G.L.</b> [A23] Integrability of the generalized Calogero-Bogoyavlenskii-Schiff equation
Coffee Break				
				<i>Chair: Kaptsov E. I.</i>
20.30 – 21.00	16.30 – 17.00	14.30 – 15.00	7.30 – 8.00	<b>Bilă N.</b> [A24] Tzitzeica vector fields
21.00 – 21.30	17.00 – 17.30	15.00 – 15.30	8.00 – 8.30	<b>Cheviakov A., Keller J.</b> [A25] Analytical solutions of static and dynamic plasma equilibrium equations in axial and helical symmetry
21.30 – 22.00	17.30 – 18.00	15.30 – 16.00	8.30 – 9.00	<b>Grebenev V. N., Medvedev S. B, Fedoruk M. P.</b> [A26] Hydrodynamical approximation for 2D optical turbulence: symmetries of the statistical quantities

**Thursday, 15 December 2022**

Thai/KRAT	Moscow	Ctr.Europe	US CST	
				<i>Chair: Vedenyapin V. V.</i>
13.00 – 13.25	9.00 – 9.25	7.00 – 7.25	0.00 – 0.25	<b>Kaptsov O. V.</b> [A27] Some solutions of the Euler system of an inviscid incompressible fluid
13.25 – 13.50	9.25 – 9.50	7.25 – 7.50	0.25 – 0.50	<b>Nakpim W., Meleshko S. V.</b> [A28] Conservation laws of the relativistic gas dynamics equations in Lagrangian coordinates
13.50 – 14.15	9.50 – 10.15	7.50 – 8.15	0.50 – 1.15	<b>Rozanova O. S.</b> [A29] On repulsive Euler-Poisson equations with non-zero background
14.15 – 14.40	10.15 – 10.40	8.15 – 8.40	1.15 – 1.40	<b>Moshkin N. P.</b> [A30] Non-stationary flow of a viscoelastic fluid near a critical point
Coffee Break				
				<i>Chair: Kaptsov O. V.</i>
15.00 – 15.25	11.00 – 11.25	9.00 – 9.25	2.00 – 2.25	<b>Tsarev S. P.</b> [A31] The Monge problem: from quadrature-free integration of under-determined nonlinear ODEs to efficient car parking
15.25 – 15.50	11.25 – 12.50	9.25 – 9.50	2.25 – 2.50	<b>El Cheikh R., Mitsotakis D., Cheviakov A., Dutykh D.</b> [A32] Nonlinear dispersive wave models for pulsatile flows in viscoelastic vessels
15.50 – 16.15	11.50 – 12.15	9.50 – 10.15	2.50 – 3.15	<b>Dryuma V. S.</b> [A33] On geodesic equations of Riemannian metrics related to the Navier-Stokes equations
16.15 – 16.40	12.15 – 12.40	10.15 – 10.40	3.15 – 3.40	<b>Talyshev A. A.</b> [A34] On differential-invariant solutions of the Euler equations with respect to one eight parametric group
Lunch / Dinner Break				
				<i>Chair: Moyo S.</i>
18.00 – 18.25	14.00 – 14.25	12.00 – 12.25	5.00 – 5.25	<b>Nadjet H., Khalet H.</b> [A35] Exact solutions of some nonlinear systems of partial differential equations by using the first integral method
18.25 – 18.50	14.25 – 14.50	12.25 – 12.50	5.25 – 5.50	<b>May A. C., Seesanea A.</b> [A36] Nonlocal semilinear elliptic problems involving measures
18.50 – 19.15	14.50 – 15.15	12.50 – 13.15	5.50 – 6.15	<b>Baaziz, I.</b> [A37] Asymptotic stability of a nonlinear viscoelastic wave equation with boundary source
19.15 – 19.40	15.15 – 15.40	13.15 – 13.40	6.15 – 6.40	<b>Nid Z.</b> [A38] Exponential stability of porous thermoelastic system with type III and delay term
19.40 – 20.05	15.40 – 16.05	13.40 – 14.05	6.40 – 7.05	<b>Aibinu M. O., Moyo S.</b> [A39] Approximate analytical solutions to nonlinear delay fractional differential equations
20.05 – 20.30	16.05 – 16.30	14.05 – 14.30	7.05 – 7.30	<b>Yahia R.</b> [A40] Polynomial stabilization of the Euler–Bernoulli equation with locally distributed Kelvin–Voigt damping

**Friday, 16 December 2022**

Thai/KRAT	Moscow	Ctr.Europe	US CST	
13.00 – 13.25	9.00 – 9.25	7.00 – 7.25	0.00 – 0.25	<i>Chair: Dorodnitsyn V. A.</i> <b>Vasyutkin S. A., Chupakhin A. P.</b> [A41] Traveling waves in hemodynamic equations with the Koiter shell
13.25 – 13.50	9.25 – 9.50	7.25 – 7.50	0.25 – 0.50	<b>Nikolaeva N. A.</b> [A42] Kirchhoff-Love plate with flat rigid inclusion
13.50 – 14.15	9.50 – 10.15	7.50 – 8.15	0.50 – 1.15	<b>Gubarev Yu. G., Sun S.</b> [A43] Study of instability for spherically symmetric dynamic equilibrium states of self-gravitating Vlasov–Poisson gas
14.15 – 14.40	10.15 – 10.40	8.15 – 8.40	1.15 – 1.40	<b>Pavlenko V. A.</b> [A44] Construction of solutions of analogs of the Schrodinger time equations corresponding to the Hamiltonian system $H^{2+2+1}$ of Kimura
Coffee Break				
15.00 – 15.25	11.00 – 11.25	9.00 – 9.25	2.00 – 2.25	<i>Chair: Kudryashov N. A.</i> <b>Babaei N. A., Özer T.</b> [A45] Integrability properties of dynamical epidemic models
15.25 – 15.50	11.25 – 12.50	9.25 – 9.50	2.25 – 2.50	<b>Seshadri R., Agnus. S., Halder A. K. and Leach P. G. L.</b> [A46] A Detailed Study of Ramani Equation through Lie Symmetry and Singularity Analysis
15.50 – 16.15	11.50 – 12.15	9.50 – 10.15	2.50 – 3.15	<b>Bogadi R. S., Govender M., Paliathanasis A.</b> [A47] Radiating stellar collapse from Lie symmetry solutions of the Kar-markar condition
16.15 – 16.40	12.15 – 12.40	10.15 – 10.40	3.15 – 3.40	<b>Almusawa H., Paliathanasis A., Leach P.G.L.</b> [A48] Analysis of the nonlinear Sakovich equation using symmetries
Lunch / Dinner Break				
18.00 – 18.25	14.00 – 14.25	12.00 – 12.25	5.00 – 5.25	<i>Chair: Meleshko S. V.</i> <b>Aksenov A.V., Bobylev A.V., Dorodnitsyn V.A., Druzhkov K.P. Kaptsov E.I., Kozlov R.V., Meleshko S.V.</b> [A49] Symmetries, conservation laws and invariant difference schemes for hydrodynamics type equations
18.25 – 18.50	14.25 – 14.50	12.25 – 12.50	5.25 – 5.50	<b>Vedenyapin V. V., Fimin N. N., Chechetkin V. M.</b> [A50] On the Vlasov–type equations: derivation, hydrodynamic and Hamilton–Jacobi consequences and cosmological solutions
18.50 – 19.15	14.50 – 15.15	12.50 – 13.15	5.50 – 6.15	<b>Morozov O. I.</b> [A51] Isospectral deformation of the reduced quasi-classical self-dual Yang–Mills equation and its Lagrangian extension
19.15 – 19.40	15.15 – 15.40	13.15 – 13.40	6.15 – 6.40	<b>Kovtunen V. A.</b> [A52] Poroelastic medium with non-penetrating crack driven by hydraulic fracture
19.40 – 20.05	15.40 – 16.05	13.40 – 14.05	6.40 – 7.05	<b>Benhadri M.</b> [A53] Global asymptotic stability of linear neutral differential equations by a fixed point approach
20.05 – 20.30	16.05 – 16.30	14.05 – 14.30	7.05 – 7.30	<b>Askhabov S. N.</b> [A54] Volterra integral equation with a power nonlinearity
20.30 – 20.50	16.30 – 16.40	14.30 – 14.40	7.30 – 7.40	Closing Remarks

## Modern Achievements in Symmetries of Differential Equations (Symmetry 2022)

### Schedule of Speakers

NSW (Sydney) GMT+11	Thailand Novosibirsk Krasnoyarsk GMT+7	Pakistan GMT+5	Moscow Turkey GMT+3	Central Europe Austria, Italy Spain, Algeria GMT+1	Chile Brazil GMT-3	Minneapolis Saskatoon (CST) GMT-6	Tuesday 13.12.	Wednesday 14.12.	Thursday 15.12	Friday 16.12
								<i>Fluid Dynamics</i>	<i>Fluid Dynamics (FD)</i>	<i>Appl. to Sci+Eng</i>
17.00-17.25	13.00-13.25	11.00-11.25	9.00-9.25	7.00-7.25	3.00-3.25	0.00-0.25		Stepanyants	Kaptsov O.V.	Vasyutkin
17.25-17.50	13.25-13.50	11.25-11.50	9.25-9.50	7.25-7.50	3.25-3.50	0.25-0.50	13.30-14.15	Chesnokov	Nakpim	Nikolaeva
17.50-18.15	13.50-14.15	11.50-12.15	9.50-10.15	7.50-8.15	3.50-4.15	0.50-1.15	Opening Ceremony	Grigoryev	Rozanova	Sun
18.15-18.40	14.15-14.40	12.15-12.40	10.15-10.40	8.15-8.40	4.15-4.40	1.15-1.40	Andreev	Pelinovsky	Moshkin	Pavlenko
							<i>Symmetries</i>	<i>Meth. of Integration</i>	<i>FD, Meth. of Integration</i>	<i>Meth. of Integration</i>
19.00-19.25	15.00-15.25	13.00-13.25	11.00-11.25	9.00-9.25	5.00-5.25	2.00-2.25	Kaptsov E.I.	Saccomandi	Tsarev	Babaei
19.25-19.50	15.25-15.50	13.25-13.50	11.25-11.50	9.25-9.50	5.25-5.50	2.25-2.50	Hoque	Aksenov	El Cheikh	Seshadri
19.50-20.15	15.50-16.15	13.50-14.15	11.50-12.15	9.50-10.15	5.50-6.15	2.50-3.15	Borovskikh	Ruiz	Dryuma	Bogadi
20.15-20.40	16.15-16.40	14.15-14.40	12.15-12.40	10.15-10.40	6.15-6.40	3.15-3.40	Gomonova	Pan-Collantes	Talyshev	Almusawa
							<i>Symmetries</i>	<i>Meth. of Integration</i>	<i>Meth. of Integration</i>	<i>Miscellaneous</i>
22.00-22.25	18.00-18.25	16.00-16.25	14.00-14.25	12.00-12.25	8.00-8.25	5.00-5.25	Manganaro	Kudryashov	Nadjet	Dorodnitsyn
22.25-22.50	18.25-18.50	16.25-16.50	14.25-14.50	12.25-12.50	8.25-8.50	5.25-5.50	Naz	Halder	May	Vedenyapin
22.50-23.15	18.50-19.15	16.50-17.15	14.50-15.15	12.50-13.15	8.50-9.15	5.50-6.15	Campoamor-Stb.	Agnus	Baaziz	Morozov
23.15-23.40	19.15-19.40	17.15-17.40	15.15-15.40	13.15-13.40	9.15-9.40	6.15-6.40	Khalil	Leach	Nid	Kovtunenکو
23.40-0.05	19.40-20.05	17.40-18.05	15.40-16.05	13.40-14.05	9.40-10.05	6.40-7.05			Aibinu	Benhadri
0.05-0.30	20.05-20.30	18.05-18.30	16.05-16.30	14.05-14.30	10.05-10.30	7.05-7.30	<i>The Americas</i>	<i>The Americas</i>	Yahia	Ashkabov
0.30-1.00	20.30-21.00	18.30-19.00	16.30-17.00	14.30-15.00	10.30-11.00	7.30-8.00	Leon	Bîlă		
1.00-1.30	21.00-21.30	19.00-19.30	17.00-17.30	15.00-15.30	11.00-11.30	8.00-8.30	Olver	Cheviakov		
1.30-2.00	21.30-22.00	19.30-20.00	17.30-18.00	15.30-16.00	11.30-12.00	8.30-9.00	Anco	Grebenev		