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Designed by K. Bartkiewicz



Prof. Stanisław Kielich  
(10.XI.1925 - 15.X.1993)

The Symposium is dedicated to the memory of Prof. Stanisław Kielich.

Stanisław Kielich is considered to be one of the founders and leading experts in nonlinear optics, with forty years of continuous research work in the subject. He authored more than three hundred scientific papers. He had more than twenty PhD students. Four of his students are professors now. He was a member of the Polish Academy of Sciences. Among other distinctions he was awarded the Marian Smoluchowski Medal (1983) and twice the Cross of Merit (1976,1983).

The participants are invited to the performance „Men in glasses” by students and alumni of the Stanisław Kielich Junior-High School in Borowo.

# QEINO 2013

The Third Poznań Symposium on Quantum Engineering, Information, and Nonlinear Optics

15.X - 17.X.2013



SYMPOSIUM VENUE

Adam Mickiewicz University  
in Poznań

Collegium Physicum  
ul. Umultowska 85  
61-614, Poznań, Poland



Nonlinear Optics (15 Oct 2013)		
8:30	MORNING COFFEE	
9:00	N. Kielich, R. Tanaś, and T. Bancewicz (Poznań)	Stanisław Kielich - a few words about his life
9:30	T. Hilczer (Poznań)	The early days of physics of dielectrics in Poznań
10:00	K. Gubbins (Raleigh)	The theory of polar liquids and their mixtures: a historical review
10:45	G. Maroulis (Patras)	Quantifying the performance of quantum chemistry methods
11:15	D. Kasprowicz (Poznań)	Opportunities for Bi <sub>2</sub> ZnOB <sub>2</sub> O <sub>6</sub> single crystals: Second and third order nonlinear optical applications
11:45	ENTERTAINMENT*	
12:30	LUNCH AND COFFEE	
13:30	G. Boudebs (Angers)	Optical nonlinear characterization using imaging technique in a 4f-Z-scan system
14:00	I. Lyubchanskii (Donetsk)	Nonlinear magneto-optical ellipsometry
14:30	J. Warczewski (Katowice)	Spin glass state and other magnetic structures with their symmetries in terms of the Fibre Bundle Approach
15:00	J.-L. Godet (Angers)	A short historical recall about the story of the concept of refractive index: From the Antique to the 19th century
15:30	COFFEE BREAK	
16:00	M. Makowska-Janusik (Częstochowa)	Macroscopic optical properties of composite materials - computational approach
16:30	A. Zawadzka (Toruń)	Nonlinear optical properties of organometallic thin films
17:00	T. Lulek (Poznań)	Nonlinear magneto-optics, symmetry breakings and ascents, and the magnetic translation groups
18:00	WELCOME PARTY	

\* Performance in English on "Men in glasses" by students and alumni of the Stanisław Kielich Junior-High School in Borowo directed, stage designed, and supervised by Urszula Grabowska, Hanna Korpik, Ewa Wegner, and Piotr Wegner.

Quantum Information / Engineering (16 Oct 2013)		
8:30	MORNING COFFEE	
9:00	R. Horodecki (Gdańsk)	Objectivity from first principles - new role of broadcasting structure
9:30	M. Żukowski (Gdańsk)	Generalized Hardy correlations and quantum communication problems
10:00	D. Chruściński (Toruń)	Non-Markovian quantum dynamics
10:30	A. Grudka (Poznań)	Universal scheme for violation of local realism from quantum advantage in one-way communication complexity
11:00	COFFEE BREAK / POSTER SESSION	
11:30	W. Vogel (Rostock)	Unified representation of nonclassicality and entanglement
12:00	M. Kuś (Warsaw)	Engineering SU(3) models: trapped ions, quantum chaos, classical limit(s)
12:30	P. Horodecki (Gdańsk)	Device independent arbitrary weak randomness amplification with noise tolerance
13:00	K. Życzkowski (Kraków)	Measuring the degree of quantum entanglement
13:30	LUNCH AND COFFEE	
14:30	Guided tour to NANOBIO MEDICAL CENTRE	
15:30	J. Mostowski (Warsaw)	Time crystals
16:00	T. Sowiński (Warsaw)	Universality of extended Bose-Hubbard models with local three-body interactions
16:30	T. Polak (Poznań)	Gauge dependent time of flight patterns in Abelian synthetic magnetic fields
17:00	J. Martinek (Poznań)	Cooper pair splitting as a source of entangled electrons
17:30	COFFEE / POSTER SESSION	

Session	Chairperson		
	15 Oct 2013	16 Oct 2013	17 Oct 2013
I	Ryszard Tanaś	Werner Vogel	Qiongyi He
II	Keith Gubbins	Ryszard Horodecki	Jan Perina Jr.
III	George Maroulis	Alexandre Zagoskin	Zbigniew Ficek

Quantum Engineering (17 Oct 2013)		
8:30	MORNING COFFEE	
9:00	A. Zagoskin (Loughborough)	Quantum metamaterials: concept and applications
9:30	I. Weymann (Poznań)	The Kondo effect in quantum dots
10:00	P. Glowacki (Poznań)	Spectroscopic investigations of the atomic structure in support of quantum engineering and metrology
10:30	M. Krawczyk (Poznań)	Review and prospects of magnonic crystals
11:00	COFFEE BREAK	
11:30	Z. Ficek (Riyadh)	Role of the first-order coherence in entanglement between Gaussian modes
12:00	Q. He (Beijing)	Einstein-Podolsky-Rosen paradox and quantum steering in pulsed optomechanics
12:30	K. Banaszek (Warsaw)	Which-way experiment with an internal degree of freedom
13:00	M. Czachor (Gdańsk)	Are EPR correlations sensitive to the form of field quantization?
13:30	LUNCH AND COFFEE	
14:30	J. Peřina Jr. (Olomouc)	Sub-Poissonian-light generation by postselection from twin beams
15:00	J. Soubusta (Olomouc)	Recent results of the experimental-optics group in Olomouc
15:30	A. Černoch (Olomouc)	Linear-optical qubit amplifier
16:00	K. Lemr (Olomouc)	Linear-optical quantum routers
16:30	COFFEE	

The book of abstracts is available at our website:  
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**Main organizers:** R. Tanaś, T. Bancewicz, A. Miranowicz

**Organizing Committee:** K. Bartkiewicz, G. Chimczak, W. Głaz, K. Grygiel, B. Horst, A. Kowalewska-Kudłaszyk, W. Leoński, and M. Paprzycka