

12th International Conference on Quasicrystals
1-6 September 2013, Cracow, Poland

Conference Program

Address: Faculty of Physics and Applied Computer Science AGH
19 Reymonta Street, Krakow
AGH building D-10

Sunday 1 st September	Monday 2 nd September	Tuesday 3 rd September	Wednesday 4 th September	Thursday 5 th September	Friday 6 th September
	Opening	1 scientific session			1 scientific session
Tutorials 3h <i>Mathematics</i>	2 scientific sessions	Celebration of AGH Honorary Doctorate to Prof. Dan Shechtman	2 scientific sessions	2 scientific sessions	Closing
Tutorials 3h <i>Physics & Material science</i>	Lunch	Lunch	Lunch	Lunch	
17:00-19:00 Registration + Welcome party	2 scientific sessions	Krakow Old Town walk	2 scientific sessions	2 scientific sessions	
	Poster session I and gala concert + garden party	Conference Gala Dinner	Poster session II and concert + grill party	Excursion	

Sunday, 1st September

<i>Tutorials I</i>	<i>Jacek Miekisz</i>	<i>Mathematics</i>	AGH D-10
10:00 – 11:00	Aernout van Enter	Aperiodic order in equilibrium systems	T-01
11:00 – 12:00	Natalie Frank	Fusion: a general framework for hierarchical tilings	T-02
12:00 – 13:00	Uwe Grimm	Recent Progress in Mathematical Diffraction	T-03
13:00 – 14:00	<i>coffee break + snacks</i>		
<i>Tutorials II</i>	<i>Ted Janssen</i>	<i>Physics & Material science</i>	AGH D-10
14:00 – 15:00	Ron Lifshitz	Symmetry, excitations, and defects in quasicrystals	T-04
15:00 – 16:00	Yasushi Ishii	Valence Electrons and Bonding in Quasicrystals	T-05
16:00 – 17:00	Yuri Grin	Chemical bonding in intermetallic compounds	T-06
17:00 – 19:00	Registration + Welcome party		Address: 19 Reymonta Street, Krakow, AGH building D-10

Monday, 2nd September

8:00 –		Registration		Address: 19 Reymonta Street, Krakow, AGH building D-10	
9:00 – 9:10		Opening	Janusz Wolny		
<i>Session I</i>		<i>An-Pang Tsai</i>			
9:10 – 9:40	invited	Keiichi Edagawa	In-situ HRTEM observations of growth process of decagonal quasicrystals	I-01	
9:40 – 10:00	contributed	Andrew Archer	Formation of quasicrystals and other exotic crystal structures in a soft-core fluid: a tale of two length scales	O-01	
10:00 – 10:20	contributed	Uichiro Mizutani	Theoretical foundations of the Hume-Rothery electron concentration rule for structurally complex alloys	O-02	
10:20 – 10:40	contributed	Alexander Kiselev	Configurational entropy of atomistic quasicrystals in 2D	O-03	
10:40 – 11:10		<i>coffee break</i>			
<i>Session II</i>		<i>Patricia Thiel</i>			
11:10 – 11:40	invited	Stefan Foerster	Discovery of quasicrystalline thin film formation from perovskites	I-02	
11:40 – 12:10	invited	Birgitta Meisterernst	Quasicrystal and its periodic approximant – do they fit to each other? Epitaxial crystal growth experiments in the Al-Co-Ni system	I-03	
12:10 – 12:30	contributed	Mike Lowe	Quasicrystals as Catalysts for the Steam Reforming of Methanol: A Study of the Leached Surfaces of Single Grain Quasicrystals	O-04	
12:30 – 12:50	contributed	Jakub Stelmachowski	Ultrathin quasicrystal films deposited on silicon for controlling friction and adhesion	O-05	
12:50 – 13:10	contributed	Masahiko Shimoda	STM studies on the surface of Ag-In-Yb 1/1 approximant	O-21	
13:10 – 14:10		<i>lunch</i>			
<i>Session III</i>		<i>Ron Lifshitz</i>			
14:10 – 14:40	invited	Stephan Foerster	Soft quasicrystals with 12- and 18-fold rotational symmetry	I-04	
14:40 – 15:10	invited	Johannes Roth	Beyond metallic quasicrystals: The colloidal road in experiments and simulations	I-05	
15:10 – 15:30	contributed	Tomonari Dotera	Simulation study of two-lengthscale quasicrystals	O-06	
15:30 – 15:50	contributed	Michael Schmiedeberg	Stability of quasicrystals in colloid-polymer mixtures	O-07	
15:50 – 16:20		<i>coffee break</i>			
<i>Session IV</i>		<i>Tsutomu Ishimasa</i>			
16:20 – 16:50	invited	Nobuhisa Fujita	Al-based F-type icosahedral alloys ~ a novel view from X-ray crystallography ~	I-06	
16:50 – 17:10	contributed	Walter Steurer	Decagonal quasicrystals - some new aspects	O-08	
17:10 – 17:30	contributed	Pawel Kuczera	High temperature structures of decagonal Al-Cu-Rh and Al-Cu-Ir quasicrystals	O-09	
17:30 – 17:50	contributed	Alan Goldman	A new family of binary magnetic icosahedral quasicrystals based on rare earths and cadmium	O-10	
17:50 – 19:15	Poster session I		AGH building D-10, room 108 and 123	odd numbers	
19:15 –	Gala concert (M. Wegiel, J. Sobenko) + Jean-Marie Dubois Award + garden party				AGH D-10

Tuesday, 3rd September

Session V

Nilay K. Mukhopadhyay

9:00 – 9:30	invited	Gordon Miller	Gold's Impact on the Occurrence of Fivefold and Pseudo-fivefold Symmetry in Polar Intermetallics	I-07
9:30 – 10:00	invited	Tsunehiro Takeuchi	Thermal rectification in icosahedral quasicrystals	I-08
10:00 – 10:20	contributed	Samuel Kenzari	Quasicrystal–polymer composites for additive manufacturing technology	O-11
10:20 – 10:40	contributed	Chuang Dong	Theoretical hardness of Al-based quasicrystals evaluated by the cluster-resonance model	O-12

10:40 – 10:55 *coffee break*

Session VI

11:15 – 13:00 AGH Honorary Doctorate to Prof. Dan Shechtman Address: 30 Mickiewicza Avenue
AGH building A-0, assembly hall (aula)

13:00 – 13:30 *lunch*

13:45 – 15:00 Jagiellonian University Museum Collegium Maius (start from AGH building A-0)

15:00 – 17:30 Krakow Old Town walk

19:00 – Conference Gala Dinner (Szara Kazimierz Restaurant) Address: 39 Szeroka Street, Krakow

Wednesday, 4th September

<i>Session VII</i>		<i>Michael Baake</i>		
9:00 – 9:30	invited	Jeong-Yup Lee	Tiling space of Taylor-Socolar tilings	I-09
9:30 – 10:00	invited	Johannes Kellendonk	Topological Bragg peaks and how they characterize tilings	I-10
10:00 – 10:20	contributed	Franz Gaehler	Decorated silver-mean chain with mixed spectrum	O-13
10:20 – 10:40	contributed	Reinhard Lueck	Hyperbolic icosahedral tiling of Buckyballs	O-14
10:40 – 11:00	contributed	Shelomo I. Ben-Abraham	Multidimensional paperfolding structures	O-15
11:00 – 11:30 <i>coffee break</i>				
<i>Session VIII</i>		<i>Michael Feuerbacher</i>		
11:30 – 12:00	invited	Valeria Molinero	Quasicrystals and crystals tiled with pentagons in water and silicon	I-11
12:00 – 12:30	invited	Bertrand Toudic	Phase transitions in organic aperiodic composites	I-12
12:30 – 12:50	contributed	Anuradha Jagannathan	Tight-binding models in quasiperiodic optical lattices	O-16
12:50 – 13:10	contributed	Elena Vedmedenko	Magnetic currents in aperiodic tilings	O-17
13:10 – 14:10 <i>lunch</i>				
<i>Session IX</i>		<i>Ronan McGrath</i>		
14:10 – 14:40	invited	Vincent Fournée	Molecular films with long-range quasiperiodic structures	I-15
14:40 – 15:00	contributed	Pat Thiel	Temperature dependence of Ag film roughness and interlayer spacing during deposition on complex Al-Pd-Mn surfaces: comparison with periodic substrates	O-22
15:00 – 15:20	contributed	Sanger Hars	Ag-based quasicrystals and approximants as a template to grow metallic thin films	O-20
15:20 – 15:40	sponsor	Mathias Meyer	Agilent Technologies	
15:40 – 16:10 <i>coffee break</i>				
<i>Session X</i>		<i>Walter Steurer</i>		
16:10 – 16:40	invited	Julia Dshemuchadse	Intermetallic structures: Constituents, Compositions and Complexity	I-13
16:40 – 17:10	invited	Alessandra Beni	Oxidation and Passive oxide layers characterization on Al-Cr-Fe Complex Metallic Alloys	I-14
17:10 – 17:30	contributed	Michael Feuerbacher	Plastic deformation of refractory metal high-entropy alloys	O-18
17:30 – 17:50	contributed	Marc Heggen	The complex metallic alloy Al ₁₃ Co ₄ : Metadislocation core structure and atomic model for metadislocation motion	O-19
17:50 – 19:15	poster session II		AGH building D-10, room 108 and 123	even numbers
19:15 –	Grill party + live music (Boba Jazz Band)			AGH D-10

Thursday, 5th September

<i>Session XI</i>		<i>Hans-Rainer Trebin</i>		
9:00 – 9:30	invited	Janusz Tobola	Calculating electronic structure of complex disordered alloys to study their magnetic and transport behaviours	I-16
9:30 – 10:00	invited	Magdalena Wencka	Intrinsic anisotropic magnetic, electrical and thermal transport properties of d-Al-Co-Ni decagonal quasicrystals	I-17
10:00 – 10:20	contributed	Koichi Kitahara	Molecular orbital picture extracted from the band structure of a realistic approximant crystal with semimetallic or semiconducting bandgap	O-23
10:20 – 10:40	contributed	Guy Trambly de Laissardiere	Sub-diffusive electronic states in Penrose and octagonal tilings	O-24
10:40 – 11:10 <i>coffee break</i>				
<i>Session XII</i>		<i>Hiroyuki Takakura</i>		
11:10 – 11:40	invited	Holger Euchner	Tetrahedron dynamics in Tsai-type quasicrystals and their approximants	I-18
11:40 – 12:10	invited	Chris Henley	Orientational interaction and ordering transitions of tetrahedral in the Cd ₆ Ca approximant	I-19
12:10 – 12:30	contributed	Marek Mihalkovic	Orientation interactions of pseudo-Mackay clusters in Al ₁₁ Ir ₄ and approximants of <i>i</i> -AlPdMn	O-25
12:30 – 12:50	contributed	Hans-Rainer Trebin	Metadislocation core structure in the ϵ -Al-Pd-Mn phases	O-26
12:50 – 13:50 <i>lunch</i>				
<i>Session XIII</i>		<i>Tomonari Dotera</i>		
13:50 – 14:20	invited	Yoav Lahini	Localization, nonlinearity and topological phases in quasiperiodic photonic lattices	I-20
14:20 – 14:50	invited	Kazuhiko Deguchi	Quantum criticality in a magnetic Au-Al-Yb quasicrystal	I-21
14:50 – 15:10	contributed	Ryuji Tamura	Re-entrant spin glass in a Tsai-type approximant	O-27
15:10 – 15:30	contributed	Takanobu Hiroto	Ferro- and ferri-magnetic ordering in ternary Tsai-type magnetic icosahedral quasicrystalline approximants	O-28
15:30 – 16:00 <i>coffee break</i>				
<i>Session XIV</i>		<i>Janez Dolinsek</i>		
16:00 – 16:30	invited	Tsunetomo Yamada	Phason modes in the Sc-Zn icosahedral quasicrystal	I-22
16:30 – 16:50	contributed	Tsutomu Ishimasa	Triangle-square tiling in Mn-Cr-Si alloys	O-29
16:50 – 17:10	contributed	Kazuki Nozawa	Stability of the acute rhombohedron in Cd-based quasicrystals	O-30
17:10 – 20:30 Excursion to Wieliczka Salt Mine (start from AGH building D-10)				
20:30 – 22:00 IAB meeting		Address: 2 Golebia Street, Krakow		

