

**13<sup>th</sup> INTERNATIONAL CONFERENCE ON QUASICRYSTALS (ICQ13)**  
**18-23 September 2016, Kathmandu, Nepal**  
**Program Detail**

**18th Sunday**

Tutorial (chair: J Ledieu)			
09:20			Registration open at Dhulikhel Lodge Resort
11:40	12:40	Smerdon	Fibonacci, Penrose, Harry Potter: an introduction to the strange world of quasicrystals
12:40	13:40	Gomez	Structure analysis of icosahedral quasicrystals and approximants by X-ray diffraction
13:40	14:10	Refreshment	
14:10	15:10	Sato	Physics hidden in open space between heavy fermions and quasicrystals
16:00		Opening ceremony	
18:15		Welcome dinner	

**19th Monday**

Session I: Formation, Growth, Soft Matter Quasicrystals (chair: C Gomez)			
09:15	09:20		Opening remarks
09:20	09:50	Dotera	Bronze-mean hexagonal quasicrystal ( <b>invited</b> )
09:50	10:10	Ishimasa	Dodecagonal quasicrystal in Mn-based alloy
10:10	10:30	Boulet	Two types of QC approximant in the Ce-Au-Ge system
10:30	10:50	Shahi	Synthesis characterizations and hydrogenation behavior of as quenched Ti <sub>45</sub> +XZr <sub>38</sub> -XNi <sub>17</sub> (x=3, 5, 8) nano quasicrystalline ribbons
10:50	11:20	Coffee	
Session II: Structure and Modeling (chair: H Takakura)			
11:20	11:40	YamadaT	Atomic structures of ternary Yb-Cd-Mg icosahedral quasicrystals
11:40	12:00	SinghA	Deformation of icosahedral quasicrystal in a composite of Mg-Zn-Y alloy during severe plastic deformation
12:00	12:20	Dong	Quasicrystal composition formulas and the hardness evaluation via the cluster-plus-glue-atom model
12:20	12:40	Buganski	The statistical description of the Cd-Yb icosahedral quasicrystal with the application of the novel concept of the phason disorder correction
12:40	13:10	Jana	Structure and stability of AuZn <sub>2.1</sub> – a $\gamma$ -brass related complex phase in the Au-Zn system ( <b>invited</b> )
13:10	14:20	Lunch	
Session III: Structure and Modeling (chair: W Steurer )			
14:20	14:50	Abe	Ultrahigh-resolution STEM combined with multivariate analysis for decagonal quasicrystals ( <b>invited</b> )

14:50	15:10	Wolny	Fundamentals of statistical description of diffraction pattern of crystals
15:10	15:30	Sugiyama	Middle range ordering realized in Zr-Pt amorphous alloy and quasicrystalline approximants
15:30	15:50	Chodyn	Generalized Penrose tiling as a model for structure refinement of decagonal quasicrystals
15:50	16:20	Coffee	
		<b>Session IV:</b>	<b>Electronic Properties (chair: JM Dubois )</b>
16:20	16:40	Edagawa	Critical photonic states in 2D photonic quasicrystals
16:40	17:00	Kee	Ultraflattened Dispersion Properties of Photonic Quasicrystal Fibers
17:00	17:20	Lifshitz	Fibonacci Bloch functions
17:20	17:40	Subramanian	Weakly nonlinear analysis of three-dimensional quasicrystals using Homotopy continuation
17:40	18:00	Break	
18:00	20:00	Poster session with dinner	
20:00	21:00	Cultural program	

## 20th Tuesday

		<b>Session V:</b>	<b>Electronic and Transport Properties (chair: J Dolinsek )</b>
09:20	09:50	Widmer	Fermi states and anisotropy of Brillouin zone scattering in the decagonal Al–Ni–Co quasicrystal ( <b>invited</b> )
09:50	10:10	Kitahara	Unified cluster-based description of valence Bands in AlIr, RuAl <sub>2</sub> , RuGa <sub>3</sub> , and Al–TM quasicrystalline approximants
10:10	10:30	Koga	Valence fluctuations in heavy fermion system on the Penrose lattice: real-space dynamical mean-field approach
10:30	10:50	Kimura	Search for semiconducting quasicrystal and high-performance thermoelectric material
10:50	11:20	Coffee	
		<b>Session VI:</b>	<b>Electronic and Transport Properties (chair: R Lifshitz)</b>
11:20	11:40	Dolinsek	Schottky effect in rare-earth-containing quasicrystals
11:40	12:00	Laissardiere	Anomalous quantum diffusion in quasicrystals and approximants
12:00	12:20	Nicolas Macé	Gap structure and topological indices on the Fibonacci quasicrystal
12:20	12:40	Deguchi	Magnetism and superconductivity in Icosahedral quasicrystals and approximants with Tsai-type clusters
12:40	13:00	Elena	Magnetic charges in quasiperiodic vertex models
13:00	14:20	Lunch	
		<b>Session VII:</b>	<b>Magnetic Properties (chair: R Tamura)</b>

14:20	14:50	Takemori	Local and short-range electron correlation effects on the Penrose lattice ( <b>invited</b> )
14:50	15:10	Sugimoto	Phenomenological magnetic model in Tsai-Type approximants
15:10	15:30	Kreyssig	Magnetic order in RCd6 single crystals – the approximants to the spin-glass i-R-Cd quasicrystals
15:30	15:50	Hiroto	Neutron-scattering study on the quasicrystal approximants Au-Si-R (R = rare-earths)
15:50	16:20	Coffee	
		<b>Session VIII:</b>	<b>Magnetic Properties/Mathematics (chair: A Goldman)</b>
16:20	16:50	Jagannathan	Screening of magnetic impurities in quasicrystals ( <b>invited</b> )
16:50	17:10	Tamura	Magnetic properties of Au-based Tsai-type approximants
17:10	17:30	Gullo	Equivalence classes of Fibonacci lattices and their similarity properties
17:30	17:50	Fang	Fractality in quasicrystals and prime number distribution
17:50	18:00	Break	
18:00	20:00	Poster session with dinner	
20:00	21:00	Cultural program	

### 21st Wednesday

		<b>Session IX:</b>	<b>Chris Henley Memorial Session (chair: M Widom)</b>
08:40	09:00	Mihalkovic	Finite temperature structure and stability of i-AlCuFe and i-AlMnPd from realistic simulations
09:00	09:20	Fujita	Canonical-cell icosahedral quasicrystals?
09:20	09:50	Ben-Abraham	Brick tiling ( <b>invited</b> )
09:50	10:10	Latham Boyle	Coxeter pairs, Ammann patterns and Penrose-like tilings
10:10	10:30	Ajlouni	An ancient rule for constructing dodecagonal quasi-periodic formations
10:30	Move to Tribhuvan University (tea/coffee in bus)		
		<b>Public Lecture by Dan Shechtman at Tribhuvan University (chair: NP Adhikari)</b>	
12:00	13:00	Shechtman	<b>Technological Entrepreneurship - Key to World Peace and Prosperity</b>
13:00	22:00	Lunch followed by excursion and conference dinner	

### 22nd Thursday

		<b>Session X:</b>	<b>Surface and Overlayers (chair: R McGrath)</b>
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09:20	09:50	Gaudry	First surface structure determination of a quasicrystalline approximant using combined surface x-ray diffraction and ab initio calculations ( <b>invited</b> )
09:50	10:10	Ledieu	Structural investigation of the Al <sub>13</sub> Ru <sub>4</sub> (010) surface
10:10	10:30	Fournee	Self-assembling of 5-fold symmetric molecules on quasicrystalline surfaces
10:30	10:50	Coates	Growth of modules on complex Al-based intermetallic compounds: role of order of surface structural complexity
10:50	11:20	Coffee	
		<b>Session XI:</b>	<b>Surface and Overlayers (chair: E Gaudry)</b>
11:20	11:40	Pussi	Coverage-dependent structural phase transformations in the adsorption of pentacene on an aperiodically modulated Cu film by DFT
11:40	12:00	Foerster	Growth and decay of oxide quasicrystals
12:00	12:20	Widdra	Structural analysis of approximants for the BaTiO <sub>3</sub> -derived oxide quasicrystal
12:20	12:40	Yuhara	Compositional analysis of oxide quasicrystal : Ba-Ti-O film on Pt(111)
12:40	13:00	Dubois	A complex Self-lubricating, low-friction, wear-resistant Al-based quasicrystalline coatings
13:00	14:10	Lunch	
		<b>Session XII:</b>	<b>Dynamics (chair: K. Edagawa)</b>
14:10	14:30	Trebin	Phason dynamics in decagonal quasicrystals
14:30	14:50	Grimm	Diffraction of a simple non-Pisot inflation chain
14:50	15:10	Lory	Impact of complexity and atomic disorder on lattice dynamics and thermal properties in the complex metallic alloys o-Al <sub>13</sub> Co <sub>4</sub>
15:10	15:30	Liu	Diffuse scattering, phason fluctuations and atomic scale simulation in the Zn-Sc icosahedral quasicrystal
15:30	15:50	Strzalka	Diffraction pattern of quasicrystals with phononic and phasonic disorder – state of art
15:50	16:20	Coffee	
		<b>Session XIII:</b>	<b>Future Directions of Quasicrystal Research (chair: M de Boissieu )</b>
16:20	16:45	Steurer	Quasicrystal structure and growth models - a discussion of the status quo and of the still open questions ( <b>invited</b> )
16:45	16:55	Floor Discussion	
16:55	17:20	Goldman	Physical properties of quasicrystals ( <b>invited</b> )
17:20	17:30	Floor Discussion	
17:30	17:55	Julien	Current questions in mathematical quasicrystals (and beyond) ( <b>invited</b> )

17:55	18:05	Floor Discussion
18:05	18:15	Break
18:15	20:00	Poster session with dinner
20:00	21:00	Cultural program

### 23rd Friday

		Session <b>XIV:</b>	<b>Composites &amp; Applications (chair: C Dong)</b>
09:20	09:50	Pérez	Phase transitions toward complex electronic states and superperiodic structures in monophosphate tungsten bronzes ( <b>invited</b> )
09:50	10:10	Cini	Bioactivity of quasicrystalline-reinforced composite materials for 3D printing of medical implants
10:10	10:30	Leu	The microstructure and hydrophobic behavior of Al-Cu-Fe coating by plasma spraying
10:30	10:50	Yadav	Mechanical properties of carbon nano-variant reinforced quasicrystal composite
10:50	11:20	Coffee	
11:20	11:40	Chen	Characteristic smearing wear behavior of quasicrystals as abrasive materials
11:40	12:00	Dahal	American physical society publications and peer review process (Associate Editor, Physical Review B)
12:00	12:20	Conclusion	
12:20		Lunch and End of Conference	