

4th Hypermaterials Young Research Seminar

Date: 5.12.2022(Mon.) ~ 7.12.2022(Wed.)

Venue: KKR KYOTO KUNISO

Lecture time: 20 minutes (15 minutes presentation + 5 minutes Q&A)

Lecture language: English or Japanese

Slide language: English

【Monday, December 5th】

13:00 – 13:05 Opening remarks

Lecture Chair: Shintaro Suzuki (Tokyo University of Science)

13:05 – 14:55 Anuradha Jagannathan (University of Paris-Saclay)

“Electronic states and transport in quasicrystals”

14:55 – 15:10 Break

Oral session 1-1 Chair: Anuradha Jagannathan (University of Paris-Saclay)

15:10 – 15:30 Farid Labib (Tokyo University of Science)

“Emergence of long-range magnetic order from spin-glass state by tuning electron density in Ga-based 1/1 quasicrystal approximant”

15:30 – 15:50 Jens Stellhorn (Nagoya University)

“Local structure of aperiodic systems by atomic resolution holography”

15:50 – 16:10 Masahiro Hori (Tokyo University of Science)

“Confined States in the Pi-Flux Model on the Penrose and Ammann-Beenker Tiling”

16:10 – 16:25 Break

Oral session 1-2 Chair: Takanobu Hiroto (NIMS)

16:25 – 16:45 Toranosuke Matsubara (Tokyo Institute of Technology)

“Ferromagnetically ordered states on the hexagonal golden-mean tiling”

16:45 – 17:05 Takaki Abe (Tokyo University of Science)

“Magnetic properties of Eu-based hypermaterials”

17:05 – 17:25 Ryo Takeuchi (Tokyo University of Science)

“Synthesis and magnetic properties of Au-Ga-Dy quasicrystals”

17:25 – 18:00 Poster preview

18:00 - Dinner

【Tuesday, December 6th】

Lecture	Chair: Marc de Boissieu (Univ. Grenoble Alpes)	
09:00 – 10:50	Noriaki Satoh (Aichi Institute of Technology)	“Superconductivity and strongly correlated effect in quasicrystal”
10:50 – 11:00	Break	
Oral session	2-1	Chair: Yoichiro Hashizume (Tokyo University of Science)
11:00 – 11:20	Arianna Minelli (University of Oxford)	“Charge density wave in KCP: a new look to an old compound”
11:20 – 11:40	Takumi Fukushima (Okayama University)	“Superconducting Current Distribution on Ammann-Beenker Structure: Anomalies in Paramagnetic Current”
11:40 – 12:00	Kotaro Hamano (The University of Tokyo)	“Synthesis and superconductivity of Ta-Te two dimensional van der Waals quasicrystal”
12:00 – 13:00	Lunch	
13:00 – 16:00	Excursion	
Poster & Free discussion session	Chair: Arianna Minelli (University of Oxford)	
16:00 – 18:00	<ul style="list-style-type: none">– Zhang Jinjia (The University of Tokyo) “Phonon-phason coupling in an Ag-In-Yb icosahedral quasicrystal”– Goro Nozue (Osaka University) “Electronic structure study of a strongly correlated Cd-Ce quasicrystalline approximant probed by linear dichroism in core-level photoemission”– Yoichiro Hashizume (Tokyo University of Science) “Evaluation of quasiperiodic order using Kullback–Leibler divergence”– Hirotaka Uryu (Tokyo University of Science) “A machine learning framework for identification of quasicrystalline phases from powder X-ray diffraction patterns”– Kanta Hiroki (Tokyo University of Science) “Predictive screening for quasicrystal detection using the PDF2”– Takanobu Hiroto (National Institute for Materials Science) “TBA”– Yuma Kobayashi (Niigata University) “Elastic Properties of Au-Al-Yb Quasicrystal and Approximant Crystal by Ultrasonic Experiments under Hydrostatic Pressure”– Syota Iwado (Kagoshima University) “First-principles study of atomic structure of trace Pt-doped Al₁₃Fe₄”– Shintaro Suzuki (Tokyo University of Science)	

“Electronic Transport Properties of Tsai-type Quasicrystal Approximants”

– Kyoma Yoko (Nagoya University)

“Research of non-magnetic Tsai-type quasicrystals and approximants.”

– Tatsuya Kanai (Nagoya University)

“Low temperature magnetism of Tsai-Type approximants”

18:00 - Dinner

【Wednesday, December 7th】

Lecture Chair: Jens Stellhorn (Nagoya University)

09:00 – 10:50 Marc de Boissieu (Univ. Grenoble Alpes)

“Dynamics of quasicrystal”

10:50 – 11:00 Break

Oral session 3-1 Chair: Tsunetomo Yamada (Tokyo University of Science)

11:00 – 11:20 Masanori Satoh (Kagoshima University)

“Stable adsorption structures of Pentacene on the Tsai-type quasicrystals”

11:20 – 11:40 Kansuke Chisuwa (Tohoku University)

“Search for growth conditions of high-quality single crystals of Al-Pd-Mn-Fe approximant”

11:40 – 12:00 Daiki Katoh (Tohoku University)

“Surface Reaction Properties of Two-dimensional Al-(Ni,Cu)-Co quasicrystals”

12:00 – 13:00 Lunch

Group discussion Chair: Takanori Sugimoto (Osaka University)

13:00 – 13:05 lottery to determine groups

13:05 – 14:20 Group discussion

14:20 – 14:30 Break

14:30 – Summary

(End)