

Workshop IV : TPS & Complementary Methods for Emerging Materials

Organizer: E-Wen Huang (黃爾文)

September 7 (Thursday)

Place: L100

08:30		Registration
09:00		Workshop Opening Remarks <i>E-Wen Huang (黃爾文), National Chiao Tung Univ. (國立交通大學)</i> <i>Session Chair: E-Wen Huang (黃爾文)</i>
09:20	IV1	Imaging Individual Drug-carrying Liposome Particles by Free-electron-laser Coherent Diffraction <i>Keng S. Liang (梁耕三), Academia Sinica (中央研究院)</i>
09:45	IV2	Imaging 3D Atomic Structure Around Specific Atoms Using Atomic-resolution Holography <i>Hiroshi Daimon, NAIST, Japan</i>
10:20		Coffee Break <i>Session Chair: E-Wen Huang (黃爾文)</i>
10:40	IV3	Role of the Inter-particle Potential on the Nonlinear Rheology of Highly Cooperative Colloids <i>Wei-Ren Chen (陳威仁), Oak Ridge National Laboratory, USA</i>
11:15	IV4	Use of Coherent X-rays for Observing Materials' Dynamics: Prospects and Issues <i>Yuya Shinohara, Univ. of Tennessee, USA</i>
11:40	IV5	Non-destructive Characterization of Residual Stress in Engineering Materials Using Energy-dispersive X-ray Diffraction <i>Andrew Chuang, Argonne National Laboratory, USA</i>
12:05		Lunch Exhibitor Presentation 12:10 ~ 12:30 Dectris (at D260)

Workshop IV : TPS & Complementary Methods for Emerging Materials (Continued)

Organizer: E-Wen Huang (黃爾文)

September 7 (Thursday)

Place: L100

Session Chair: E-Wen Huang (黃爾文)

13:05 IV6 **Micro/Nanostructures for Enhanced Condensation and Anti-icing**

Ming-Chang Lu (呂明璋), National Chiao Tung Univ. (國立交通大學)

13:30 IV7 **Semiconductor Nanoheterostructures for Photoconversion Applications**

Yung-Jung Hsu (徐雍鏗), National Chiao Tung Univ. (國立交通大學)

14:10 IV8 **Smart Nanoplatfoms for Bioanalytics and Disease Theranostics**

Hsin-Yun Hsu (許馨云), National Chiao Tung Univ. (國立交通大學)

14:35 Coffee Break

Session Chair: E-Wen Huang (黃爾文)

14:50 IV9 **An Introduction of a New Project to Develop Advanced High Entropy Superalloys and the Potential Future Utilization of Neutron Scattering Analysis**

An-Chou Yeh (葉安洲), National Tsing Hua Univ. (國立清華大學)

15:25 IV10 **Study of Discrete Voids Formation in Flip-Chip Solder Joints due to Electromigration Using In-Situ 3D Laminography and Finite-Element Modeling**

Yuan-Wei Chang (張元蔚), Karlsruhe Institute of Technology, Germany

15:50 IV11 **A Tool of Microstructure Analysis for Shape Memory Alloys**

Nien-Ti Tsou (鄒年棣), National Chiao Tung Univ. (國立交通大學)

16:25 IV12 **Local Heating Effects on the Development of Shear Bands in Metallic Glass**

Yu-Chieh Lo (羅友杰), National Chiao Tung Univ. (國立交通大學)

17:00 IV13 **Development of Material Virtual Screening: High-throughput Framework and Machine Learning**

Wen-Jay Lee (李玟韻), National Center for High-performance Computing (國家高速網路與計算中心)

17:20 **Discussion & Workshop Closing Remarks**

E-Wen Huang (黃爾文), National Chiao Tung Univ. (國立交通大學)

17:50

Workshop IV

TPS & Complementary Methods for Emerging Materials

Organizer: *E-Wen Huang* (黃爾文)



September 7th (Thu.)



L100

08:30 Registration

09:00 Workshop Opening Remarks

E-Wen Huang (黃爾文),

National Chiao Tung Univ. (國立交通大學)

Session Chair: E-Wen Huang (黃爾文)

**09:20 Imaging Individual Drug-carrying
Liposome Particles by
Free-electron-laser Coherent Diffraction**

Keng S. Liang (梁耕三),

Academia Sinica (中央研究院)



**09:45 Imaging 3D Atomic Structure
Around Specific Atoms Using
Atomic-resolution Holography**
Hiroshi Daimon, NAIST (Japan)



10:20 Coffee Break

Workshop IV

TPS & Complementary Methods for Emerging Materials

Session Chair: E-Wen Huang (黃爾文)

10:40 Role of the Inter-particle
Potential on the Nonlinear
Rheology of Highly Cooperative
Colloids

*Wei-Ren Chen (陳威仁),
Oak Ridge National Lab. (USA)*



11:15 Use of Coherent X-rays for
Observing Materials' Dynamics:
Prospects and Issues

*Yuya Shinohara,
Univ. of Tennessee (USA)*



11:40 Non-destructive Characterization of
Residual Stress in Engineering
Materials Using Energy-dispersive
X-ray Diffraction

*Andrew Chuang,
Argonne National Laboratory (USA)*



12:10~12:30 Exhibitor Presentation (Dectris)

12:05~13:05 Lunch



Workshop IV

TPS & Complementary Methods for Emerging Materials

Session Chair: E-Wen Huang (黃爾文)

**13:05 Micro/Nanostructures for Enhanced
Condensation and Anti-icing**

*Ming-Chang Lu (呂明璋),
National Chiao Tung Univ.
(國立交通大學)*



**13:30 Semiconductor
Nanoheterostructures for
Photoconversion Applications**

*Yung-Jung Hsu (徐雍鏗),
National Chiao Tung Univ.
(國立交通大學)*



**14:10 Smart Nanoplatfoms for Bioanalytics
and Disease Theranostics**

*Hsin-Yun Hsu (許馨云),
National Chiao Tung Univ.
(國立交通大學)*



14:35 Coffee Break

Workshop IV

TPS & Complementary Methods for Emerging Materials

Session Chair: E-Wen Huang (黃爾文)

14:50 An Introduction of a New Project to Develop Advanced High Entropy Superalloys and the Potential Future Utilization of Neutron Scattering Analysis

*An-Chou Yeh (葉安洲),
National Tsing Hua Univ.
(國立清華大學)*



15:25 Study of Discrete Voids Formation in Flip-Chip Solder Joints due to Electromigration Using In-Situ 3D Laminography and Finite-Element Modeling

*Yuan-Wei Chang (張元蔚),
Karlsruhe Institute of Technology
(Germany)*



15:50 A Tool of Microstructure Analysis for Shape Memory Alloys

*Nien-Ti Tsou (鄒年棣),
National Chiao Tung Univ.
(國立交通大學)*



Workshop IV

TPS & Complementary Methods for Emerging Materials

Session Chair: E-Wen Huang (黃爾文)

**16:25 Local Heating Effects on the
Development of Shear Bands in
Metallic Glass**

*Yu-Chieh Lo (羅友杰),
National Chiao Tung Univ.
(國立交通大學)*



**17:00 Development of Material Virtual
Screening: High-throughput
Framework and Machine Learning**

*Wen-Jay Lee (李玟韻),
National Center for
High-performance Computing
(國家高速網路與計算中心)*



17:20 Discussion & Workshop Closing Remarks

*E-Wen Huang (黃爾文),
National Chiao Tung Univ. (國立交通大學)*