

ICFF VIII Conference Program Outline

3 January 2008 (GMT +8:00), Hong Kong

Time	Events	Venue
8:00 – 17:10	On-site Registration	Academic Concourse, HKUST
8:30 – 9:00	Open Ceremony	Chiang Chen Lecture Theatre (LTJ), HKUST
9:00 – 10:00	Single-Session 1	LTJ, HKUST
10:00 – 10:15	Tea Break	Academic Concourse, HKUST
10:15 – 12:15	Single-Session 2	LTJ, HKUST
12:15 – 13:30	Lunch	China Garden Restaurant, HKUST
13:30 – 15:30	Single-Session 3	LTJ, HKUST
15:30 – 15:45	Tea Break	Academic Concourse
15:45 – 17:45	Single-Session 4	LTJ, HKUST
17:45 – 19:00	Dinner	UC Bistro, HKUST
19:00 – 21:45	Night Sight-seeing Tour	Start: HKUST Terminal: Tsim Sha Tsui (TST)

4 January 2008 (GMT +8:00), Hong Kong

Time	Events	Venue
8:00 – 17:10	On-site Registration	Academic Concourse, HKUST
8:30 – 10:00	Single-Session 5	LTJ, HKUST
10:00 – 10:15	Tea Break	Academic Concourse, HKUST
10:15 – 11:45	Single-Session 6	LTJ, HKUST
11:45 – 12:15	Conference Group Photo Taking	Sundial, HKUST
12:15 – 13:30	Lunch	China Garden Restaurant, HKUST
13:30 – 15:30	Single-Session 7	LTJ, HKUST
15:30 – 15:45	Tea Break	Academic Concourse
15:45 – 17:45	Single-Session 8	LTJ, HKUST
17:45 – 21:45	Dinner	Lamma Island

5 January 2008 (GMT +8:00), Hong Kong – Nansha, Guangzhou, China		
Time	Events	Venue
10:00 – 22:00	Transportation and Social Events	Hong Kong > Shenzhen > Nansha, Guangzhou, China
6 January 2008 (GMT +8:00), Nansha IT Park, Guangzhou, China		
Time	Events	Venue
8:20 – 17:00	On-site Registration	2/F Concourse, Conference Building (Conf. Build.)
8:50 – 10:10	Oral Session 1A: ※ Nanoindentation	Room 206, Conf. Build.
	Oral Session 1B: ※ Interface Fracture ※ Dynamic Fracture	Room 208, Conf. Build.
10:10 – 10:30	Tea Break	2/F Concourse, Conf. Build.
10:30 – 12:10	Oral Session 2A: Nanomaterials	Room 206, Conf. Build.
	Oral Session 2B: ※ Environmental Fractures ※ Fracture Mechanics & Mechanisms	Room 208, Conf. Build.
12:10 – 13:30	Lunch	1/F, Chinese Restaurant, Guest-greeting Building
13:30 – 15:30	Oral Session 3A: ※ Nanomaterials ※ Smart Materials	Room 206, Conf. Build.
	Oral Session 3B: ※ Fracture Mechanics & Mechanisms	Room 208, Conf. Build.
15:30 – 16:00	Tea Break	1/F, Chinese Restaurant, Guest-greeting Building
16:00 – 18:00	Poster Session (with snack and drink)	1/F, Chinese Restaurant, Guest-greeting Building
18:00 – 20:30	Poster Session (Buffet Dinner with Beer & Wine)	1/F, Chinese Restaurant, Guest-greeting Building

7 January 2008 (GMT +8:00), Nansha IT Park, Guangzhou, China

Time	Events	Venue
8:20 – 17:00	On-site Registration	2/F Concourse, Conf. Build.
8:50 – 10:10	Oral Session 4A: ※ Smart Materials ※ Composites	Room 206, Conf. Build.
	Oral Session 4B: ※ Fracture Mechanics & Mechanisms ※ Computational Fracture & Simulation	Room 208, Conf. Build.
10:10 – 10:30	Tea Break	2/F Concourse, Conf. Build.
10:30 – 12:30	Oral Session 5A: ※ Mechanical behaviors of nanomaterials & nanostructures	Room 206, Conf. Build.
	Oral Session 5B: ※ Metallic Materials ※ Polymer	Room 208, Conf. Build.
12:30 – 14:00	Lunch	1/F, Chinese Restaurant, Guest- greeting Building
14:00 – 15:40	Oral Session 6A: ※ Creep & Fatigue	Room 206, Conf. Build.
	Oral Session 6B: ※ Computational Fracture & Simulation	Room 208, Conf. Build.
15:40 – 16:00	Tea Break	2/F Concourse, Conf. Build.
16:00 – 17:20	Oral Session 7A: ※ Reliability & Failure of Engineering Materials and Structures	Room 206, Conf. Build.
	Oral Session 7B: ※ Miscellaneous	Room 208, Conf. Build.
17:20 – 20:30	Grand Banquet	1/F, Chinese Restaurant, Guest- greeting Building

ICFF VIII Conference Program Details

3 January 2008 (GMT +8:00), Hong Kong

8:00 – 17:10 On-site Registration, Academic Concourse, HKUST

8:30 – 9:00 Open Ceremony, Chiang Chen Lecture Theatre (LTJ) , HKUST

Welcome Speech: Prof. Roland Chin (Vice-President for Academic Affairs, HKUST)

9:00 – 10:00 Single-session 1, LTJ, HKUST

Session-Chairs: T.Y. Zhang, X.Q. Feng

9:00 – 9:30 Speaker: K.C. Hwang (Tsinghua University, China)

IK-01: A Finite-deformation Shell Theory for Carbon Nanotubes Based on the Interatomic Potential

9:30 – 10:00 Speaker: B. Lawn (NIST, USA)

IK-02: Fracture of Layer Structures for Dental and Anthropological Applications

10:00 – 10:15 Tea Break, Academic Concourse, HKUST

10:15 – 12:15 Single-session 2, LTJ, HKUST

Session-Chairs: K.C. Huang; B. Lawn

10:15 – 10:45 Speaker: W. Yang (Zhejiang University, China)

IK-03: Crack in Nanocrystalline Metals – Blunting versus Advancement

10:45 – 11:15 Speaker: H. Gao (Brown University, USA)

IK-04: Nanomechanics of biological systems – what can we learn from nature about the principles of hierarchical materials?

11:15 – 11:45 Speaker: Y.L. Bai (Chinese Academy of Sciences, China)

IK-05: Catastrophic Rupture of Heterogeneous Media -- Its Speciality and Universality

11:45 – 12:15 Speaker: R. M. McMeeking (University of California, USA)

IK-06: Fracture Mechanics for Electroactive Materials

12:15 – 13:30 Lunch, G/F, China Garden Restaurant, HKUST

13:30 – 15:30 Single-session 3, LTJ, HKUST

Session-Chairs: R.M. McMeeking, W. Yang

13:30 – 14:00 Speaker: K. Ravi-Chandar (The Univ. of Texas at Austin, USA)

IK-18: Fragmentation in Ductile Solids

14:00 – 14:30 Speaker: K.J. Hsia (Univ. of Illinois at Urbana-Champaign, USA)

IK-08: Fracture Resistance of Nanowires: Effects of Surface Stress

- 14:30 – 15:00 Speaker: R. Müller (TU Darmstadt, Germany)
IK-09: Influence of microstructure and defects in ferroelectric materials
- 15:00 – 15:30 Speaker: S.W. Yu (Tsinghua University, China)
IK-10: A constitutive model of ferroelectric ceramics and the effects of fatigue and damage on the hysteresis loops

15:30 – 15:45 Tea Break, Academic Concourse, HKUST

15:45 – 17:45 Single-session 4, LTJ, HKUST

- Session-Chairs: H. Gao, S.W. Yu
- 15:45 – 16:15 Speaker: C. T. Sun (Purdue University, USA)
IK-11: Effect of Necking on Fracture Toughness in Polycarbonate
- 16:15 – 16:45 Speaker: G.L. Chen (Univ. of Sci. and Tech. Beijing, China)
IK-12: Composition, Microstructure and Mechanical Properties of Novel TiAl Alloys with Improved High Temperature Capability
- 16:45 – 17:15 Speaker: X.Y. Mao (University of Pittsburgh, USA)
IN-10: Grain boundary mediated plasticity in nanocrystalline material
- 17:15 – 17:45 Speaker: Y.W. Zhang (National University of Singapore, Singapore)
IN-06: A three-dimensional finite element analysis of interface delamination in a ductile film/hard substrate system induced by wedge indentation

17:45 – 19:00 Dinner, UC Bistro, HKUST

19:00 – 21:45 Night Sight-seeing Tour (by Bus)

Route: HKUST > “The Synchronism of Lights” show > the Peak > Tism Sha Tsui (TST)

4 January 2008 (GMT +8:00), Hong Kong

8:00 – 17:10 On-site Registration, Academic Concourse, HKUST

8:30 – 10:00 Single-session 5, LTJ, HKUST

- Session-Chairs: Y.L. Bai, A.K. Soh
- 8:30 – 9:00 Speaker: G. Michot (Ecole des Mines de Nancy, France)
IK-15: Critical length associated to the brittle to ductile transition
- 9:00 – 9:30 Speaker: P. Gumbsch (Univ Karlsruhe, Germany)
IK-16: An atomistic study of dislocation interaction with a crack tip
- 9:30 – 10:00 Speaker: J. Lu (Hong Kong Polytechnic University)
IK-17: Study of the fracture mechanisms of nanostructured materials
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10:00 – 10:15 Tea Break, Academic Concourse, HKUST

10:15 – 11:45	Single-session 6, LTJ, HKUST
	Session-Chairs: Y.W. Mai, Y.W. Chung
10:15 – 10:45	Speaker: C.T. Liu (Oak Ridge National Laboratory, USA) IK-13: Shear band deformation and fracture of bulk metallic glasses (BMGs)
10:45 – 11:15	Speaker: E.H. Han (Institute of Metal Research, CAS, China) IK-19: Influence of Corrosive Environment on Mechanical Properties of Magnesium Alloys
11:15 – 11:45	Speaker: K. Kishimoto (Tokyo Inst. Tech., Japan) IK-20: Evaluation of the Interfacial Strength by the Indentation Method
11:45 – 12:15	Conference Group Photo Taking, Front Square, HKUST
12:15 – 13:30	Lunch, G/F, China Garden Restaurant, HKUST
13:30 – 15:30	Single-session 7 (Combined PG Seminar), LTJ, HKUST
	Session-Chairs: K. Ravi-Chandar, C.T. Liu
13:30 – 14:00	Speaker: Y.W. Mai (University of Sydney, Australia) IK-21: Depth sensing indentation of linear visco-elastic-plastic solids: a simple method to determine viscoelastic properties
14:00 – 14:30	Speaker: R. O. Ritchie (University of California, Berkeley, USA) IK-22: How Really Tough is Human Bone?
14:30 – 15:00	Speaker: K. Lu (Shenyang National Lab. for Mater. Sci., China) IK-23: Effect of nano-scale twins on mechanical properties of copper
15:00 – 15:30	Speaker: Y.W. Chung (Northwestern University, Evanston, USA) IK-24: The Role of Environment in Affecting Mechanical and Frictional Properties of Materials
15:30 – 15:45	Tea Break, Academic Concourse, HKUST
15:45 – 17:45	Single-session 8, LTJ, HKUST
	Session-Chairs: K. Lu, C.T. Sun
15:45 – 16:15	Speaker: S.B. Lee (National Tsing Hua University, Taiwan, China) IN-03: Some Recent Results on Crack Healing
16:15 – 16:45	Speaker: K. Higashida (Kyushu University, Japan) IN-05: Low-temperature fracture toughness improved by grain-refinement due to severe plastic deformation in low carbon steel
16:45 – 17:15	Speaker: H.O.K. Kirchner (Orsay, France) IN-01: Thermodynamic driving force and forming and healing of cracks in bone
17:15 – 17:45	Speaker: D.F. Bahr (Washington State University, USA) O-21: Interfacial Fracture and Failure in Polymer – Metal Systems for Flexible Electronics

17:45 – 21:45 Dinner, Lamma Island

Route: HKUST > (by bus) > TST Ferry Terminal > (by ferry) > Lamma Island (get off, dinner) > (by ferry) > TST

5 January 2008 (GMT +8:00), Hong Kong – Nansha, Guangzhou, China

Time	Events
10:00 – 12:30	Travel to Shenzhen, China (through the Shenzhen Bay port)
12:30 – 14:00	Lunch, Shenzhen, China
14:00 – 15:00	Shenzhen city sight-seeing tour (by bus)
15:00 – 18:15	Shenzhen splendid China folk culture village visit
18:15 – 19:30	Dinner, Shenzhen splendid China folk culture village
19:30 – 20:15	Performance watch (in Shenzhen splendid China folk culture village)
20:15 – 22:00	Travel to hotels in Nansha, Guangzhou

6 January 2008 (GMT +8:00), Nansha IT Park, Guangzhou, China

8:20 – 17:00 On-site Registration, 2/F Concourse, Conference Building

8:50 – 10:10 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 1A: Room 206, Conference Building

Session-Chairs: Y.Y. Earmme, P. Gumbsch

※ Nanoindentation

8:50 – 9:10 Speaker: YueGuang Wei (Chinese Academy of Sciences, China)

O-65: Microscopic Mechanism of Cohesive Zone Model in Interface Fracture Characterizations

9:10 – 9:30 Speaker: Hidenari Takagi (Nihon University, Fukushima, Japan)

O-01: Computational Study of Pseudo-Steady Indentation Creep

9:30 – 9:50 Speaker: Fuqian Yang (University of Kentucky)

O-02: Indentation-Induced Residual Stresses in a 45S5 Bioglass

9:50 – 10:10 Speaker: MingHao Zhao (Zhengzhou University, China)

O-03: Delaminating Buckling Model Based on Nonlocal Timoshenko Beam Theory for Microwedge Indentation of a film/Substrate System

Oral Session 1B: Room 208, Conference Building

Session-Chairs: G. Michot, X.J. Zheng

※ Interface Fracture; Dynamic Fracture

- 8:50 – 9:10 Speaker: Y. C. Zhou (Xiangtan University, China)
O-22: Interface fracture characteristic and crack propagation investigations of thermal barrier coatings under tensile tests at elevated temperature
- 9:10 – 9:30 Speaker: Kaiyang Zeng (National University of Singapore, Singapore)
O-23: Determination of Interface Adhesion of Low- k Films on Si Substrate using Wedge Indentation Experiments
- 9:30 – 9:50 Speaker: Vikas Tomar (University of Notre Dame, USA)
O-16: Analyses of the Effect of Grain Boundaries in Creep and Dynamic Fracture of Polycrystalline SiC-Si₃N₄ Nanocomposites
- 9:50 – 10:10 Speaker: Vadim V. Silberschmidt (Loughborough University, UK)
O-59: Fracture of Adhesive Joints in Impact Fatigue

10:10 – 10:30 Tea Break, 2/F Concourse, Conference Building

10:30 – 12:10 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 2A: Room 206, Conference Building

Session-Chairs: R. Müller, Horst Vehoff

※ Nanomaterials

- 10:30 – 10:50 Speaker: K. Masuda-Jindo (Tokyo Institute of Technology, Japan)
O-04: Study of the Mechanical Fracture and Electronic Properties of Nanoscale Materials
- 10:50 – 11:10 Speaker: Chunsheng Lu (Curtin University of Technology, Australia)
O-05: On the Tensile Strength of Carbon Nanotubes
- 11:10 – 11:30 Speaker: Lin Ye (University of Sydney, NSW 2006, Australia)
O-08: Fracture of Epoxy Nanocomposites – Roles of Particles
- 11:30 – 11:50 Speaker: Gang-Feng Wang (Xi'an Jiaotong University, China)
O-09: Several basic problems in solid mechanics with surface effects
- 11:50 – 12:10 Speaker: Cun-Fa Gao (Nanjing University of Aeronautics and Astronautics, China)
O-12: Influence of mechanical stress on partial discharges in cavities in a piezoelectric solid

Oral Session 2B: Room 208, Conference Building

Session-Chairs: Fuqian Yang, Jian Lu

※ Environmental Fracture; Fracture Mechanics & Mechanisms

- 10:30 – 10:50 Speaker: S. Q. Shi (The Hong Kong Polytechnic University, Hong Kong, China)
O-18: Computer Modeling of Hydrogen Damage in Materials using Phase-Field Method
- 10:50 – 11:10 Speaker: Jian-kang Chen (Ningbo University, China)
O-20: Equivalent Model of Damage Evolution in Cement Mortar under Sulphate Erosion
- 11:10 – 11:30 Speaker: Masaki Tanaka (Kyushu University, Japan)
O-64: Crack tip dislocations and their configuration revealed by electron tomography in silicon single crystal
- 11:30 – 11:50 Speaker: Holm Altenbach (Zentrum für Ingenieurwissenschaften, Martin -Luther-Universität Halle-Wittenberg, Germany)
O-27: Systematization of Combined Yield and Fracture Criteria
- 11:50 – 12:10 Speaker: Francisco G. Emmerich (Universidade Federal do Espirito Santo, Vitoria-ES, Brazil)
O-28: Atomistic interpretation of the Obreimoff 's experiment

12:10 – 13:30 Lunch, 1/F, Chinese Restaurant, Guest-greeting Building

13:30 – 15:30 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 3A: Room 206, Conference Building

Session-Chairs: Chunsheng Lu, W. Zhuang

※ Nanomaterials; Smart Materials

- 13:30 – 13:50 Speaker: Jang-Kyo Kim (University of Science & Technology, Hong Kong; China)
O-66: Improved Tensile Strength of Glass Fiber with CNT Nanocomposite Coating
- 13:50 – 14:10 Speaker: Hyun Hoon Song (Hannam University, Korea)
O-53: Deformation and structure evolution in reinforced natural rubber with carbon nanotubes and carbon black
- 14:10 – 14:30 Speaker: Horst Vehoff (Saarland University, Germany)
IN-07: Plastic deformation and fracture of nanocrystalline and ultra fine grained materials
- 14:30 – 14:50 Speaker: Nimal Rajapakse (The University of British Columbia, Canada)
O-48: Effect of electric boundary conditions on crack propagation in ferroelectric ceramics

- 14:50 – 15:10 Speaker: W. Q. Chen (Zhejiang University, China)
O-10: A nonlinear problem of a penny-shaped crack subjected to axisymmetric loading in an infinite transversely isotropic piezoelectric medium
- 15:10 – 15:30 Speaker: F. Fang (Tsinghua University, China)
O-11: Orientation Dependence of Domain Structure Evolution and Electric Field induced Crack Propagation for $(\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3)_{0.68}(\text{PbTiO}_3)_{0.32}$ Ferroelectric Single Crystals

Oral Session 3B: Room 208, Conference Building

Session-Chairs: Xiaomin Deng, In-Young Yang

※ Fracture Mechanics & Mechanisms

- 13:30 – 13:50 Speaker: Wanlin Guo (Nanjing University of Aeronautics and Astronautics, China)
O-29: Some essential issues in three-dimensional structural strength and fracture mechanics
- 13:50 – 14:10 Speaker: Huiji Shi (Tsinghua University, China)
O-31: Updated continuum damage model in DBTT to investigate temperature and constraint effect
- 14:10 – 14:30 Speaker: Hua-Dong Yong (Lanzhou University, Lanzhou, China)
O-32: The central crack problem for a superconductor by using the Kim model
- 14:30 – 14:50 Speaker: X. B. Zhang (Blaise Pascal University of Clermont II, France)
O-33: Failure Criterion for Brittle and Quasi-Brittle Materials Under Any Level Of Stress Concentration
- 14:50 – 15:10 Speaker: Z. L. Zhang (Norwegian University of Science and Technology, Norway)
O-35: Recent Developments in the Study of Crack Tip Constraints
- 15:10 – 15:30 Speaker: Laurent Ponson (California Institute of Technology, USA)
O-36: How to extend Linear Elastic Fracture Mechanics to inhomogeneous media

15:30 – 16:00 Tea Break, 1/F, Chinese Restaurant, Guest-greeting Building

16:00 – 18:00 Poster Session, 1/F, Chinese Restaurant, Guest-greeting Building

Session Chair	Hsia, K.J.		
Poster Competition Committee	Y.Y. Earmme	P. Gumbsch	E.H. Han
	K. Higashida	J.S. Wu	C.F. Gao
	H.O.K Kirchner	S.B. Lee	J. Lu
	G. Michot	K. Ravi-Chandar	Y.C. Zhou
	T.Y. Zhang	Y.W. Zhang	K.J. Hsia
	L. Ye	N. Rajapakse	Y.G. Wei
	V.V. Silberschmidt	M.H. Zhao	F. Fang
	L.J. Qiao	F.G. Emmerich	

※ Biomechanics

Presenter: Sang Woo Kim (Chosun University, Korea)

P-01: Adhesive Strength of Xenogeneic Bone Derived Hydroxyapatite Coatings by Aerosol Deposition Method

Presenter: Young Gook Kim (Chosun University, Korea)

P-02: Fracture toughness of tuna bone derived -hydroxyapatite bioceramics

Presenter: Cheol-Woong Kim (Korea University, South Korea)

P-03: Multi Degree of Freedom SMA Manipulator of Thermoelectric Behavior and Their Application for an Arthroscopy and Surgical Anatomy of the Joint

Presenter: Cheol-Woong Kim (Korea University, South Korea)

P-04: Temperature Change of J-tail SMA Wire using Spinal Surgery According to Voltage/Ampere

Presenter: Jizeng Wang (Brown University, USA)

P-06: Elasticity-Stochastic Description on the Adhesion of Elastic Media via Molecular Bond Clusters

Presenter: Jizeng Wang (Brown University, USA)

P-07: Elasticity-diffusion Modeling on the Adhesion of Elastic Media via Diffusive Molecular Bonds

※ Nanomechanics

Presenter: Kazi Tunvir (Korea Research Institute of Standards and Science, Korea)

P-08: Vacancy Defects Effect on Mechanical Properties of Carbon Nanotubes

Presenter: Joohyuk Park (Sejong University, Korea)

P-09: Fracture Behavior of Functionalized Multi -walled Carbon Nanotubes Reinforced Polyethylene Fibers Composites by Melt Spinning

Presenter: Wang Shibin (Tianjin University)

P-10: Experimental Research on Buckling of Thin Films in Nano-Scale Under Mechanical and Thermal loading

Presenter: Li Linan (Tianjin University)

P-11: Experimental Research on Buckling of Thin Film under Static and Dynamic Loads

Presenter: Y. Wang (City University of Hong Kong, Hong Kong SAR, China)

P-92: Nanoscale Deformation Behavior : An Investigation on the Onset of Plastic Deformation of Nanostructured Solid Solution Ti-Al-N Films

※ Smart Materials

Presenter: Wanlin Guo (Nanjing University of Aeronautics and Astronautics, China)

P-13: Stress concentration at elliptic holes in piezoelectric materials and finite thick plates

Presenter: Jin-xi Liu (Shijiazhuang Railway Institute, China)

P-14: Griffith crack propagating in anisotropic magneto -electro-elastic solids

Presenter: Wei-Yi Wei (Tsinghua University, Beijing, China)

P-16: Propagation of a mode-III interfacial crack between piezoelectric/piezomagnetic bimetals

Presenter: Bo-Jing Zhu (China Agricultural University, P. R. China)

P-17: Hypersingular intergro-differential equations methods for 3D interface crack in anisotropic electro-magneto-elastic composites

Presenter: Ho-Dong Yang (Chosun University, South Korea)

P-18: Analysis on Thermal-Flow Phenomenon of Heat Source inside of Electronic Device by Piezoelectric Bending Actuator

※ Concrete & Soil

Presenter: Jian-kang Chen (Ningbo University, China)

P-19: Evolution of flexural strength of cement mortar attacked by sulphate ions

Presenter: Jian-kang Chen (Ningbo University, China)

P-20: Tensile failure mechanism of cement mortar under uniaxial compressive loading

※ Composite, Polymer & Metallic Materials

Presenter: A. Amirian (University of Tehran, Iran)

P-22: On the KI Measurement for End Points of Thumb-nail cracks in Composite Laminates using Digital Shearography

Presenter: Seung-Chul Lee (Chosun University, Korea)

P-23: A study on the Drilling Characteristics and mechanical properties of CFRP composite

Presenter: Young Tae Cho (Jeonju Univ., Korea)

P-24: FEA of Particle-Reinforced Dental Composite with Interphase Damage

Presenter: In-young Yang (Chosun University, Korea)

P-25 An Experimental Study on CFRP Side Members for Lightweight and Collision Safety

Presenter: Kwang-Hee Im (Woosuk University,, Korea)

P-26: Ultrasonic Influence of Porosity Level on CFRP Composite Laminates Using Rayleigh Probe Waves

Presenter: Bo-Jing Zhu (China Agricultural University, P. R. China)

P-27: Hypersingular integral equation method for 3D crack in electromagnetothermoelastic viscoplastic multiphase composites

Presenter: Sasan Velashjerdi Farahani (Razi Metallurgical Research Center, Iran)

P-28: Evaluation Failure analysis of HP-stainless steel tube

Presenter: You-Tang Li (Lanzhou University of Technology, Lanzhou, China)

P-29: Investigation of Fracture for Medium Carbon Steel under Extra-low Cycle in Axial Loading

Presenter: Ho-Jun Shin (Chosun University, Korea)

P-31: Microstructures and Mechanical Properties of Weld Zone after Laser Welding of Nickel Coated Medium Carbon Steel

Presenter: Andrzej Sluzalec (Technical University of Czestochowa, Poland)

P-33: Identification problems in mechanics of fracture of powder metallurgy materials

Presenter: Ismail Tirtom (Tohoku University, Japan)

P-34: Hierarchical continuum and atomistic investigation of crack tip mechanism in γ -Fe crystal

Presenter: In-young Yang (Chosun University, Korea)

P-35: The Energy Absorption Control Characteristics of Al thin -walled tubes under Impact Load

Presenter: Xian-feng Ma (Tsinghua University, China)

P-36: Effect of Temperature on the Low Cycle Fatigue Properties of a Nickel-Base Single Crystal Superalloy

Presenter: Sunwoong Choi (Hannam University, Korea)

P-97: Effect of Glass Fiber Thermoplastic Composite Tape Reinforcement on Hydrostatic Burst and Stiffness Behavior of Polypropylene Pipes

Presenter: Hyun Hoon Song (Hannam University, Korea)

P-98: Structure-Mechanical Properties Modification of Ultra High Molecular Weight Polyethylene by Electron Beam Irradiation

Presenter: Hyun Hoon Song (Hannam University, Korea)

P-99: Structural evolution of polyethylene under static and dynamic fatigue loadings: In-situ x-ray diffraction study

※ Interface Fracture

Presenter: Do Van Truong (Kyoto University, Japan)

P-38: Application of Damage Mechanics Concept to Crack I initiation from Interface between sub-micron thick films

Presenter: Jihoon Kim (Chosun University, Korea)

P-39: Influence of inter-layer fracture of Al-CFRP hybrid square members changed stacking angle under bending load

※ Creep & Fatigue

Presenter: Seon Jin Kim (Hanyang University, Seoul, Korea)

P-40: Creep behavior of Zr-1.5Nb-0.4Sn-0.1Fe-0.1Cu alloy

Presenter: Jae-Ki Sim (Chosun University Graduate School, South Korea)

P-41: Creep and Tensile Properties during Press Joining Molding of GMT-Sheet

Presenter: Byeong-Soo Lim (Sungkyunkwan University, Suwon, South Korea)

P-42: Local Creep Evaluation of P92 Steel Weldment by Small Punch Creep Test

Presenter: Xin-yan Guo (South China University of Technology, China)

P-43: An Analysis on Bending Stiffness of RC Beams Strengthened with Prestressed CFL under Cyclic Load

Presenter: Cheon-Soo Jang (Hanyang University, Korea)

P-45: The Probabilistic Evaluation of the Fatigue Life in the Arc Welded Part of Automobile Chassis Component Considering Resonance Effect

Presenter: Seon Jin Kim (Hanyang University, Korea)

P-46: The effect of Ti, Al and V addition on thermal fatigue behavior of Fe -15Cr-1.5C steel

Presenter: Seon Jin Kim (Hanyang University, Seoul, Korea)

P-47: Thermal fatigue properties of Fe -Cr-Si-C-B alloys

Presenter: Seon Jin Kim (Hanyang University, Seoul, Korea)

P-48: Comparison of air blast and ultrasonic shot peening under complex fretting fatigue and fretting wear loading conditions

Presenter: Amkee Kim (Kongju National University, Korea)

P-49: Damping in Beam of Closed Cell Al -alloy Foam Beam Damaged by Fatigue

Presenter: Amkee Kim (Kongju National University, Korea)

P-50: Scale Effect on Fatigue Behavior of Closed Cell Al -Si-Ca Alloy Foam

Presenter: D.B. Lee (Sungkyunkwan University, South Korea)

P-51: Oxidation and Fatigue Crack Growth Rate around Welded Parts of P92 and P122 Alloy

Presenter: B.S. Lim (Sungkyunkwan University, South Korea)

P-52: Influence of Oxidation and Frequency on Fatigue Crack Growth Rate of P92 alloy Steel at Elevated Temperatures

Presenter: R.W. Lin (South China University of Technology, China)

P-53: Predicted Method of Fatigue Lives of RC Beams Strengthened with CFL under Random Load

Presenter: Chung-Seog Oh (Kumoh National Institute of Technology, South Korea)

P-54: Development of a High Cycle Fatigue Testing System and its Application to Thin Al Film

Presenter: Jun-Hyub Park (TongMyong University, South Korea)

P-55: Effect of Fabrication on High Cycle Fatigue Properties of Copper Thin Film

Presenter: Hee-Jin Shim (Hanyang University, Republic of Korea)

P-56: A Study on the Fatigue Life Prediction of V-Belt Pulley System Considering Reliability Based Design Optimization

Presenter: A. Varvani-Farahani (Ryerson University, Canada)

P-58: Thermal Cyclic Stress-Strain Hysteresis Evaluation in SnAgCu (SAC) Solder Joints

Presenter: Pei-yuan Huang (South China University of Technology, China)

P-93: Analysis of Interfacial Fatigue Cracks of RC Beams Strengthened With CFL

Presenter: Woo-Gon Kim (Korea Atomic Energy Research Institute, Korea)

P-94: Creep Characterization of Ni-based Hastelloy-X Alloy Using Theta Projection Method

Presenter: Wan-Young Maeng (Korea Atomic Energy Research Institute, Korea)

P-95: Effect of Acetic Acids on Corrosion Fatigue of turbine Steels in High Temperature Water

Presenter: Sunwoong Choi (Hannam University, Korea)

P-96: Utilization of cyclic fatigue for the determination of structural Integrity of Structured-wall polymeric pipes

Presenter: Chul-Su Kim (Korea National Railroad College, Korea)

P-100: Fatigue Crack Growth Behavior of Rail Steel under Mixed Mode Variable Amplitude Loadings

※ Fracture Mechanics & Mechanisms

Presenter: Holm Altenbach(Martin-Luther-Universität Halle-Wittenberg, Germany)

P-60: Equivalent Stress Expressions for Isotropic Yield Behavior

Presenter: Holm Altenbach(Martin-Luther-Universität Halle-Wittenberg, Germany)

P-61: Remarks on Model of Mao-Hong Yu

Presenter: Hui Fan(Nanyang Technological University, Singapore)

P-62: Material Constants for Stress Singularities in Linear Elastic Solids

Presenter: D. M. Kulkarni(Birla Institute of Technology and Science, India)

P-64: Effect of Thickness on Fracture Criterion in General Yielding Fracture Mechanics

Presenter: You Tang Li(Lanzhou University of Technology, China)

P-65: Method to Calculate the Stress Intensity Factor for V-notch of Bi-material

Presenter: Wen Yan Liang(Harbin Engineering University, China)

P-66: The Elastic-viscoplastic Field at the Mixed-mode Crack-Tip under Compression and Shear

Presenter: Jian Lu(The Hong Kong Polytechnic University, Hong Kong, China)

P-67: Study of the interaction of multiple cracks in brittle solids

Presenter: Hua-Dong Yong(Lanzhou University, Lanzhou, China)

P-70: Crack problem for a long rectangular slab of superconductor under an electromagnetic force

Presenter: Hua-Dong Yong(Lanzhou University, Lanzhou, China)

P-71: Analysis of a mode III crack problem in a functionally graded coating–substrate system with finite thickness

Presenter: A.I. Malkin

P-37: Liquid metal embrittlement of superplastic alloys

※ Computational Fracture & Simulation

Presenter: V. M. Nistane (Visvesvaraya National Institute of Technology, India)

P-74: Estimation of J-integral for circumferential crack in piping elbows using Finite Element Analysis

Presenter: Guang Ping Zou (Harbin Engineering University, China)

P-75: A Method of Calculating the KI of Compact Tension Specimen

Presenter: , Xiaomin Deng(University of South Carolina, USA)

P-76: Software development for 3D nonlinear mixed-mode crack growth simulations

Presenter: Frohmut Rösch(Universität Stuttgart, Germany)

P-77: Atomistic dynamics of crack propagation in complex metallic alloys

※ Reliability and Failure of Engineering Materials & Structures

Presenter: CHEN Sunyi (Sinopec Maoming Petrochemical Machine Plant, China)

P-80: Analysis and assessment of the deformations of coke drum

Presenter: Wu-Gui Jiang(Tsinghua University, Nanchang Hangkong University, China)

P-81: Effect of Surface Roughness on Nanoindentation Tests on Thin Films

Presenter: Yool-Kwon Oh(Chosun University, South Korea)

P-82: Prediction on Thermal Stress Distribution in Tread Part of Al-Casting Tire Mold

Presenter: Hyeon-kyeong Seo(Chosun University, Korea)

P-84: Energy absorption mechanism of aluminum/CFRP compound tube according to change of stacking condition

Presenter: In-Young Yang (Chosun University, Korea)

P-85: A Study on the Flexural Strengthening Effect of RC Beams with Structural Damages

Presenter: Vadim V. Silberschmidt(Loughborough University, UK)

P-86: Experimental and analytical study of lead -free solder joint reliability in surface mount devices

Presenter: Jihoon Kim (Chosun University, Korea)

P-87: Evaluation on crashworthiness capacity of vehicle side member with various Configurations

Presenter: Kee Joo Kim(Ssangyong Motor Company, Korea)

P-89: Development of Automotive Rear Sub -frame by Hydro-Forming Process

Presenter: Hong-Ping Zhao(Tsinghua University, China)

P-90: Mode II Interlaminar Fracture Toughness of Stitched CFRP Composites

Presenter: Biao Wang(Sun Yat-Sun University, China)

P-91: Fracture Toughness of Multiferroic Composite Materials under the Mechanical, Electric and Magnetic Loadings

18:00 – 20:10 Buffet Dinner with Beer & Wine (Continued Poster Session)
1/F, Chinese Restaurant, Guest-greeting Building

20:10 – 20:30 Best Poster Awards Result Announcement

7 January 2008 (GMT +8:00), Nansha IT Park, Guangzhou, China

8:20 – 17:00 On-site Registration, 2/F Concourse, Conference Building

8:50 – 10:10 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 4A: Room 206, Conference Building

Session-Chairs: E.-H. Han, Z. L. Zhang

※ Smart Materials; Composites

8:50 – 9:10 Speaker: Tong-Yi Zhang (Hong Kong University of Science & Technology, Hong Kong, China)

IN-04: Polarization-switching-induced toughening of an electrical permeable crack in a ferroelectric material

9:10 – 9:30 Speaker: R. R. Bhargava (Indian Institute of Technology, India)

O-55: Strip Saturation Model Solution for a Transversely Cracked Piezoelectric Strip

- 9:30 – 9:50 Speaker: H. S. Park (KAIST, Korea)
O-54: Effects of Microstructure on Flexural Strength of Biomorphic C/SiC Composites
- 9:50 – 10:10 Speaker: Ki-Weon Kang (Korea Institute of Sport Science, Korea)
O-14: Effect of Shape Memory Alloy on Impact Damage Behavior and Residual Properties of Glass/Epoxy Laminates under Low Temperature

Oral Session 4B: Room 208, Conference Building

Session-Chairs: Wanlin Guo, Kaiyang Zeng

※ Fracture Mechanics & Mechanisms; Computational Fracture & Simulation

- 8:50 – 9:10 Speaker: Yong Yang (Harbin Engineering University, Harbin, China)
O-61: Crack Tip field on Mode I Dynamic Growing Crack in Visco-Elastic Compressible Material
- 9:10 – 9:30 Speaker: Bo Zhou (Harbin Engineering University, P.R. China)
O-62: Dynamic Solutions for Crack-tip Field of Model II
- 9:30 – 9:50 Speaker: Michael Kaliske (Technische Universität Dresden, 01062 Dresden, Germany)
O-37: Numerical Determination of Energy Release Rates in Inelastic Materials at Large Strain
- 9:50 – 10:10 Speaker: J. Li (University of Paris XIII, France)
O-38: Numerical analysis of brittle or quasi -brittle materials fracture induced by growth of micro-cracks

10:10 – 10:30 Tea Break, 2/F Concourse, Conference Building

10:30 – 12:30 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 5A: Room 206, Conference Building

Session-Chairs: Y.W. Zhang, Amkee Kim

※ Mechanical behaviors of nanomaterials & nanostructures (Combined PG Seminar)

- 10:30 – 10:50 Speaker: J. Xiao (Northwestern University, USA)
PG-01: Molecular Scale Buckling Mechanics in Aligned Single -Wall Carbon Nanotubes on Elastomeric Substrates
- 10:50 – 11:10 Speaker: N.S. Lu (Harvard University, Cambridge, MA)
PG-02 Highly Stretchable Cu films on Kapton Substrates
- 11:10 – 11:30 Speaker: W. Shi (Brown University, USA)
PG-03: Effect of Size and Elasticity on Receptor Mediated Endocytosis
- 11:30 – 11:50 Speaker: M. Luo (HKUST, Hong Kong SAR, China)
PG-04: Surface/Edge-Induced Size-Dependent Properties in Nanowires

- 11:50 – 12:10 Speaker: S.Q. Huang (Tsinghua University, China)
PG-05: Spinodal Instability and Pattern Formation of Soft Elastic Thin Films
- 12:10 – 12:30 Speaker: X. Zheng (Sun Yat-sen University, Guangzhou, China)
PG-06: Surface effects in ferroelectric nanowires and nanotubes

Oral Session 5B: Room 208, Conference Building

Session-Chairs: Michael Kaliske, Y. C. Zhou

※ Metallic Materials; Polymer

- 10:30 – 10:50 Speaker: Sunwoong Choi (Hannam University, Korea)
O-52: Influence of surface layer characteristics on fracture behavior of polymers
- 10:50 – 11:10 Speaker: Bernd Gludovatz (Austrian Academy of Sciences, Austria)
O-13: Influence of Grain Boundaries on the Fracture Toughness of Tungsten and Tungsten Alloys
- 11:10 – 11:30 Speaker: G. K. Shek (Kinectrics Inc., Canada)
O-57: The Effect of Load-Reduction or Pre-Stressing on Hydride Crack Initiation from Flaws in Zr-2.5Nb Pressure Tubes
- 11:30 – 11:50 Speaker: Mehmet Simsir (Cumhuriyet University, Turkey)
O-58: Effect of Heat Treatment on Fracture Behavior of Steel Wire Reinforced Gray Cast Iron
- 11:50 – 12:10 Speaker: Jizeng Wang (Division of Engineering, Brown University, 182 Hope Street, Providence, RI 02912, USA)
O-15: Mechanics of Strongly Confined Polymers
- 12:10 – 12:30 Speaker: O. Kolednik (Austrian Academy of Sciences, Austria)
O-50: J-integral and Crack Driving Force in Elastic -Plastic Materials

12:30 – 14:00 Lunch, 1/F, Chinese Restaurant, Guest-greeting Building

14:00 – 15:40 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 6A: Room 206, Conference Building

Session-Chairs: R. R. Bhargava, O. Kolednik

※ Creep & Fatigue

- 14:00 – 14:20 Speaker: Michael Marx (Saarland University, Germany)
O-24: Microstructural damage mechanisms from dislocation emission till fatigue crack propagation
- 14:20 – 14:40 Speaker: K. Dang Van (LMS Ecole Polytechnique, France)
O-25: A Unified Model of Fatigue Based on Shakedown

- 14:40 – 15:00 Speaker: Zhengjian Xu (Hong Kong University of Science and Technology, Hong Kong, China)
O-17: Fracture failure analysis of solder ball joints under high speed shear impact
- 15:00 – 15:20 Speaker: W. Zhuang (Defence Science and Technology Organisation, Australia)
O-60: Block-by-block Approach for Spectrum Fatigue Crack Growth Prediction
- 15:20 – 15:40 Speaker: A. Varvani-Farahani (Ryerson University, Canada)
O-63: Thermal Cyclic Stress-Strain Hysteresis Evaluation in SnAgCu (SAC) Solder Joints

Oral Session 6B: Room 208, Conference Building

Session-Chairs: G. K. Shek, Sunwoong Choi

※ Computational Fracture & Simulation

- 14:00 – 14:20 Speaker: Xi-Qiao Feng (Tsinghua University, Beijing 100084, China)
IN-09: Dislocation-Based Finite Element Method for Calculating Stress Intensity Factors of Cracks
- 14:20 – 14:40 Speaker: Biao Wang (Sun Yat-Sun University, China)
IN-08: First-principles study of the effects of alloying elements (Al, Ni, Fe,Co) on the fracture behaviors of Cr2Nb
- 14:40 – 15:00 Speaker: Z. Zhuang (Tsinghua University, Beijing, 100084, China)
O-39: Development of dynamic X-FEM algorithm and application in the fractured shell structures
- 15:00 – 15:20 Speaker: Xiaomin Deng (University of South Carolina, USA)
O-40: Simulation and prediction of crack growth in ductile thin sheets subjected to combined in-plane and out-of-plane loading
- 15:20 – 15:40 Speaker: Judith Fingerhuth (Universität Bonn, Germany)
O-41: Simulation of the initial stages of fatigue based on cellular automata

15:40 – 16:00 Tea Break, 2/F Concourse, Conference Building

16:00 – 17:20 Parallel Oral Presentations, 2/F, Conference Building

Oral Session 7A: Room 206, Conference Building

Session-Chairs: S. Q. Shi, K. Dang Van

※ Reliability & Failure of Engineering Materials and Structures

- 16:00 – 16:20 Speaker: Francisco G. Emmerich (Universidade Federal do Espirito Santo, Vitoria -ES, Brazil)
O-44: Magnetic strips to simulate highly layered structured brittle solids in cleavage and fracture experiments
- 16:20 – 16:40 Speaker: Y. G. Shen (City University of Hong Kong, Hong Kong)
O-45: Buckling, cracking, and spalling in sputter-deposited TiN and Ti-Si-N films

- 16:40 – 17:00 Speaker: K. Yan (The University of Hong Kong, Hong Kong, China)
O-46: Effects of extrinsic grain boundary defects on Kapitza resistance under laser pulse
- 17:00 – 17:20 Speaker: Chuan-Yu Wu (University of Birmingham, United Kingdom)
O-47: Fracture of Pharmaceutical Tablets during Manufacturing

Oral Session 7B: Room 208, Conference Building

Session-Chair: Z. Zhuang

※ Miscellaneous

- 16:00 – 16:20 Speaker: Matz Haaks (Rheinische Friedrich-Wilhelms-Universität, Germany)
P-44: Prediction of fatigue failure by the local defect density observed with positrons
- 16:20 – 16:40 Speaker: Niu Zhirong (Jiaxing University, China)
O-56: The soils characteristics of the dynamic destruction area subjected to the impact loading
- 16:40 – 17:00 Speaker: A. Malkin
O-19: Hydrodynamic effects in liquid environment-induced cracking

17:20– 20:30 Grand Banquet
1/F, Chinese Restaurant, Guest-greeting Building

Banquet chair: B. Wang

- 17:20 – 17:45 Entering the banquet room
- 17:45 – 18:15 Speech
- 18:15 – 19:15 Dinner
- 19:15 – 20:30 Best Poster Awards Release (Dinner)
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