

International Symposium for the 50th Anniversary of Fracture and Reliability Research Institute, Tohoku Univ.

Sept. 5 (Fri.)

| Time | Speaker | Title |
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| 9:00-9:10 | Dean of Graduate School of Engineering Prof. Hiroshi K | Congratulatory address |
| 9:10-9:20 | Director of FRRRI Prof. Hideo Miura | Opening remarks |
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| Session 1 | Chair: Prof. Yokobori | |
| 9:20-10:10 | Prof. Kamran Nikbin (Imperial College London) Invited | A Combined Diffusion and Remaining Multiaxial Creep Ductility Damage Model |
| 10:10-11:00 | Prof. Kee Bong Yoon (Chung-Ang University) Invited | Crack Growth Assessment in High Temperature Components : Consideration on Practical Surface Crack Geometry |
| 11:00-11:10 | Break | |
| 11:10-11:35 | Prof. Ryuji Sugiura (Tohoku Univ.) | Fracture Life Assessment for Structural Components Operating at High Temperature |
| 11:35-12:00 | Dr. Masaaki Tabuchi (National Institute for Materials Science) | Improvement of Creep Strength of High Cr Steel Weldment for A-USC Boiler |
| 12:00-13:00 | Lunch break | |
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| Session 2 | Chair: Prof. Sugiura | |
| 13:00-13:25 | Dr. Masataka Yatomi (IHI Corporation) | The Weld Depth And Angle Acuity Effects on The Crack Growth Behaviour of P91 Feature Test Specimens |
| 13:25-13:50 | Prof. Ken-ichi Kobayashi (Chiba Univ.) | Influence of Testing Environment And Radius of Lower Die Shoulder on SP Creep Rupture Life |
| 13:50-14:15 | Dr. Daisuke Kobayashi (Chubu Electric Power Co., Inc.) | Damage Evaluation Based on the EBSD Method for Notched Specimens Made of Ni-base Superalloys Under Creep Conditions |
| 14:15-14:40 | Prof. A. Toshimitsu Yokobori, Jr. (Tohoku Univ.) | Establishment of the Algorithm of Life Prediction of Time Dependent Fracture Based on Multi-scale Analysis |
| 14:40-15:00 | Break | |
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| Session 3 | Chair: Prof. Yonezawa | |
| 15:00-15:25 | Dr. Shun-ichi Suzuki (Tokyo Electric Power Company) | How much indispensable understanding of corrosion related fracture is for the electric utilities ? |
| 15:25-15:50 | Dr. Koji Fujimoto (Mitsubishi Heavy Industries, Ltd.) | Development of Ni based alloys for PWR steam generator tubing |
| 15:50-16:15 | Dr. Jun Sato (Mitsubishi Hitachi Power Systems) | Development of Ni-base Superalloy Large Forging for High Efficiency Thermal Power Plants |
| 16:15-16:25 | Break | |
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| Session 4 | Chair: Prof. Ogawa | |
| 16:25-16:50 | Prof. Tamotsu Nihonyanagi (Tohoku Electric Power Co., Inc.) | The approach to the development of the next generation gas turbine combined cycle system |
| 16:50-17:10 | Prof. Jinyi Lee (Chosun Univ.) | Recent R&D Achievements of the Real Time IT-NDT2 Center |
| 17:15-17:40 | Prof. Shin-ichi Komazaki (Kagoshima Univ.) | Damage Evaluation of Structural Materials Based on Change in Hydrogen Desorption Characteristic |
| 18:00-20:00 | Banquet | |

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Sept.6 (Sat.)

| Time | Speaker | Title |
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| Session 5 | Chair: Prof. Hashida | |
| 9:00-9:50 | Prof. Peter Sammonds (University College London) Invited | Fracture and flow in volcanic rocks and high temperature |
| 9:50-10:40 | Prof. Tetsuo Shoji (Tohoku Univ.) Special lecture | Why Ductile Materials Fail in Brittle Manner - History of Strength of Materials and Fracture Mechanics and Current Topics |
| 10:40-10:50 | Break | |
| Session 6 | Chair: Prof. Kubo | |
| 10:50-11:15 | Prof. Toshio Yonezawa (Tohoku Univ.) | Stress Corrosion Cracking Susceptibility of Nickel Based Alloys in High Temperature Water |
| 11:15-11:40 | Prof. Yutaka Watanabe (Tohoku Univ.) | Low temperature ageing of Alloy182/A533B dissimilar weld joints and its potential effect on SCC susceptibility |
| 11:40-12:05 | Prof. Yoichi Takeda (Tohoku Univ.) | Evaluation of surface type of degradation for plant structural materials at operating temperatures |
| 12:05-13:00 | Lunch break | |
| Session 7 | Chair: Prof. Nakano | |
| 13:00-13:25 | Prof. Hideo Miura (Tohoku Univ.) | Characterization of Quality of Grain Boundaries and its Effect on Their Strength |
| 13:25-13:50 | Prof. Ken Suzuki (Tohoku Univ.) | High Temperature Damages Process of Nickel-base Super-alloy Caused by Strain-induced Anisotropic Diffusion |
| 13:50-14:15 | Prof. Momoji Kubo (Tohoku Univ.) | Multi-Physics Simulations on Tribochemical Reaction Dynamics for Super-Low Friction Mechanical System |
| 14:15-14:25 | Break | |
| Session 8 | Chair: Prof. Miura | |
| 14:25-14:50 | Prof. Toshiyuki Hashida (Tohoku Univ.) | Development of engineering approaches for designing subsurface energy systems |
| 14:50-15:15 | Prof. Kazuhisa Sato (Tohoku Univ.) | Design of Solid State Electrochemical Energy Devices for Improvement of Reliability and Durability |
| 15:15-15:40 | Prof. Mikio Fukuhara (Tohoku Univ.) | Development of superior electric storage device with high voltage proof in wide temperature region, using anodic oxidized Ti-Ni-Si amorphous alloy ribbons |
| 15:40-16:00 | Break | |
| Session 9 | Chair: Prof. Watanabe | |
| 16:00-16:25 | Prof. Kazuhiro Ogawa (Tohoku Univ.) | Cold Spray Method for Making Metallic, Ceramic, And Polymer Coatings |
| 16:25-16:50 | Prof. Isamu Nonaka (Tohoku Univ.) | Prospect of Life Prediction in Long-term Fatigue, Creep and Creep-fatigue for Components Operated at Elevated Temperatures |
| 16:50-17:15 | Prof. Susumu Nakano (Tohoku Univ.) | Breakup patterns of water film splashed from trailing edge of blade in low pressure steam turbine |
| 17:15-17:25 | Prof. Toshimitsu Yokobori | Closing remarks |