

第2回 西安理工大学 – 日本大学理工学部

学術交流シンポジウムのお知らせ

2nd Academic Exchange Symposium between

Xi'an University of Technology and College of Science and Technology, Nihon University

[西安理工大学](#)と[日本大学理工学部](#)は1987年より学術交流の覚書を交わし、教員や学生の交流を行ってまいりました。また、1999年から2005年まで、「理工学教育並びに科学技術」に関する日中共同セミナーとして有志による個人参加形式で学術研究集会を日本と中国で毎年交互に開催いたしました。2012年からは、両校が中心となり他大学も加えた情報分野での研究集会を日本と中国で毎年交互に開催しています。昨年11月には、再び理工学分野での学術交流シンポジウムを西安理工大学にて開催し、本年は日本大学理工学部での開催となりました。西安理工大学からは、教員が5名、大学院生が7名参加し講演等を行います。教員の皆さんはもちろんのこと、大学院生の皆さん、外部の方の聴講も歓迎いたしますので、ご参加のほどよろしくお願いたします。

- 日時：2018年12月 3日（月） 13:00-17:00
- 場所：日本大学理工学部駿河台キャンパス 1号館6階CSTホール
（東京都千代田区） [アクセス](#)
- プログラム [PDF版](#)
 - 前半：大学院生による研究発表（15分/件）
 1. A multi-ribbed composite wall with low-yield strength steel for seismic mitigation
Qiao, Xin (Structural engineering)
 2. Investigation of multi-bunching by generating multi-order fluorescence of NV center in diamond
Tang, Haijun (Physical electronics)
 3. A blockchain-based decentralized cloud resource scheduling architecture
Zhu, He (Computer technology)
 4. Nd:YAG pulse laser frequency locking system based on iodine molecule absorption line
Yuan, Meng (Precision instrument and machinery)
 5. Numerical simulation of MHD oscillatory mixed convection in CZ crystal growth by Lattice Boltzmann method
Zhang, Ni (Control theory and control engineering)
 6. Anomalous Nernst Effect in disordered FePtPd ternary alloy films
Zhang, Ying (Material physics and chemistry)
 7. Online modal identification of concrete dams using the subspace tracking based method
Tong, Fei (Hydraulic structural engineering)
 - 休憩
 - 後半：教員による研究発表（40分/件）
 1. The Seismic Damage Analysis and Security Management Suggestions of Reservoir Dam from the "May 12" Earthquake
水利水電学院副院長 楊 杰 (Yang, Jie)教授 [Abstract and Biography](#)
 2. (canceled) Magnetic modulation of Heulser alloy thin films
材料学院副院長 游 才印 (You, Caiyin)教授 ※都合により取り消しになりました
 3. Data-based Prognostic and Health Management Technology
自動化学院 謝 国 (Xie, Guo)教授 [Abstract and Biography](#)
- 参加申込 当日受付（事前の申込は不要です）
- 参加費 無料
- シンポジウム終了後に懇親会を予定しています。参加ご希望の方は下記あてにご連絡ください。
- 問合せ先
日本大学 理工学部 応用情報工学科 吉川 浩 宛
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Report topic: The Seismic Damage Analysis and Security Management Suggestions of Reservoir Dam from the "5·12" Earthquake

Reporter: Dr. Jie Yang

Content of the report: The “5.12” Earthquake in Wenchuan County, Sichuan Province, on May 12, 2008, caused more than 2,600 reservoir dams in 8 provinces and regions in China to suffer damages in various degrees. The main damage was dam cracks. At the same time, dam landslides, seismic subsidence, seepage and other seismic hazards were widespread. This report has analysed in details the damages to Chinese reservoir dam caused by “5.12 Earthquake”. By taking the earth-rock dam with the core wall of Bikou Hydropower Station in Wenxian County, Gansu Province as an example, the researcher has utilised the monitoring data before and after the earthquake to analyse the damages of dam. In addition, this report summarizes the measures for post-earthquake repairs and emergency management as well and provides suggestions for strengthening earthquake dam safety management.

Introduction of the Reporter: Jie Yang, born in 1971, doctor in engineering, is the deputy dean, professor and doctoral supervisor at the institute of Water Resources and Hydro-electric engineering of Xi'an University of Technology. He is in charge of postgraduate education and subject work. Additionally, he is also the director of the Institute of Hydraulic Engineering Safety of Xi'an University of Technology, the director of the Shaanxi Society for Hydroelectric Engineering, and the member of Shaanxi Society for Rock-Soil Mechanics and Engineering. Dr. Yang has engaged in safety monitoring and control of water conservancy and hydropower projects, numerical calculation and analysis of hydraulic structures, comprehensive evaluation of dam safety status, risk analysis and reinforcement of reservoir dams, safety management and informationization of water conservancy and hydropower projects for a long time. In recent years, he has successively presided over more than 60 scientific research projects related to water conservancy and hydropower projects such as the National Natural Science Foundation of China, the National Key Laboratory Fund, the Shaanxi Provincial Natural Science Fund Key Project, and the South-to-North Water Transfer Project, Shuikou Dam, Bikou Dam, and Liji Xia Dam.

As a major participant, Dr. Yang has undertaken 16 scientific and technological projects such as R&D of safety monitoring system of Three Gorges Project. He has proposed and established the theory and analysis method of dam safety monitoring uncertainty. In addition, he also has established a set of theoretical methods for reservoir dam reinforcement and its decision-making, which play an important role in the design, construction and safety management of water conservancy and hydropower projects. He has published more than 80 academic papers, 3 academic monographs, and edited 2 textbooks. He has won 9 provincial level awards, including the Shaanxi Science and Technology Award, the 7th Shaanxi Youth Science and Technology Award, and the Jiangsu Excellent Doctoral Dissertation Award. Until now, Dr. Yang has trained 1 postdoctoral fellow, 6 doctoral students, and 62 master's students.

Title: Data-based Prognostic and Health Management Technology and a Case Study

Guo XIE

School of Automation & Information Engineering, Xi'an University of Technology,
Xi'an 710048, P. R. china

Abstract: The data-based approach has gained a great success in Internet field, which has spawned many Internet companies (such as Amazon, Alibaba, Google, Microsoft and so on). However, the progress in the industrial system is still slow, because that the industrial mechanism is usually unclear, and the quality is uneven, resulting the industrial data having strong coupling. Therefore the utilization ratio of industrial monitoring data is still under expectation. Regarding this problem, data-based prognostic and health management technology for industrial system is deserved to be investigated.

In this talk, I will introduce the main research challenges in data analysis and a case study about railway system. Firstly, the industrial data are pre-processed by dimension reduction and denoising. Secondly, the accurate prediction of high-speed train axle temperature by machine learning is realized. Thirdly, the aging analysis of high-speed train axle and the fault diagnosis are realized by analyzing the axle temperature data. Finally, the experiment results verified the effectiveness and reliability.

Guo XIE received the BS degree and MS degree from Xi'an University of Technology (China) in 2005 and 2008, and received the D.E. degrees from Nihon University, Tokyo, Japan, in 2013. He was a Japanese Government Scholarship holder from Japanese Ministry of Education, Culture, Sports, Science and Technology (Monbukagakusho). He is currently a professor at Xi'an University of Technology. His research interests include Prognostic and Health Management Technology (PHM), safety and reliability of railway system, optimal control and stochastic control. He is a member of the IEEE, CAA and CCF.