Presentation Title: My research on optical manipulation started in Taiwan and its subsequent development in Japan

Name: Ken-ichi YUYAMA

Current Position: Lecturer

Affiliation: Dept. of Chem., Osaka Metropolitan University

Degree: Ph.D. (Engineering) at NAIST, Japan

Non-scientific Interests: Cycling

Area of scientific Interesting:

My research field is photochemistry and applied physics. I am interested in light-matter interactions that generate optical forces. I am working on the control of molecular and colloidal assembling with the use of optical forces and investigate the assembling dynamics by utilizing microscopic and micro-spectroscopic techniques.

Brief Biography:

- **Work experience**

  2020 – Present Lecturer, Osaka Metropolitan University

  2016 - 2020 Assistant Professor, Research Institute for Electronic Science, Hokkaido University

  2011 - 2016 Postdoctoral Researcher & Assistant Research Fellow, Department of Applied Chemistry and Institute of Molecular Science, National Chiao Tung University

  2006 - 2008 Asahi Glass Company

- **Education**

  2008 – 2011 Graduate School of Materials Science, Nara Institute of Science and Technology

  2004 – 2006 Department of Applied Physics, Graduate School of Engineering, Osaka University

  2000 – 2004 Division of Applied Science, School of Engineering, Osaka University

Presentation Title: My research journey to Japan and USA

Name: Ro-Ya LIU(劉　若亞)

Current Position: Assistant researcher

Affiliation: Condensed Matter Group, Science Division, NSRRC

Degree: Ph.D. (Science) at Univ. of Tokyo, Japan

Non-scientific Interests: Chorus, A cappella

Area of scientific Interesting:

My research interest focuses on discovering electronic band structure of novel quantum materials by using angle-resolved photoemission spectroscopy (ARPES) or time-resolved ARPES (TRARPES). My recent works include: “nodal line in hourglass material Nb_3SiTe_6.”, “Carrier dynamics in Transition metal dichalcogenides monolayers.”.

Brief Biography:

- **Work experience**

2018 – 2020 Postdoc fellow, Dept. of Physics, University of Illinois at Urbana-Champaign, IL, USA

2018 – 2020 Joint-postdoc, Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA, USA

2013 – 2014 Research Assistant, Dept of Physics, National Tsing-Hua University, Taiwan

- **Education**

2014 – 2017 PhD in Physics, Institute for Solid State Physics, University of Tokyo, Japan

2011 – 2013 MS in Synchrotron Radiation and Technology, School of Science, National Tsing-Hua University, Taiwan

2007 – 2011 BS in Physics, Dept of Physics, National Tsing-Hua University, Taiwan

Recent Publication

1. **R.-Y. Liu***, A. Huang, R. Sankar, J. A. Hlevyack, C.-C. Su, S.-C. Weng, M.-K. Lin, P. Chen, C.-M. Cheng, J. D. Denlinger, S.-K. Mo, A. V. Fedorov, C.-S. Chang, H.-T. Jeng*, T.-M. Chuang, and T.-C. Chiang*, “Dirac Nodal Line in Hourglass Semimetal Nb_3SiTe_6”, *Nano Letters* (2022)
2. **R.-Y. Liu**, M.-K. Lin, P. Chen, T. Suzuki, P. C. J. Clark, N. K. Lewis, C. Cacho, *E.* Springate, C.-S. Chang, K. Okazaki, W. Flavell, I. Matsuda, T.-C. Chiang “Symmetry-breaking and spin-blockage effects on carrier dynamics in single-layer tungsten diselenide”, *Phys. Rev. B*, 100, 214309 (2019).
3. **R.-Y. Liu**, K. Ozawa, N. Terashima, Y. Natsui, B. Feng, S. Ito, W.-C. Chen, C.-M. Cheng, S. Yamamoto, H. Kato, T.-C. Chiang, I. Matsuda, “Controlling the surface photovoltage on WSe_2 by surface chemical modification”, *Appl. Phys. Lett.*, 112, 211603 (2018)

Presentation Title: Japan-Taiwan research exchange in soft X-ray synchrotron radiation research at NSRRC

Name: Jun OKAMOTO
Current Position: Assistant research scientist
Affiliation: National Synchrotron Radiation Research Center

Degree: Ph.D. in Physics, The University of Tokyo, Japan

Non-scientific Interests: Reading books about history

Area of scientific Interesting:

My research field is condensed matter physics. I have been studying the electronic structures that underly novel physical properties mainly utilizing soft X-ray synchrotron radiation techniques (scattering and spectroscopy). I'd like to make clear the mechanism of novel physical properties through these direct analyses of the electronic structures.

Brief Biography:

- **Work experience**

2014 – Present Assistant research scientist, National Synchrotron Radiation Research Center, Taiwan R. O. C.

2009 – 2014 Research assistant professor, Condensed Matter Research Center, Institute of Materials Structure Science, High Energy Accelerator Research Organization, Japan

2004 - 2009 Project associate scientist, National Synchrotron Radiation Research Center, Taiwan R. O. C.

2001 - 2004 Postdoctoral fellow, Synchrotron Radiation Research Center at SPring-8, Japan Atomic Energy Institute, Japan

- **Education**

2000 – 2001 Postgraduate research student, Department of Physics, Faculty of Science & Graduate School, The University of Tokyo

1997 – 2000 Doctoral course, Department of Physics, Faculty of Science & Graduate School, The University of Tokyo (Ph. D. 2000)

1995 – 1997 Master's course, Department of Physics, Faculty of Science & Graduate School, The University of Tokyo (M.S. 1997)

1991 – 1995 Department of Physics, Faculty of Science, The University of Tokyo (B. S. 1995)

Presentation Title:
Atmospheric Pressure Plasma Jet for Microfluidic Applications
Name: Chia-Hung Dylan Tsai
Current Position: Associate Professor
Affiliation: Mechanical Engineering, NYCU
Degree: Ph.D. at State University of New York, USA
Non-scientific Interests: Jogging
Area of scientific Interesting:
My research field includes plasma, microfluidics and robotics. My most recent interest is in developing a microfluidic method for generating micro-scale capsules that can be put into human body as a substitute for red blood cells. The ultimate goal is to achieve artificial blood for medical applications.

Brief Biography:

- **Work experience**

2021 – Present Associate Professor, Mechanical Engineering, NYCU, Taiwan
2017 - 2021 Assistant Professor, Mechanical Engineering, NYCU, Taiwan
2016 - 2017 Specially Appointed Associate Professor, Mechanical Engineering, Osaka Univ, Japan
2011 - 2016 Specially Appointed Researcher, Mechanical Engineering, Osaka Univ, Japan

- **Education**

Ph.D 2006 – 2010 Mechanical Engineering, State University of New York (SUNY) at Stony Brook, USA
B.S. 1998 – 2002 Biomechatronics Engineering, National Taiwan University, Taiwan

Presentation Title: Collaborative experiences in NAIST-NYCU doctoral dual degree program

Name: Kuang-Chih Tso

Current Position: Ph.D. candidate

Affiliation: Program for Science and Technology of Accelerator Light Source, National Yang Ming Chiao Tung University, Taiwan

Degree: Ph.D. (Engineering) at Nara Institute of Science and Technology, Japan

Non-scientific Interests: Watching fiction movie and comedy drama

Area of scientific Interesting:

My research field is electrochemical engineering for bio-applications, my major research and interest are working on bio-electrode fabrication, implantable retinal devices design, and atomic/nano-structure analysis in National Synchrotron Radiation Research Center (NSRRC) to study chemical mechanisms of thin film deposition and bio-electrode behaviors.

Brief Biography:

- **Work experience**

2018/7 – 2018/10 Process Engineer Intern, Lam research Inc., Fremont, USA

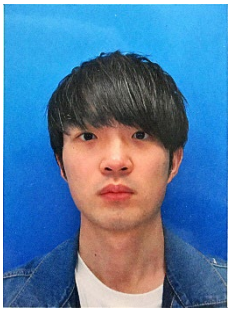
- **Education**

2017 – Present Program for Science and Technology of Accelerator Light Source, National Yang Ming Chiao Tung University, Taiwan

2018 – 2021 Division of Materials Science, Nara Institute of Science and Technology, Japan

2015 – 2017 Program for Science and Technology of Accelerator Light Source, National Chiao Tung University, Taiwan

2010 – 2015 Department of Applied Chemistry, National Chiao Tung University, Taiwan



Presentation Title: Control of Crystallization via Lasers in Japan and Taiwan

Name: Hozumi Takahashi
Current Position: PhD. Student
Affiliation: Graduate School of Engineering, Osaka Univ.
Degree: Master (Science) at Saitama Univ.

Non-scientific Interests: Drink

Area of scientific Interesting:

My field of interest is laser processing. So far, I have tackled control of crystallization by using lasers in Japan and Taiwan. More recently, we try to combine the laser methods in Japan and Taiwan to realize more precise control of crystallization.

Brief Biography:

- **Work experience**

2022 – present	JSPS Research Fellow (DC1)
2019 – 2020	Visiting Student (2.5 month), National Chiao Tung University.

- **Education**

2021 – present	Department of Applied Physics, Graduate School of Engineering, Osaka University
2020 – 2021	Department of Chemistry, Graduate School of Engineering and Science, Saitama University
2016 – 2020	Department of Chemistry, Faculty of Science, Saitama University

Presentation Title: Laser trapping and fs laser-impulse exerted on protein

Name: Po-Wei Yi

Current Position: PhD. student

Affiliation: Div. of Materials Science, NAIST

Degree: Ph.D. student, Double degree program, Nara Institute of Science and Technology (NAIST), and National Yang Ming Chiao Tung University (NYCU)

Non-scientific Interests: Walking and Travel

Area of scientific Interesting:

My research field is laser bio-nano technology. I have been working on the exploration of the unique phenomenon of optical trapping specific to protein assembly. Further, the evaluation of the micro-protein crystal is performed utilizing ultra-fast pulsed laser induced impulse. This origin study of micro-manipulation for protein assembly is incorporated between Taiwan and Japan, expecting the new horizon of micro-manipulation.

Brief Biography:

- **Work experience**

2021/10 – 2021/12 Short-term stay (visiting scholar) in Katholieke Universiteit Leuven, Belgium

2018/07 – 2018/09 Assistant researcher, Internship at National Applied Research Laboratories, Instrument Technology Research Center, Hsinchu, Taiwan

2016/07 – 2017/01 Radiographer internship at Taipei Veterans General Hospital, Taipei, Taiwan

- **Education**

2020 – 2023 Department of Applied Chemistry, National Yang-Ming Chiao-Tung University, Hsinchu, Taiwan

2019 – 2023 Division of Materials Science, Nara Institute of Science and Technology, Nara, Japan

2017 – 2019 Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan

2013 – 2017 Department of Biomedical Imaging and Radiological Sciences, National Yang-Ming University, Taipei, Taiwan

Presentation Title: A career in two contrasting academic cultures across the pacific – seeking their Aufheben.

Name: Kaz SHIOZAKI

Current Position: President

Affiliation: NAIST

Degree: Ph.D. (Kyoto University, Japan)

Non-scientific Interests: University administration and management

Area of scientific Interests:

Structure and function of intracellular signaling-pathways in eukaryotes that perceive and respond to diverse environmental conditions; cell biology and molecular genetics of yeast.

Brief Biography:

- **Work experience**

1992-1997 Postdoctoral Fellow, The Scripps Research Institute, USA

1998-2002 Assistant Professor, Dept. of Microbiology, University of California, Davis (UC Davis), USA

2002-2008 Associate Professor, Dept. of Microbiology, UC Davis

2008-2010 Professor, Dept. of Microbiology, UC Davis

2011-2018 Professor, Graduate School of Biological Sciences, NAIST

2012-2014 Adjunct Professor, Dept. of Microbiology and Molecular Genetics, UC Davis

2013-2017 Advisor to the President on Global Partnership, NAIST

2017-2019 Advisor to the President on Education, NAIST

2018-2021 Professor, Graduate School of Science and Technology, NAIST

2019- Visiting Professor, Dept. of Microbiology and Molecular Genetics, UC Davis

2020-2021 Deputy Director, Division of Biological Science, NAIST

2021- President, NAIST

- **Education**

1987 B.Sc. Faculty of Science, Kyoto University, Japan

1989 M.Sc. Dept. of Biophysics, Graduate School of Science, Kyoto University

1992 Ph.D. Dept. of Biophysics, Graduate School of Science, Kyoto University

Presentation Title: Challenges for advanced nanosynergetic molecular materials under French-Japan double degree PhD program

Name: Tsuyoshi Kawai
Current Position: Professor
Affiliation: Div. of Materials Science, NAIST
Degree: Ph.D. (Electronic Engineering) at Osaka University, Japan

Non-scientific Interests: I am delighted to collaborate with colleagues of abroad, for scientific, administrative, and more educational challenges. Especially, PhD double degree program is much inspiring for me to squeeze myself into chemistry of common interest and complementary scientific scope and knowledges. Thanks to some of overseas and domestic scientific partners as well as many of administrative staffs and motivated students, we could get progress there.

Area of scientific Interesting:

I am working on materials chemistry especially photofunctional molecules and chemical substances. For example, exploration and characterization of photochromic molecules and new photoswitching molecules are studied extensively. I am also interested in luminescent molecules and coordination substances, especially those of chirality.

Brief Biography:

- **Work experience**

1989-1998 Associate Professor,
Department of Electronic Engineering, Osaka University
1998-2004 Associate Professor,
Department of Chemistry and Biochemistry, Kyushu University
2004-2018 Professor,
Graduate School of Materials Science,
Nara Institute of Science and Technology, NAIST
2018- Professor, Graduate School of Science and Technology,
Nara Institute of Science and Technology, NAIST
Invited Professor: University of Paul Sabatier (2011), University of Rennes (2017), ENS-Paris Saclay (2017).

- **Education**

1985 Bachelor of Engineering (Chemistry), Osaka University
1987 Master of Engineering (Chemistry), Osaka University
1993 PhD (Electronic Engineering), Osaka University

Presentation Title: A Lucky Encounter that Triggered a Leap: a Leuven-Osaka Connection

Name: Yoshito TOBE

Current Position:

Affiliation: Dept. of Applied Chemistry, NYCU Chair Professor

Degree: Dr. Eng. at Osaka University, Japan

Non-scientific Interests: Cheering Hanshin-Tigers (a Kansai-based professional baseball team)

Area of scientific Interesting:

One of my research interests is fundamental organic chemistry; I have been interested in synthesizing molecules of unusual structure and bonding, such as those having highly deformed bonds or unconventional electronic configurations, and investigating their molecular structures and physical properties. My research interest extends to supramolecular chemistry particularly on-surfaces; I have been conducting construction of highly ordered self-assembled monolayers mostly at the interface of graphite and organic liquid, observation of the structures and dynamics by scanning tunneling microscopy (STM).

Brief Biography:

- **Work experience**

2018 – Present Chair Professor, National Yang Ming Chiao Tung University (NYCU)
2017 – Present Emeritus and Guest Professor, Institute of Scientific and Industrial Research (SANKEN), Osaka University
2007 – 2011 Dean, Graduate School and School of Engineering Science, Osaka University
1998 – 2017 Professor, Graduate School of Engineering Science, Osaka University
1992 – 1998 Associate Professor, Graduate School of Engineering Science, Osaka University
1987 – 1988 Visiting Professor, Department of Chemistry, The University of Chicago
1983 – 1992 Senior Lecturer, School of Engineering, Osaka University
1979 – 1983 Assistant Professor, School of Engineering, Osaka University

- **Education**

1974 – 1979 Department of Petroleum Chemistry, Graduate School of Engineering, Osaka University (master and doctor courses)
1970 – 1974 Department of Petroleum Chemistry, School of Engineering, Osaka University

Presentation Title: Tactics to create trusting relationships with partner universities in USA and Asian countries

Name: Hisaji Maki

Current Position: Specially Appointed Professor (international exchange)

Affiliation: Div. of Biological Science, NAIST

Degree: Doctor of Science at Kyushu University, Japan

Area of scientific Interest:

My research field is molecular genetics. I worked on the molecular mechanisms generating, suppressing, and controlling spontaneous mutations that cause age-related diseases such as cancer and promote the evolution of organisms. After my retirement, I am involved in a multi-disciplinary research project to clarify biological effects of low dose radiation.

Brief Biography:

- **Work experience**

2009 – 2011 Dean, Graduate School of Biological Sciences, NAIST

2007 – 2009 Vice Dean, Graduate School of Biological Sciences, NAIST

2004 – 2007 Advisor to the President, NAIST

1994 – 2020 Professor, NAIST

1992 – 1994 Associate Professor, Institute of Molecular and Cellular Biosciences, the University of Tokyo

1987 – 1992 Assistant Professor, Faculty of Medicine, Kyushu University

1983 – 1987 Post-Doctoral Research Fellow, Department of Biochemistry, School of Medicine, Stanford University

- **Education**

1977 – 1983 Graduate Division of Science, Kyushu University

1973 – 1977 Department of Biology, Faculty of Science, Kyushu University

Presentation Title: Japan-Taiwan Bilateral Science and Technology Cooperation Program and Talent Exchange Mechanism

Name: Yu-Han TSOU

Current Position: Senior Advisor, Taipei Economic and Cultural Representative Office in Japan;
General Director, Science and Technology Division, National Science and Technology Council (NSTC)
Distinguished Professor, Fu Jen Catholic University in Taiwan

Area of scientific Interesting:

My field of study is statistics. I have always been interested in Mathematical Statistics, Multiple Analysis, Multivariate Statistical Analysis and Computation, Genetic Algorithms for Data Analysis Using Fiscal and Tax Information, and Financial Credit Risk Analysis.

Brief Biography:

●Work experience

Dr. Yu-Han Tsou is Senior Advisor of Taipei Economic and Cultural Representative Office in Japan since November 2020. She has served as Vice Minister of Ministry of Science and Technology (MOST) since September 2017-2020. She is also the Committee Member of Central Disaster Prevention and Response Committee. Dr. Tsou has served in many roles since joining MOST (originally named NSC) including Director General of Department of Planning, Director General of Department of Central Processing, Director of Science and Technology Division of the Taipei Representative Office in France and UK, Deputy Director General of Department of International Cooperation.

Dr. Tsou has been teaching statistics since 1986 and participated in government budget and statistics work in 1988. She has served as Senior Executive Officer of the Budget, Accounting and Statistics Department of the Executive Yuan, Director of the Statistics Division of the Monetary Bureau of the MOF, and a member of Committee Member of Atomic Science and Technology R&D Review Committee, Atomic Energy Council of the Executive Yuan, Supervisor of Development Center for Biotechnology (DCB), MOEA.

●Education

Ph.D. Fu-Jen Catholic University, Taiwan
M.S. National Central University, Taiwan

Presentation Title: My 15 years research and life in NYCU
Name: Hiroshi MASUHARA
Current Position: Chair Professor
Affiliation: Department of Applied Chemistry, NYCU
Degree: Ph.D. (Engineering) at Osaka University, Japan
Non-scientific Interests: Travel
Area of scientific Interesting:
He has been working in interdisciplinary research areas in Departments of Chemistry, Synthetic Chemistry, Polymer Science and Engineering, Applied Physics, Frontier Bioscience, Life Science, Material Science, and Applied Chemistry in Sendai, Osaka, Kyoto. Osaka, Kobe, Nara, and Hsinchu. He started his experimental work from nanosecond ~ femtosecond time-resolved spectroscopy and photochemistry, has studied single nanoparticle spectroscopy, laser ablation dynamics, nanoparticle fabrication, manipulation and functionalization of single living cells, and laser trapping crystallization, and now focuses on optical assembling and swarming of nanoparticles at interface. By utilizing laser and microscope, he has been exploring new laser-induced molecular phenomena and elucidating their dynamics and mechanism. New interdisciplinary area of molecular photo-science has been opened, whose results are published as ~600 papers, ~120 reviews, and ~20 books. Particularly, J. Phys. Chem. counts more than 100, and he was honored to have the Hiroshi Masuhara Festschrift in 2009. This pioneering work attracted many young researchers and graduate students, and now over 100 doctors from Masuhara Laboratory/Project are working as professors and researchers in 10 countries.
Brief Biography:

- **Work experience**

2008 - present Chair Professor, National Chiao Tung University, Taiwan
2014 - present Guest Professor, Nara Institute of Science and Technology
2008 - 2013 Specially Appointed Professor, Nara Institute of Science and Technology
2007 - 2008 Chief Scientist, Hamano Life Science Research Foundation
1991 - 2007 Professor, Osaka University
1988 - 1994 Director, Masuhara Microphotoconversion ERATO Project, JST
1984 - 1991 Professor, Kyoto Institute of Technology
1972 - 1984 Research Associate, Osaka University

- **Education**

1966 – 1971 Graduate School of Engineering Science, Department of Chemistry, Osaka University. Awarded PhD's degree at 1971.