台灣國立陽明交通大學理學院應用化學系

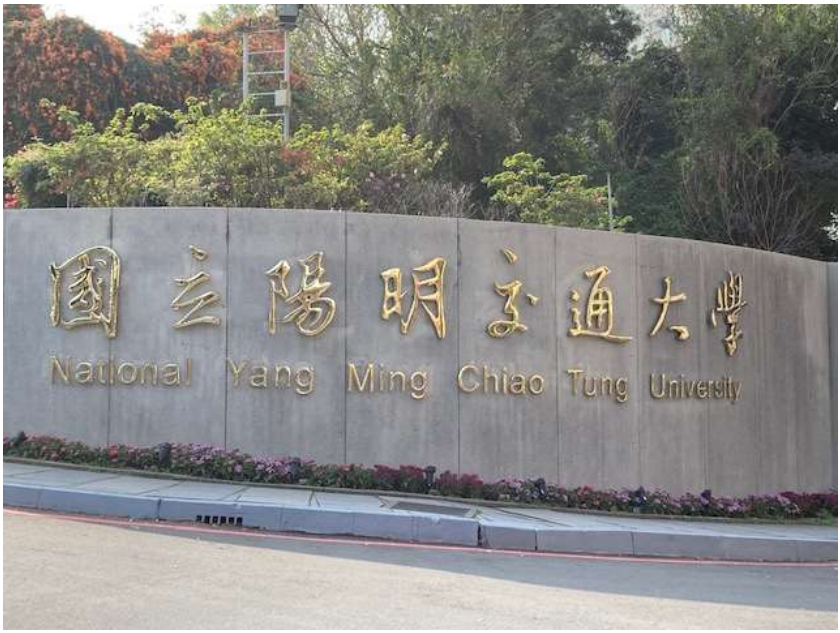
雷射生物奈米科學研究室

研究成果活動報告書

民國 97 年 4 月 ～ 111 年 8 月

Laser Bio/Nano Science Laboratory
Department of Applied Chemistry
National Yang Ming Chiao Tung University
(NYCU)

Activity Report
(2008 April - 2022 August)



Increasing Visibility of NYCU in Science and in Japan

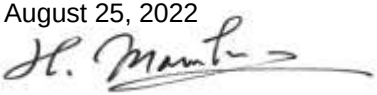
Preface

In 2008 I was invited to National Chiao Tung University by Prof. Y.-P. Lee and opened Laser Bio/Nano Science Laboratory. Our seminal work has been supported by the Presidents Chung-Yu Wu, Yan-Hua Wu Lee, Mau-Chung Frank Chang, and Chi-Hung Lin, the funding from our University, MOE, and NSTC (former MOST and NSC), and the warm friendship of our colleagues. We did our best to make our laboratory to be a leading group in the relevant field and made a lot of efforts for the internationalization of NCTU. in 2018, our activity for 2008-2018 was summarized and published as the first booklet with the phrase “Increasing Visibility of NCTU in Science and in Japan”.

Until 2019, we freely traveled between Japan and Taiwan, and enjoyed our research and research life in Taiwan. However, with whisperings of foreign pressure, our research life changed drastically after the advent of the COVID-19 pandemic. We could not attend international conferences, not organize the international Summer Course and workshops, and not invite foreign professors from Japan, US, and Europe. Separately, Taiwan's semiconductor industry is attracting more attention under the condition, and now more strongly supported by the Government and Society. My mind is being switched from worrying about whether universities should conduct exploratory research or feasibility studies to thinking that a new paradigm shift in science and technology is taking place in Taiwan. I believe such a new stream in Taiwan will be expanded to advanced countries and hope our activity for “Increasing Visibility of NYCU in Science and in Japan” will receive more attention. Here we summarize our results for 2008-2022 and publish them as the second booklet.

I would like to express my sincere thanks to Profs. Y.-P. Lee, C.-S. Hsu, and Y.-K. Li for their kind understanding and continued support. The present and past colleagues and staffs, and our and visiting graduate students are also acknowledged due to their great efforts.

August 25, 2022



Hiroshi Masuhara

Research Activity

144 Published Papers

135 Invited lectures

Education Activity

15 PhD Students

3 3 PhD student promoted to University Professors

48 Master Students

7 Dual Degree Students (6 with Japanese University and 1 with Belgian University)

30 Japanese Graduate Students staying in Our Laboratory for 1 ~ 3 months

12 Our Students Studying Abroad for 1 month ~ 1 year

Academic Exchange Activity

7 Staffs Promoted to Japanese and Brunei Universities

2 Japanese Staffs married with Taiwanese ladies

4 Japanese Postdoctoral Fellows supported by JSPS (Japan Society for Promotion of Science)

72 Japanese Professors we invited to Department Colloqium

89 Japanese Professors we invited to Laboratory Seminar

13 Professors we invited to CEFMS Lectures

1118 Participants to International / Hsinchu Summer Course and Workshop

467 Japanese Super Science High School students we received

Present Members

Hiroshi MASUHARA

増原　宏

Hiroshi Masuhara received the B.S. and Master degrees from Tohoku University Japan in 1966 and 1968, and the Ph.D. degree from Osaka University Japan in 1971. 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.

<u>Academy Member</u>

(1) Foreign Fellow of National Academy of Sciences, India (2010-present)
(2) Foreign Member, Flemish Academy of The Art and Sciences, Belgium (1998-present)

Highly Ranked Governmental Awards（Emperor of Japan）

(1) The Order of the Sacred Treasure, Gold Rays with Neck Ribbon (2017), 瑞宝中綬章
(2) The Purple Ribbon Medal (2008), 紫綬褒章

Scientific Awards and Prizes

(1) Asian and Oceanian Photochemistry Association Award (2010)
(2) Mizushima-Raman Lectureship, JSPS-India DST (2010)
(3) Mukai Prize (2010)
(4) Outstanding Scholar Award of Foundation for the Advancement of Outstanding Scholarship, Taiwan (2008)
(5) Spectroscopic Society of Japan Award (2006)
(6) Porter Medal (European, American and Asian Photochemistry Association) (2006)
(7) The Chemical Society of Japan Award (2006)
(8) Kenjiro SAKURAI Memorial Award, Optical Industrial Technology Development Association (2005)
(9) Osaka Science Prize (1994)
(10) Divisional Award of the Chemical Society of Japan (1994)
(11) Moet Hennessy Louis Vuitton International Prize “Science for Art” Excellence de Da Vinci, France (1993)
(12) Japanese Photochemistry Association Award (1989)

Society Fellows and Honored Doctor

(1) Emeritus member of Japanese Society of Molecular Science (2019-present)
(2) Emeritus member of Japanese Photochemistry Association (2017-present)
(3) The Chemical Society of Japan Fellow (2010-present)
(4) IUPAC Fellow (2007-2011)
(5) Doctor Honoris Causa de Ecole Nomale Superier de Cachan, France (2006-2013)

Director of Group Research Project

(1) Research Supervisor, PRESTO Project “Innovative Use of Light and Materials/Life”, JST (Japan Science and Technology Agency) (2008-2015)
(2) Project Director of Grand-in-Aid for Scientific Research on Innovative Area “Molecular Nanodynamics”, Japanese Society for Promotion of Science (JSPS) (2004-2007)

(3) Project Director of Grand-in-Aid for Scientific Research on Innovative Area “Single Organic Nanoparticle”, Japanese Society for Promotion of Science (JSPS) (1998-2001)
(4) Director, Masuhara Microphotoconversion Project, Exploratory Research for Advanced Technology Program, Research and Development Corporation of Japan (1988-1994)

President, Advisor, and Councilor

(1) Advisor for Grand-in-Aid for Transformative Research Area (A) “Chiral Materials Science pioneered by helicity of light”, Prof. Takashige Omatsu Project Leader, Japanese Society for Promotion of Science (JSPS) (2022-2027)
(2) Advisor for Grand-in-Aid for Transformative Research Area (A) “Dynamic Exciton: Emerging Science and Innovation”, Prof. Hiroshi Imahori Project Leader, Japanese Society for Promotion of Science (JSPS) (2020-2025)
(3) Advisor for Australian Research Council Center of Excellence Project “Exciton Science” Prof. Paul Mulvaney Project Leader (2017-2024)
(4) Advisor for Grand-in-Aid for Scientific Research on Innovative Area “Optical Manipulation of Nano Materials”, Prof. Hajime Ishihara Project Leader, Japanese Society for Promotion of Science (JSPS) (2016-2021)
(5) Advisor for Grand-in-Aid for Scientific Research on Innovative Area “Photosynergetics”, Prof. Hiroshi Miyasaka Project Leader, Japanese Society for Promotion of Science (JSPS) (2014-2019)
(6) Advisor for Institute of Molecular Science, Okazaki, Japan (2013-2015)
(7) Advisor for Grand-in-Aid for Scientific Research on Innovative Area “Dynamic Ordering & Integrated Functions”, Prof. Koichi Kato Project Leader, Japanese Society for Promotion of Science (JSPS) (2013-2018)
(8) Advisor for Grand-in-Aid for Scientific Research on Innovative Area “Strong Light-Matter Interaction”, Prof. Hiroaki Misawa Project Leader, Japanese Society for Promotion of Science (JSPS) (2007-2011)
(9) Committee Member of INPAC Program, Katholieke Universiteit Leuven, Belgium (2006-2007)
(10) Executive Committee Member of Chemical Society of Japanese

(2007 - 2009)
(11) Associate Member of Science Council of Japan (2006-2012)
(12) Committee Member of Nano Program, Royal Dutch Academy (2003)
(13) Committee Member of IAP Program, Ministry of Education of Belgium (2002-2017)
(14) President of Asian and Oceanian Photochemistry Association (2002-2004)
(15) President of Japanese Photochemistry Association (2000-2001)
(16) Member of IUPAC Photochemistry Commission (1998-2001)
(17) Executive Committee Member of Japanese Applied Physics Society (1997-2001)
(18) Executive Committee Member of Japanese Photochemistry Association (1992-1995, 1998-2000)

Masuhara Lectureship Award
Asian and Oceanian Photochemistry Conference started this award from 2012. The awardee is invited to present a lecture in Asia Photochemistry Conference.

Hiroshi Masuhara Festschrift (Special Issue)
Journal of Physical Chemistry C, America Chemical Society (2009)

Hiroshi Masuhara Special Issue of Photochemical and Photobiological Sciences,
Royal Society of Chemistry (2005)

Journal Editor
(1) Advisory board (2008-present)
The Chemical Record
(2) Advisory board (2005-present)
Bulletin of the Chemical Society of Japan
(3) Editorial board (2000-2018)
ChemPhysChem
(4) Editorial board (1997-present)
Journal of Photochemistry and Photobiology C: Photochemistry Review
(5) Asian editor (1997-2011), Editorial Board (2012-present)
Journal of Photochemistry and Photobiology A: Chemistry

Teruki SUGIYAMA

杉山 輝樹

Dr. Teruki Sugiyama received Ph.D. from Nankai University, P. R. China in 2002. He was Designated Instructor, Specially-Appointed Instructor, and Specially-Appointed Fellow in the Department of Applied Physics at Osaka University from 2002-2007. At Osaka University, he worked on the fabrication of organic and pharmaceutical nanoparticles by laser ablation in liquid and succeeded in tailoring the smallest organic dye nanoparticles by a top-down method using ultrashort lasers. In 2007, he became Researcher at Hamano Life Science Research Foundation, where he started his current research topic on developing the optical trapping method for crystal chemistry. From 2008 to 2011, he worked as Specially-appointed Associate Professor at Nara Institute of Science and Technology. In 2011, he moved to Taiwan and worked at Instrument Technology Research Center, National Applied Research Laboratories, as Associate Researcher and then Research Fellow, when he extended his research on optical trapping chemistry. In 2015, he moved to the Department of Applied Chemistry at National Chiao Tung University and served as Associate Professor. In 2020 he was promoted to full professor. His current interest is to explore the possibility of the optical trapping method in various chemical research fields, such as chirality, aggregation-induced emission enhancement, phase separation, polymorphism, amyloid fibril formation, protein crystallization, photochemical reactions, and so on, and to elucidate their dynamics and mechanism spectroscopically.

Laboratory Staffs

Professors

Hiroshi Masuhara 増原宏	Chair Professor	2008.04 - present
Teruki Sugiyama	Professor	2020.08 - present
杉山輝樹	Associate Professor	2015.08 - 2020.07
Atsushi Miura 三浦篤志	Assistant Professor	2009.09 - 2014.04

Research Fellows

Shuichi Toyouchi 豊内秀一	Assistant Researcher	2020.12 - 2022.04
Roger Bresolí-Obach	Visiting Assistant Research Fellow	2020.02 - 2020.05 2021.04 - 2022.07
Tetsuhiro Kudo 工藤哲弘	Assistant Researcher	2017.01 - 2020.09
Ken-ichi Yuyama 柚山健一	Assistant Researcher	2014.01 - 2016.09
Kazunori Okano 岡野和宣	Assistant Researcher	2013.06 - 2015.12
Atsushi Miura 三浦篤志	Associate Researcher	2008.04 - 2009.08
Takayuki Uwada 宇和田貴之	Assistant Researcher	2008.04 - 2012.03

Secretaries

Ya-Hsin Huang 黃雅新	Assistant	2019.02 - present
Yi-Chun Lee 李 依純	Assistant for Research	2009.08 - 2010.07
Wen-Yu Lee 李文郁	Assistant	2008.04 - 2018.12

MOST Postdoctoral Fellows

Shun-Fa Wang 王順發	Post Doctoral Fellow	2018.02 - present
Tetsuhiro Kudo 工藤哲弘	Post Doctoral Fellow	2016.04 - 2016.12
Wei-Yi Chiang 江威逸	Post Doctoral Fellow	2018.08 - 2019.07
Masayasu Muramatsu 村松正康	Post Doctoral Fellow	2014.04 - 2015.10
Kazunori Okano 岡野和宣	Post Doctoral Fellow	2012.08 - 2013.05
Ken-ichi Yuyama 柚山健一	Post Doctoral Fellow	2011.04 - 2013.12
Anwar Usman 吳安華	Post Doctoral Fellow	2009.06 - 2013.06

JSPS Overseas Research Fellows

1.	Yugo Hayashi	林有吾	2015.06 - 2015.08 2016.02 - 2016.03
2.	Morihiko Hamada	濱田守彦	2015.04 - 2016.03
3.	Tetsuhiro Kudo	工藤哲弘	2014.04 - 2016.03
4.	Masayasu Muramatsu	村松正康	2012.04 - 2013.03

Ph.D. Students

1.	Yi-Ren Chen	陳繹仁	(BS, MS, PhD)	2020.07 - present
2.	Po-Wei Yi	易柏維	(PhD)	2019.07 - present
3.	Tien Chen	陳瑱	(MS, PhD)	2019.07 - present
4.	Wen-Chi Wang	王玟淇	(BS, MS, PhD)	2017.07 - present
5.	Abdullah Kamit	卡密濤	(MS, PhD)	2018.02 - 2022.06
6.	Chih-Hao Huang	黃之灝	(MS, PhD)	2017.07 - present
7.	Hao-Tse Su	蘇浩澤	(MS, PhD)	2017.07 - present
8.	Tsung-Wei Shih	施宗緯	(MS, PhD)	2015.08 - present
9.	An-Chieh Cheng	鄭安婕	(MS, PhD)	2015.08 - 2021.02

10.	Chi-Shiun Wu	吳奇勳	(MS, PhD)	2011.08 - 2020.02
11.	Shun-Fa Wang	王順發	(MS, PhD)	2010.07 - 2017.01
12.	Wei-Yi Chiang	江威逸	(MS, PhD)	2010.07 - 2017.11
13.	Tsung-Han Liu	劉宗翰	(MS, PhD)	2009.08 - 2017.08
14.	Jing-Ru Tu	杜靜如	(PhD)	2009.08 - 2016.01
15.	Ping-Yu Hsu	許平諭	(PhD)	2009.08 - 2015.01

Master Students

1.	Yan-Ru Lin	林彥儒	(MS)	2021.08 - present
2.	Kuan-Chih Tseng	曾瓘智	(MS)	2021.08 - present
3.	Ching-Yang Lin	林晉揚	(MS)	2021.07 - present
4.	Ying-Hua Chang	張映華	(BS, MS)	2020.02 - present
5.	Wei-Hsiang Chiu	邱威翔	(MS)	2020.07 - present
6.	Ting-Chu Wang	翁淑婷	(MS)	2019.07 - present
7.	Tung-Ming Lin	林東茗	(BS, MS)	2019.07 - present
8.	Shu-Ting Wang	王亭筑	(BS, MS)	2019.07 - present
9.	Chun-Liang Chiu	邱俊良	(MS)	2019.07 - 2021.06
10.	Yu-Chia Chang	張育嘉	(MS)	2019.07 - 2022.01
11.	Chia-Ying Lin	林佳瑩	(BS, MS)	2018.07 - present
12.	Bo-Wei Chen	陳柏瑋	(MS)	2018.07 - 2020.06
13.	Yu-Hau Ye	葉育豪	(MS)	2018.07 - 2020.06
14.	Ya-Chiao Lee	李雅喬	(MS)	2018.07 - 2020.06
15.	Hsuan-Yin Wang	王暄尹	(BS, MS)	2017.07 - 2021.08
16.	Yi-Ju Wu	吳奕儒	(BS, MS)	2016.07 - 2021.02
17.	Chia-Ying Tsai	蔡佳穎	(MS)	2017.09 - 2019.06
18.	Yu-Ming Wang	王裕明	(MS)	2017.07 - 2019.06
19.	Jia-Syun Lu	呂佳勳	(MS)	2017.07 - 2019.06
20.	Pei-Hua Lo	羅珮華	(MS)	2016.07 - 2018.08
21.	Jhao-Rong Lin	林昭容	(MS)	2016.06 - 2018.08
22.	Yang-Hsin Shih	施仰欣	(MS)	2016.02 - 2019.01
23.	Ching-Shiang Tseng	曾靖翔	(MS)	2016.07 - 2018.08
24.	Ting-Shiang Chiu	邱鼎翔	(BS, MS)	2015.03 - 2018.10
25.	Chieh-Ju Chang	張傑茹	(MS)	2015.09 - 2017.08
26.	Shang-Jan Yang	楊尚展	(MS)	2015.08 - 2017.10
27.	Chi-Lung Wu	吳奇隆	(MS)	2015.08 - 2017.08

28.	Shang-Wei Liu	劉上瑋	(MS)	2015.08 - 2016.09
29.	Yung-Lun Lin	林詠倫	(MS)	2015.02 - 2017.08
30.	Jui-Kai Chen	陳睿凱	(BS, MS)	2014.08 - 2018.06
31.	Mong-Wei Chou	卓孟瑋	(MS)	2014.08 - 2015.07
32.	Ping-Shun Peng	彭炳順	(MS)	2014.08 - 2016.10
33.	Yuan-Lin Yi	易宛霖	(MS)	2014.04 - 2015.12
34.	Tse-Fu Shen	沈則甫	(MS)	2013.09 - 2015.07
35.	Lin-Li Liu	劉林禮	(MS)	2013.08 - 2016.01
36.	Kai-Di Chang	張凱迪	(MS)	2013.08 - 2015.07
37.	Po-Ren Chen	陳伯任	(MS)	2013.08 - 2015.07
38.	Jen-Lian Shu	徐禎蓮	(MS)	2013.07 - 2015.09
39.	Pei-Yun Hsieh	謝沛芸	(MS)	2013.07 - 2015.07
40.	Chun-Han Wang	王崇翰	(MS)	2013.07 - 2015.07
41.	Ding-Wen Jian	簡鼎文	(MS)	2013.07 - 2015.07
42.	Po-Yu Lin	林柏宇	(MS)	2012.08 - 2014.07
43.	Chun-Shen Wu	吳峻陞	(MS)	2012.08 - 2015.02
44.	Ling-Ting Huang	黃鈴婷	(MS)	2010.07 - 2013.08
45.	Yen-Hwa Huang	黃彥樺	(MS)	2010.07 - 2013.08
46.	Zu-Wei Hsu	許孜瑋	(MS)	2010.07 - 2013.08
47.	Ching-Shu Tseng	曾箐續	(MS)	2010.07 - 2013.08
48.	Chun-Wei Huang	黃重維	(MS)	2010.02 - 2011.11

Undergraduate Students

1.	Ke-An Kuo	郭恪安	(BS)	2022.02 - present
2.	Cheng-Yuan Tsai	蔡承愿	(BS)	2021.07 - present
3.	Jie-Yin Liang	梁婕吟	(BS)	2021.07 - present
4.	Yi-Yu Chen	陳奕伃	(BS)	2020.07 - 2022.01
5.	Jia-Hung Hsu	徐嘉鴻	(BS)	2020.07 - 2022.01
6.	Yan-Yi He	何妍毅	(BS)	2020.07 - 2021.06
7.	Yen-En Liu	劉言恩	(BS)	2015.07 - 2017.08
8.	Yen-Ling Chiou	邱彥苓	(BS)	2013.08 - 2015.06

Promotion of PhD Students to University Professor

1. Wei-Yi Chiang (江威逸): Kaohsiung Normal University (2022 - present).
2. An-Chieh Cheng (鄭安婕): Assistant Professor of Hokkaido University in Japan (2020 - present).
3. Tsung-Han Liu (李宗翰): Assistant Professor of Kwansei Gakuin University in Japan (2018 - present).

Dual Degree Program Students

1.	Po-Wei Yi 易柏維	(Nara Institute of Science and Technology - NYCU)	2020.02 - present
2.	Fumika Kiryu 桐生文佳	(Saitama University - NCTU)	2019.09 - 2021.01
3.	Mayu Yamaji 山地真由	(Saitama University - NCTU)	2019.09 - 2021.01
4.	Kazuki Okano 岡野和希	(Saitama University - NCTU)	2017.10 - 2018.03
5.	Chi-Shiun Wu 吳奇勳	(NCTU - Saitama University)	2016.10 - 2017.09
6.	Wei-Yi Chiang 江威逸	(NCTU - Katholieke Universiteit Leuven)	2014.09 - 2017.11
7.	Shimpei Nishimura 西村晋平	(Saitama University - NCTU)	2012.08 - 2015.09

Japanese Students Studying with Us

(1)	Jun Ikeyama (Saitama University)	2019.09.23 - 2019.11.21
(2)	Fumika Kiryu (Saitama University)	2019.09.01 - 2021.01.31
(3)	Mayu Yamaji (Saitama University)	2019.08.28 - 2021.01.31
(4)	Kazuki Okano (Saitama University)	2017.09.09 - 2018.01.31
(5)	Hiroki Omoda (Ehime University)	2017.11.06 - 2017.12.10
(6)	Taisei Himeda (Ehime University)	2017.11.06 - 2017.12.10
(7)	Keisuke Meguriya (Saitama University)	2017.11.01 - 2018.01.09
(8)	Takuya Takeshige (Saitama University)	2017.11.01 - 2018.01.09

(9) Keisuke Masuda (Ehime University) 2016.11.05 - 2016.12.06
(10) Masamichi Nisogi (Ehime University) 2016.11.05 - 2016.12.06
(11) Daiki Suzuki (Saitama University) 2016.10.14 - 2016.12.13
(12) Kazuki Okano (Saitama University) 2016.10.14 - 2016.12.13
(13) Jun Hyung Lee (Chiba University) 2015.12.01 - 2016.01.31
(14) Ryo Kihara (Ehime University) 2015.11.02 - 2015.11.30
(15) Wakana Nishiyama (Yamagata University)
2015.08.01 - 2015.09.30
(16) Fuyuto Takahashi (Chiba University) 2014.12.15 - 2015.01.05
(17) Mizuki Sato (Yamagata University) 2014.08.01 - 2014.09.30
(18) Tetsuhiro Kudo (Osaka Prefecture University)
2013.09.06 - 2013.11.08
(19) Tetsuhiro Kudo (Osaka Prefecture University)
2012.11.09 - 2013.02.01
(20) Shimpei Nishimura (Saitama University) 2014.02.11 - 2015.09.30
(21) Shimpei Nishimura (Saitama University) 2013.11.11 - 2014.01.25
(22) Shimpei Nishimura (Saitama University) 2013.06.20 - 2013.09.16
(23) Shimpei Nishimura (Saitama University) 2012.12.25 - 2013.02.23
(24) Shimpei Nishimura (Saitama University) 2012.08.21 - 2012.11.28
(25) Daiki Kimura (Saitama University) 2012.08.21 - 2012.11.28
(26) Jino George (National Institute for Interdisciplinary and Technology, Trivandrum, India) 2011.10.15 - 2011.12.14
(27) Hayato Inoue (Chuo University) 2011.01.16 - 2011.01.20
(28) Hayato Inoue (Chuo University) 2010.07.01 - 2010.08.25
(29) Sho Fujii (Chuo University) 2010.08.14 - 2010.09.04
(30) Sho Fujii (Chuo University) 2010.01.24 - 2010.02.11

Our Students Studying Abroad

(1) Yi-Ju Wu at Institute for Molecular Science (IMS), Japan
2019.10.01 - 2019.12.21
(2) Yi-Ju Wu at Ehime University, Japan 2017.07.31 - 2017.09.01
(3) Yen-En Liu at Hokkaido University, Japan 2016.03.31 - 2016.08.12
(4) Chi-Shiun Wu at Saitama University, Japan
2016.10.01 - 2017.09.08
(5) Ding-Shiang Chiu at Hokkaido University, Japan
2016.03.27 - 2016.09.20
(6) Ting-Wen Chien at Hokkaido University, Japan
2014.07.12 - 2015.05.31
(7) Po-Jen Chen at Hokkaido University, Japan
2014.07.12 - 2015.05.31

(8) Tsung-Han Liu at Osaka University, Japan
2015.11.30 - 2016.06.30
(9) Tsung-Han Liu at Osaka University, Japan
2014.11.03 - 2014.12.09
(10) Tsung-Han Liu at Osaka University, Japan
2014.04.02 - 2014.08.29
(11) Wei-Yi Chiang at KU Leuven, Belgium 2016.10.20 - 2017.09.28
(12) Wei-Yi Chiang at KU Leuven, Belgium 2014.09.01 - 2015.08.31

Super Science High School Students Visiting Us

(1) Oita Maitsuru High School, 25 students, 2019.12.26
(2) Osaka Takatsuki High School, 100 students, 2019.11.09
(3) Oita Maitsuru High School, 25 students, 2018.12.27
(4) Osaka Takatsuki High School, 89 students, 2018.11.16
(5) Oita Maitsuru High School, 25 students, 2017.12.26
(6) Osaka Takatsuki High School, 86 students, 2017.11.17
(7) Oita Maitsuru High School, 20 students, 2016.12.15
(8) Osaka Takatsuki High School, 97 students, 2016.11.16

HiGEPS (High-grade Global Education Program for Sciences) Visiting Us

(1) Saitama University and High schools in Saitama prefecture,
4 professors, 4 undergraduate students, 4 high school students
2018.03.26

Financial Support by NCTU, NSC (National Science Council), MOST (Ministry of Science and Technology), and NSTC (National Science and Technology Council)

1. Hiroshi Masuhara, 2022.08 ~ 2023.7, NSTC
Title: 焦點外之光學鏈接誘導金奈米粒子的光學演進蜂湧

2. Teruki Sugiyama, 2022.08 ~ 2023.07, NSTC
   Title: 飛秒雷射達成掌性結晶化之高對映體選擇性(2/3)
3. Hiroshi Masuhara, 2022.01 ~ 2022.12, MOST
   Title: 奈米粒子與蛋白質於介面之光學衍化聚集體的三維動態觀測與分析(2/2)
4. Hiroshi Masuhara, 2021.08 ~ 2022.07, MOST
   Title: 光學捕陷下奈米粒子於溶液表面產生之捕捉與聚集行為中的共振效應
5. Teruki Sugiyama, 2021.03 ~ 2022.02, MOST
   Title: 雷射控制結晶及多形現象(2/2)
6. Hiroshi Masuhara, 2021.01 ~ 2021.12, MOST
   Title: 奈米粒子與蛋白質於介面之光學衍化聚集體的三維動態觀測與分析(1/2)
7. Teruki Sugiyama, 2021.08 ~ 2022.07, MOST
   Title: 飛秒雷射達成掌性結晶化之高對映體選擇性(1/3)
8. Hiroshi Masuhara, 2020.08 ~ 2021.07, MOST
   Title: 利用光蝕刻設計之奈米結構與多平面超解析顯微鏡研究金奈米粒子於溶液/玻璃介面之蜂湧動態
9. Teruki Sugiyama, 2020.08 ~ 2021.07, MOST
   Title: 光學捕陷誘發結晶化之即時顯示(2/2)
10. Teruki Sugiyama, 2020.03 ~ 2021.02, MOST
    Title: 雷射控制結晶及多形現象(1/2)
11. Hiroshi Masuhara, 2019.08 ~ 2020.07, MOST
    Title: 以雙物鏡顯微系統研究聚苯乙烯奈米粒子在玻璃/溶液介面的雷射補陷、聚集及擾動之現象
12. Teruki Sugiyama, 2019.08 ~ 2020.07, MOST
    Title: 光學捕陷誘發結晶化之即時顯示(1/2)
13. Hiroshi Masuhara, 2018.08 ~ 2019.07, MOST
    Title: 飛秒雷射對於溶液中的介電奈米粒子在捕捉、聚集和噴發的動態學
14. Teruki Sugiyama, 2018.08 ~ 2019.07, MOST

Title: 藉由雷射捕陷技術控制結晶之對映現象(2/2)

15. Tetsuhiro Kudo, 2017.10 ~ 2019.07, MOST
    Title: 光傳遞及光散射促成之光捕陷誘發聚集
16. Hiroshi Masuhara, 2017.08 ~ 2018.07, MOST
    Title: 雷射捕陷與雷射燒蝕誘發類澱粉蛋白之纖維化
17. Teruki Sugiyama, 2017.08 ~ 2018.07, MOST
    Title: 藉由雷射捕陷技術控制結晶之對映現象(1/2)
18. Hiroshi Masuhara, 2016.04 ~ 2017.03, MOST
    Title: 雷射捕陷與雷射燒蝕誘發類澱粉蛋白之纖維化
19. Teruki Sugiyama, 2015.08 ~ 2016.07, MOST
    Title: 雷射捕陷誘發叢集聚合區域之蛋白質結晶調控
20. Kenichi Yuyama, 2014.08 ~ 2016.07, NSC
    Title: 雷射捕陷誘發分子與膠體晶體動態成長機制之反射影像光譜解析
21. Kazuhiro Okano, 2014.01 ~ 2015.12, NSC
    Title: 藉由在培養基片上的局部設計固定誘導分化因子達成細胞分化在時空上的控制
22. Hiroshi Masuhara, 2014.05 ~ 2015.11, NSC
    Title: 藉由三維觀測分析闡明奈米糰簇和奈米粒子的雷射捕捉, 散射及緊合動力學
23. Hiroshi Masuhara, 2013.04 ~ 2014.03, NSC
    Title: 純有機化合物液體中的雷射捕捉及結構組成(3/3)
24. Atsushi Miura, 2012.08 ~ 2014.07, NSC
    Title: 螢光蛋白雷射捕陷結晶化動力學：藉由非線性顯微成像研究光壓誘發相分離及晶核形成
25. Hiroshi Masuhara, 2012.04 ~ 2013.03, NSC
    Title: 純有機化合物液體中的雷射捕捉及結構組成(2/3)
26. Hiroshi Masuhara, 2011.04 ~ 2012.03, NSC
    Title: 純有機化合物液體中的雷射捕捉及結構組成(1/3)
27. Hiroshi Masuhara, 2010.04 ~ 2011.03, NSC
    Title: 雷射補陷結晶法之研究(3/3)

28. Takayuki Uwada, 2009.08 ~ 2011.07, NSC
    Title: 開發廣場雷利散射顯微影像技術用於探討蛋白質結晶的基本過程
29. Hiroshi Masuhara, 2009.04 ~ 2010.03, NSC
    Title: 雷射補陷結晶法之研究(2/3)
30. Hiroshi Masuhara, 2008.04 ~ 2009.03, NSC
    Title: 雷射補陷結晶法之研究(1/3)

Funding Arrangement for NAIST-NCTU Collaboration

1. Title: 雷射結晶化日台共同研究補助金
2. Title: 增原宏雷射生物奈米科學研究室國內外學術交流基金

Organizing International Summer Course

(1) The 9th International Summer Course (June 2022); 99 participants
Lecturers: Riichiro Shirota (National Tsing Hua University), Chun-Liang Lin (National Yang Ming Chiao Tung University), Masahito Oh-e (National Tsing Hua University), Atsushi Yabushita (National Yang Ming Chiao Tung University), Koji Hatanaka (Academia Sinica), Chun-Yen Liu (National Cheng Kung University), Toyoko Imae (National Taiwan University of Science and Technology), Michitoshi HAYASHI (National Taiwan University), Takehiko Kitamori (National Tsing Hua University), Hiroshi Watanabe (National Yang Ming Chiao Tung University),

(2) The 8th International Summer Course and Workshop (June 2019); 135 participants
(Co-organized by JSPS Grants-in-Aid for Scientific Research “Nano-Material Optical Manipulation” and Australian Research Council Center of Excellence Project “Exciton Science”)
Lecturers: Kei Murakoshi (Hokkaido University) “Light-Matter Interaction at Interface”, Paul Mulvaney (University of Melbourne) “Spectroscopy of Nanocrystals”, and Udo Bach (Monash University) “Perovskites for Optoelectronic Application”

(3) The 7th Hsinchu Summer Course and Workshop (June 2018); 161 participants
(Co-organized by JSPS Grants-in-Aid for Scientific Research “Nano-Material Optical Manipulation”)
Lecturers: Prashant Kamat (University of Notre Dame, USA), Hiromi Okamoto (Institute for Molecular Science, Japan), Takashige Omatsu (Chiba University, Japan), Yasuhiro Sugawara (Osaka University, Japan)

(4) The 6th Hsinchu Summer Course and Workshop (June 2017); 157 participants
(Co-organized by JSPS Grants-in-Aid for Scientific Research “Nano-Material Optical Manipulation”
Lecturers: Hajime Ishihara (Osaka University, Japan), Seiji Akita (Osaka Prefecture University), Yasuyuki Tsuboi (Osaka City University), Maarten Roeffaers (KU Leuven), Tsukasa Torimoto (Nagoya University)

(5) The 5th Hsinchu Summer Course and Workshop (June 2016); 176

participants
Lecturers: Martin Vach (Tokyo Institute of Technology, Japan)
Chihaya Adachi (Kyushu University, Japan)
Tsutomu Miyasaka (Toin University of Yokohama, Japan)
Junji Kido (Yamagata University, Japan)
Hiroaki Misawa (Hokkaido University, Japan)

(6) The 4th Hsinchu Summer Course and Workshop (June 2015); 125 participants
Lecturers: Hitoshi Tamiaki (Ritsumeikan University, Japan)
Haruo Inoue (Tokyo Metropolitan University, Japan)
Keisuke Goda (University of Tokyo, Japan)
Takeharu Nagai (Osaka University, Japan)

(7) The 3nd International Summer Course and Workshop (June 2014); 107 participants
Lecturers: Steven De Feyter (KU Leuven, Belgium)
Mizuo Maeda (RIKEN Institute, Japan)
Tomoji Kawai (Osaka University, Japan)

(8) The 2nd International Summer Course and Workshop (June 2013); 82 participants
Lecturers: Hiroaki Misawa (Hokkaido University, Japan)
Tatsuya Tsukuda (University of Tokyo, Japan)
Christy Landes (Rice University, U.S.A.)
Stephan Link (Rice University, U.S.A.)

(9) The International Summer Course and Workshop (June 2012); 76 participants
Lecturers: Johan Hofkens (KU Leuven, Belgium)
Tamai Naoto (Kwansei Gakuin University, Japan)

Organizing Workshops and Symposia

(1) 2020 Hsinchu Joint Seminar by NCTU, NYMU and NAIST
Tin Ka Ping Photonics Building 1F and 6F, National Chiao Tung University, Hsinchu, Taiwan, February 7, 2020

(2) 2019 Hsinchu Joint Seminar by NCTU and NAIST
Tin Ka Ping Photonics Building 6F, National Chiao Tung University, Hsinchu, Taiwan, January 21, 2019

(3) 2018 Hsinchu Joint Seminar by NCTU and NAIST
Science Building Ⅱ, National Chiao Tung University, Hsinchu, Taiwan, January 27, 2018

(4) 2016 The 3rd NCTU-NAIST Joint Workshop on Laser Bio/Nano Science
Tin Ka Ping Photonics Center, National Chiao Tung University, Hsinchu, Taiwan, January 28, 2016

(5) 2015 GIST-NAIST-NCTU Joint Symposium
Science BuildingⅢ, National Chiao Tung University, Hsinchu, Taiwan, November 19-20, 2015
(6) 2015 NCTU-NAIST-ITRC Joint Workshop on Laser Bio/Nano Science Tin Ka Ping Photonics Center, National Chiao Tung University, Hsinchu, Taiwan, January 27, 2015
(7) 2014 NCTU-NAIST-ITRC Joint Workshop on Laser Bio/Nano Science Tin Ka Ping Photonics Center, National Chiao Tung University, Hsinchu, Taiwan, January 25, 2014
(8) 2012 GIST-NAIST-NCTU Joint Symposium on Interdisciplinary Nanoscience and Beyond Science BuildingⅢ, National Chiao Tung University, Hsinchu, Taiwan, November 18-21, 2012
(9) 2012 The first Workshop on Lase Trapping with Laser BioNano Science Seminar Tin Ka Ping Photonics Center, National Chiao Tung University, Hsinchu, Taiwan, April 4-6, 2012
(10) 2011 Japan-Taiwan joint workshop: Future Perspective on NanoBio Science Pioneered by Light Tin Ka Ping Photonics Center, National Chiao Tung University, Hsinchu, Taiwan, October 4, 2011
(11) 2011 AS (Academia Sinica)-JST Joint Workshop on Innovative Use of Light and Nano/Bio Materials International Conference Hall, Humanity & Social Science Building, Taipei, Taiwan, May 26-27, 2011
(12) 2011 The 3rd Workshop on Laser Bio/Nano Science in Ka Ping Photonics Center, National Chiao Tung University, Hsinchu, Taiwan, March 4, 2011
(13) 2010 GIST-NCTU-NAIST International Exchange Program 2010 Nara Institute of Science and Technology, Nara, Japan, November 12-21, 2010
(14) 2010 The 2nd Workshop on Laser Bio/Nano Science Nara Institute of Science and Technology, Nara, Japan, September 6, 2010
(15) 2009 The 1st NCTU-NAIST Workshop on Molecular/Nano Science International Conference Hall A in NCTU Library, National Chiao Tung University, Hsinchu, Taiwan, November 11-13, 2009
(16) 2008 The 1st Workshop on Laser Bio/Nano Science Nara Institute of Science and Technology, Nara, Japan, August 28, 2008

Masuhara Schools at NCTU

(1) (July 2, 2017, NCTU): Japanese graduate students who belong to laboratories supervised by the members of JSPS Grant-in-Aid Project on “Nano-Material Optical-Manipulation”; 24 participants
(2) (March 26, 2018, NCTU): Professors, undergraduate students, and high school students who belong to “High-grade Global Education Program for Sciences (HiGEPS)” organized by Saitama University; 20 participants

Professors we invited to Department Colloquium of Applied Chemistry

(1) Wei-Yi Chiang (Kaohsiung Normal University)
“Solution Processed Material for Sensors in Biomedical Application”, December 2022
(2) Hsiao-Wen Zan (Department of Photonics/Electronics, National Yang Ming Chiao Tung University)
“Solution Processed Material for Sensors in Biomedical Application”, April 2022
(3) Masahito Oh-e (National Tsing Hua University)
“Intriguing Molecular Alignment in Display Materials”, April 2022
(4) Chia-Ching Chang (Department of Biological Science and Technology, National Yang Ming Chiao Tung University)
“Functional Biomaterials and Surface Active Palladium Nano-thin-film Development for Biomedical Applications”, March 2022
(5) Koji Hatanaka (Academia Sinica)
“Spatio-temporal Fine Control of THz Wave Emission with Water Flow”, October 2021
(6) Tetsuro Mimura (National Cheng Kung University)
“Chemical and Sub-cellular Approach for Plant Cell Functions and its Application”, October 2021
(7) Takehiko Kitamori (National Tsing Hua University)
“Pioneering Microfluidics and Nanofluidics and Future”, May 2021
(8) Yoshitaka Bessho (Academia Sinica)
“XFEL Bio-imaging”, April 2021
(9) Satoshi Kawata (Osaka University)
“Nanophotonics and Plasmonics: How We Break Through the Classical Limits in Optics”, January 2020

(10) Kazuya Watanabe (Kyoto University)
"Structure and Dynamics of Surface Adsorbates Studied by Nonlinear Optical Spectroscopy", December 2019
(11) Makoto Ogawa (VISTEC, Tailand)
"Precise Nanostructural and Morphological Design to Titania", December 2019
(12) Tetsuo Okutsu (Gunma University)
"Light-Induced Crystallization of Protein", April 2019
(13) Yasuhiro Kobori (Kobe University)
"Unveiling Primary Photo-Energy Conversion Mechanisms by Transient Electron Spin Polarization Imaging", April 2019
(14) Jai Pal Mittal (University of Mumbai)
"Breaking Bonds To Order – Dream Still Alive?", December 2018
(15) Steve Meech (University of East Anglia UK)
"Femtosecond to Microsecond Study of Mechanism in Photoswitchable Fluorescent Proteins", December 2018
(16) Toshikazu Takata (Tokyo Institute of Technology)
"Rotaxane Chemistry Directed toward Unique Catalysts and Materials", November 2018
(17) Kenji Kamada (National Institute of Advanced Industrial Science and Technology)
"Photophysical Processes with Two Photons: Two-photon Absorption and Triplet-triplet Annihilation Photon Upconversion", November 2018
(18) Masakazu Aono (National Institute of Material Science)
"Atomic switches: From simple switching to cognitive responses and adaptive networking", September 2018
(19) Olivier Soppera (CNRS Mulhouse)
"Light, Nanoparticles and Polymers at Nanoscale", September 2018
(20) Yoichiroh Hosokawa (Nara Institute of Science and Technology)
"Fast manipulation of biological cells in a micro fluidic chip by femtosecond laser impulse", June 2018
(21) Yukihiro Ozaki (Kwansei Gakuin University)
"Recent Progress in Molecular Spectroscopy of Electronic and Vibrational Transitions in Condensed Phase and Its Application to Chemistry", June 2018
(22) Nobuaki Nakashima (Osaka City University)
"Metal Ion Redox Reactions and Metal Particle Formation by Nano- and/or Femtosecond Lasers", May 2018
(23) Shuichi Hashimoto (University of Tokushima)

"Gold Nanoparticles and Their Photothermal Properties", May 2018

(24) Yuki Sudo (Okayama University)
"Light Can be Used as A Drug: What Should We Learn from The Photoactive Retinal Proteins", April 2018

(25) Ryota Iino (Institute for Molecular Science)
"High-speed Single-molecule Imaging Analysis of Protein Molecular Motors Probed by Gold Nanoprobes", December 2017

(26) Susumu Uchiyama (Osaka University)
"Biophysical Characterizations of Biopharmaceuticals", December 2017

(27) Tadashi Sugawara (Kanagawa University, Emeritus of The University of Tokyo)
"Construction of Giant Vesicle-based Model Protocells", October 2017

(28) Satoshi Nishimura (Jichi Medical University)
"Living animal imaging methods for biological research using handmade one/two-photon fluorescence microscope", March 2017

(29) Hiroaki Misawa (Hokkaido University)
"Plasmon Coupling in Photochemistry", February 2017

(30) Hiroyuki Sugimura (Kyoto University)
"Chemistry and Photochemistry of Graphene Oxide", December 2016

(31) Vasudevan Pillai Biju (Hokkaido University)
"Impeding Oxidation and Blinking in Single Semiconductor Quantum Dots", November 2016

(32) Atsushi Takahara (Kyushu University)
"Design of (Organic Material/Natural Inorganic Nanotube) Assemblies through Precise Interfacial Structure Control", October 2016

(33) Jiro Abe (Aoyama Gakuin University)
"Fundamentals and Applications of Fast Photoswitch Molecules" May 2016

(34) Nobuo Kimizuka (Kyushu University)
"Molecular Self-assembly for Photon Upconversion", May 2016

(35) Hiromi Okamoto (Institute for Molecular Science)
"Micro- and Nano-scopic Optical Activity Measurements", May 2016

(36) Keiji Sasaki (Hokkaido University)
"Photon Nanoshaping and Its Application to Photochemistry" April 2016

(37) Yasuyuki Tsuboi (Osaka City University)
"Plasmon-induced-Breakthrough in Photochemistry: Reaction, Processing, and Manipulation", November 2015
(38) Gen Sazaki (Hokkaido University)
"Surface Melting of Ice Crystals Revealed by Advanced Optical Microscopy", October 2015
(39) Kazue Kurihara (Tohoku University)
"Surface Forces Measurement: Fundamentals and Recent Development", October 2015
(40) Junji Nishii (Hokkaido University)
"Periodic Structured Devices for Optical Imaging and Plasmon-enhanced Fluorescence Microscopy", September 2015
(41) Takanori Fukushima (Tokyo Institute of Technology)
"Design of Functional Soft Materials Based on the Concept of π-Figuration", May 2015.
(42) Kizashi Yamaguchi (Osaka University)
"Theoretical Studies of Native and Artificial Catalysts for Water Oxidation by the X-ray Free Electron Laser", May 2015.
(43) Yoshihisa Inoue (Osaka University)
"Photochirogenesis in Molecular, Supramolecular and Biomolecular Regimes", March 2015
(44) Yasuhiro Iwasawa (The University of Electro-Communications)
"Intriguing Insights into How Catalysts Behave in Automobile Fuel Cells by Time- and Spatially-Resolved XAFS Techniques", December 2014
(45) Koichi Kato (Okazaki Institute for Integrative Bioscience & Institute for Molecular Science)
"Biophysical Exploration of Biomolecular Systems Characterized by Conformational Dynamics and Dynamical Assembly", December 2014
(46) Hiroaki Misawa (Hokkaido University)
"Frontier in Plasmonic Chemistry", December 2014
(47) Jun-ichi Hotta (Yamagata University)
"Super-Resolution Fluorescence Microscopy and its Application on Diatoms", December 2014
(48) Toru Nakano (Osaka University, Dean of Graduate School of Frontier Bioscience)
"Introduction to Epigenetics", October 2014
(49) Kazushi Miki (National Institute for Materials Science)
"Metal Nanoparticles 2D Array for Chemical Reactor and Bio Sensor", April 2014

(50) Hikaru Kobayashi (Osaka University)
"New Chemical Methods for Improvement of Crystalline Si Solar Characteristics", December 2013
(51) Hiroyuki Yoshikawa (Osaka University)
"Plasmonic Nanoparticle Manipulation and Biosensing with Focused Laser Beams", November 2013
(52) Hiroyuki Sugimura (Kyoto University)
"Nanofabrication of Surface Materials", October 2013
(53) Shun Hirota (NAIST)
"Assembling and function of cytochrome c", October 2013
(54) Arthur Chiou (National Yang Ming University)
"Optical Tweezers Based Bio-Micro-Rheology", October 2013
(55) Michiya Fujiki (NAIST)
"Mirror Symmetry Breaking and Restoration from Optically Inactive polymer Particles in Suspension by Solvent Chirality Transfer and/or by Pumping Circularly Polarized Light: Inspired from Oparin's Coacervate Hypothesis", May 2013
(56) Kazuhiko Mizuno (NAIST)
"Photochemical Behavior of Inter-and Intramolecular Exciplexes" May 2013
(57) Seiichiro Nakabayashi (Saitama University)
"Hydrogen Nano-Bubble at Normal Hydrogen Electrode", May 2013
(58) Hiroshi Fukumura (Tohoku University)
"Laser-Induced Phase Separation of Binary Solvents: Its Fundamentals and Application to Photochemistry", May 2013
(59) Hideko Koshima (Ehime University)
"Solid-state Photochemistry: From Photoreactions to mechanical Crystal Machinery", April 2013
(60) Noboru Kitamura (Hokkaido University)
"Spectroscopic and Photophysical Characteristics of Organoboranes and Their Transition Metal Complexes", December 2012
(61) Isao Azumaya (Tokushima Bunri University)
"Spontaneous Resolution of Achiral Organic Compounds" December 2012
(62) Kei Murakoshi (Hokkaido University)
"Selection-Rule Breakdown at Plasmon-Assisted Electronic Excitation of a Single Molecule at Metal Nano-Gap", December 2012
(63) Maki Kawai (The University of Tokyo)

"Single Molecule Level Spectroscopy of Molecules at Surfaces", October 2012

(64) Jun-ichi Kikuchi (NAIST)
"Cerasomes as a Bioinspired Organic-Inorganic Hybrid Nanomaterial", May 2012

(65) Haruo Inoue (Tokyo Metropolitan University)
"How Can We Get through The Bottleneck of The Artificial Photosynthesis?", May 2012

(66) Hiroshi Daimon (NAIST)
"Three-Dimensional Measurement of Orbital Angular Momentum, Orbital Symmetry, and Atomic Structure Using Synchrotron Radiation Two-Dimensional Photoelectron Spectroscopy", April 2012

(67) Takashi Fuyuki (NAIST)
"Recent Progress in High Efficiency Crystalline Si Solar Cells" April 2012

(68) Shun Hirota (NAIST)
"Investigation and Regulation of Protein and Peptide Structural Changes", December 2011

(69) Kirsch-De Mesmaeker (Free University of Brussels, Belgium)
"From Mononuclear to Polynuclear Complexes Assembling with Bridging Ligands or Derivatized Oligonucleotides", November 2011

(70) Yasuhisa Mizutani (Osaka University)
"Watching Ultrafast Protein Dynamics by Time-Resolved Visible and Ultraviolet Resonance Raman Spectroscopy", October 2011

(71) Tsuyoshi Asahi (Ehime University)
"Organic Nanoparticle Colloids: Preparation, Optical Potential Applications", October 2011

(72) Yasuyuki Tsuboi (Hokkaido University)
"Laser and Plasmonic Photochemistry", October 2011

Professors we invited to CEFMS Lectures

(1) Tamitake Itoh (National Institute of Advanced Industrial Science and Technology)
"Interaction Between Confined Optical Field and Dye Molecule Inside Plasmonic Hotspot" 2022.04.26

(2) Naoto Tamai (Kwansei Gakuin University)

"Fabrication and Characterization of Quantum Dots", 2022.04.19
(3) Yasuyuki Tsuboi (Osaka Metropolitan University)
"Optical Trapping Chemistry on Nanostructures" 2022.04.12
(4) Kenichi Yuyama (Osaka City University)
"Manipulation of Molecules and Nanoparticles by Optical Forces" 2021.12.28
(5) Eri Chatani (Kobe University)
"Protein Dynamics – Mechanism of Protein Assembly for the Formation of Amyloid Fibrils" 2021.12.14
(6) Shun Hirota (Nara Institute of Science and Technology)
"Protein Dynamics – FTIR on the Reaction Mechanism of [NiFe] Hydrogenase that Catalyzes the Reversible Oxidation of H2" 2021.12.07
(7) Takuji Adachi (University of Geneva)
"Protein Dynamics – Optical Spectroscopy of Crystal Nucleation One Nucleus at a Time" 2021.11.30
(8) Hiroaki Misawa (Hokkaido University)
"Plasmonic Chemistry III" 2021.06.08
(9) Hiroaki Misawa (Hokkaido University)
"Plasmonic Chemistry II" 2021.05.25
(10) Hiroaki Misawa (Hokkaido University)
"Plasmonic Chemistry I" 2021.05.11
(11) Hiroaki Misawa (Hokkaido University)
"What is Dephasing of LSPR? and How to Apply LSPR to Light Energy Conversion?" 2019.11.07
(12) Hiroaki Misawa (Hokkaido University)
"What is Fano Resonance? and What is Strong Coupling?" 2019.10.08
(13) Hiroaki Misawa (Hokkaido University)
"What are Localized Surface Plasmon Resonance (LSPR) and Near Field?" 2019.10.07

Professors we invited to Laboratory Seminar

(1) Yoshiaki Teranishi (National Yang Ming Chiao Tung University)
"Numerical Simulation of Nano-particle Trapping by CW and Pulse Lasers" 2022.03.22
(2) Chie Hosokawa (Osaka City University)

“Optical Trapping Dynamics of Colloidal Suspensions studied by Fluorescence Analysis” 2021.05.18

(3) Anwar Usman (University Brunei Darussalam)
“Nano- and Micro-particles for Environmental Remediation” 2019.06.21

(4) Koji Hatanaka (Academia Sinica)
“Intense Femtosecond Laser Interaction with Water Lecturer” 2019.05.28

(5) Morihiko Hamada (Kobe University)
“Single Quantum Dot Nanoparticle Imaging” 2019.05.14

(6) Ken-ichi Yuyama (Hokkaido University)
“Laser Trapping for Synthesis and Modification of Perovskite Crystal” 2019.04.23

(7) Tsung-Han Liu (Kwansei Gakuin University)
“Molecular Assembling in Ionic Liquid and Amyloid” 2019.03.26

(8) Johan Hofkens (Katholieke Universiteit Leuven)
“Recent Advances in Single Molecule Spectroscopy and Imaging” 2017.11.22

(9) Hiroaki Misawa (Hokkaido University)
“Recent advanced in plasmonic chemistry” 2017.11.14

(10) Ryuzo Kawamura (Saitama University)
“ATP-fueled active network of microtubules driven by kinesin biomotor proteins” 2017.11.14

(11) Hiroshi Yoshikawa (Saitama University)
“Active control of self-organization of biomolecules by using focused laser beams” 2017.11.14

(12) Hideyoshi Motogi (University of the Ryukyus)
“Theoretical study on domain-swapped oligomer formation of cytochrome c” 2017.08.07

(13) Masahiro Higashi (University of the Ryukyus)
“Theoretical investigation of excited-state reactions and properties in condensed phases” 2017.08.07

(14) Takeharu Nagai (Osaka University)
“Various application of Super-duper Chemiluminescent proteins - from Bioimaging to Glowing Plants” 2017.06.16

(15) Wei Shun Chang (Rice University)
“Spectro-electrochemical and ultrafast microscopies on single plasmonic nanostructures” 2017.05.31

(16) Yoichiro Hosokawa (NAIST)
"Laser cell analysis and manipulation for future biotechnology" 2017.05.23
(17) Hiromasa Niinomi (Chiba University)
"Enantioselective amplification in $NaClO_3$ chiral crystallization induced by circularly polarized laser trapping of plasmonic particles at air/solution enantioselective amplification in $NaClO_3$ chiral crystallization induced by circularly polarized laser" 2017.05.09
(18) Hiromasa Niinomi (Chiba University)
"Emergence and Amplification of Chirality in Sodium Chlorate Chiral Crystallization from an Aqueous Solution" 2017.04.25
(19) Shutaro Ishida (Hokkaido University)
"Nano-particle rotation using a plasmonic nano-structure" 2017.02.20
(20) Olivier Soppera (Institut de Science des Materiaux de Mulhouse CNRS UMR 7361, France)
"Unconventional Processes and Materials for Light-induced Micro-nanofabrication" 2016.11.30
(21) Yasuteru Shigeta (Center for Computational Sciences, University of Tsukuba, Japan)
"Computational analyses on structures and photochemical properties of molecules" 2016.11.02
(22) Fumitaka Ishiwari (Institute of Innovative Research, Tokyo Institute of Technology, Japan)
"Bioinspired Design of a Ca^{2+} Sensor Using Polymer Chain Dynamics" 2016.05.16 ~ 2016.05.18
(23) Shun Hirota (NAIST)
"Structure and Function of Proteins and Protein Complexes" 2016.03.29 ~ 2016.03.31
(24) Akihiro Furube (Institute of Technology and Science, Tokushima university)
"Ultrafast Spectroscopic Study on Exciton and Charge Transfer in Solar Energy Conversion Nanomaterials" 2016.03.07
(25) Hiroshi Yoshikawa (Saitama University)
"Control of Protein Crystal Growth by Femtosecond Laser Ablation" 2015.12.07
(26) Hiroaki Misawa (Hokkaido University)
"Plasmon-assisted Energy Conversion Systems" 2015.11.26
(27) Hiroaki Misawa (Hokkaido University)
"Interaction between Plasmonic Metal Nanostructures and Molecules" 2015.11.23

(28) Fuyuki Ito (Shinshu University)
"Fluorescence Visualization of Molecular Assembly Processes during Solvent Evaporation" 2015.11.16 ~ 2015.11.18
(29) Hiroaki Misawa (Hokkaido University)
"Essential Instruments for Measurement of Nano-structure and Nano-material" 2015.11.02
(30) Hiroaki Misawa (Hokkaido University)
"Advanced Etching Technologies for Nano-fabrications" 2015.10.29
(31) Hiroaki Misawa (Hokkaido University)
"Atomic Layer by layer Deposition Technology for Next Generation Electronics" 2015.09.21
(32) Anwar Usman (Universiti Brunei Darussalam)
"Multiexciton Generation and Photoinduced Electron Transfer in Ag_2S and PbS Quantum Dots ─Research and Life in Saudi Arabia and Brunei Darussalam─" 2015.09.17
(33) Hiroaki Misawa (Hokkaido University)
"Advanced Lithography Technology for Nano-fabrications" 2015.09.17
(34) Hiroaki Misawa (Hokkaido University)
"Gold nano-structures with large near field enhancement" 2015.08.12
(35) Wei Shun Chang (Department of Chemistry Rice University)
"Steady-state Absorption, Scattering and Time-resolved Transient Extinction Spectra of Single Plasmonic Nanoparticles" 2015.06.24
(36) Fu Jen Kao (Institute of Biophotonics, National Yang-Ming University)
"Two-photon Microscopy with Stimulated Emission" 2015.06.16
(37) Yoichiroh Hosokawa (NAIST)
"Experimental and Theoretical Analysis of Femtosecond Laser Impulse and Its Application for Plant Cell Physiology" 2015.06.16
(38) Yugo Hayashi (NAIST)
"Domain Swapping of Thermostable Cytochrome C" 2015.06.03
(39) Yoshihiko Arita (School of Physics & Astronomy, University of St Andrews, UK)
"Let Nothing Slow You Down: New Perspectives in Optical Manipulation" 2015.04.29 ~ 2015.05.02
(40) Shimpei Nishimura (NCTU/Saitama University)
"Laser Trapping Studies on Protein Crystallization: Research and Life in Taiwan as a First Student of Double Degree Program between National Chiao Tung University and Saitama University"

2015.02.11

(41) Morihiko Hamada (Kagawa University, Japan)
"Photochemical Reaction of CdSe/ZnS Single Quantum Dots with Electron Acceptors and Donors" 2015.01.14 ~ 2015.01.16

(42) Fuyuto Takahashi (Chiba University)
"Chiral Structure Fabrication by Optical Vortex Processing" 2014.12.23

(43) Hisashi Okumura (Research Center for Computational Science, Institute for Molecular Science, National Institutes of Natural Sciences, Okazaki, Japan)
"Molecular Dynamics Simulations for Dimerization and Disruption of Amyloid- fibril" 2014.11.26

(44) Takayuki Uwada (Josai University)
"Spectroscopic Investigation and Crystallization of Photoluminescent Au Quantum Dots Encapsulated in Protein" 2014.11.03

(45) Yu Nabetani (Tokyo Metropolitan University)
"Nanostructure and Photoreaction of Molecular Assemblies in Various Microenvironments" 2014.09.12

(46) Satoshi Fujita (University of Fukui)
"Electrospun Nanofibers for Prevention of Cancer Recurrence" 2014.08.29

(47) Naritaka Kobayashi (Saitama University)
"Atomic-Scale Imaging at Solid/Liquid Interfaces by FM-AFM" 2014.07.30

(48) Hiroshi Yoshikawa (Saitama University)
"Quantitative Evaluation of Cell Adhesion by Advanced Optical Techniques" 2014.07.30

(49) Takashige Omatsu (Graduate School of Advanced Integration Science, Chiba University)
"Chiral Photonics－Helical Light Pioneer Chiral Materials Science-" 2014.06.23

(50) Rachel Méallet-Renault (Department of Chemistry Ecole Normale Supérieure de Cachan, France)
"Fluorescent Organic Nanoparticles for Bioimaging" 2014.06.13

(51) Kei Murakoshi (Hokkaido University)
"Plasmon-induced Photoexcitation to Break a Selection Rule of Electronic Excitation" 2014.04.30

(52) Tetsu Yonezawa (Hokkaido University)
"Facile Preparation of Metal Nano/fine Particles for Electronics and Fluorescence" 2014.03.10

(53) Shun Hirota (NAIST)
"Constructing Protein Supramolecules by Domain Swapping. Its Formation Mechanism and Effect on Cell Membranes" 2014.03.10
(54) Eri Chatani (Kobe University)
"Exploring Early Association of Protein Molecules in the Amyloid Formation" 2014.01.20
(55) Kuan-Lin Liu (Katholieke University Leuven)
"Light Microscope for Catalysis Study" 2013.12.27
(56) Eisuke Ohta (Osaka Prefecture University)
"Synthesis of 2,2'-bis(diarylboryl)biphenyl and Theoretical Study on the One-Electron Sigma-Bonding Nature of Its Radical Anion" 2013.11.19
(57) Yasunori Matsui (Osaka Prefecture University)
"The Excited State C-C Bond Cleavage-Emission System Based on Methylenecyclopropanes" 2013.11.19
(58) Hiroshi Ikeda (Osaka Prefecture University)
"Spectroscopic and Exploratory Study of the Radical Cation Possessing One-Electron Sigma Bond" 2013.11.19
(59) Hiromasa Niinomi (Nagoya University)
"Emergence and Amplification of Chirality in Sodium Chlorate Chiral Crystallization from An Aqueous Solution" 2013.10.15
(60) Elena Perevedentseva (National Dong Hwa University)
"Biomedical Applications of Nano Diamond" 2013.05.13
(61) Tomoaki Hinoue (Osaka University)
"Control of Self-assembly and Crystallization of Polymers by Inkjet System" 2013.03.22
(62) Hiroyuki Takei (Toyo University)
"Cap-shaped Noble metal Particles Applied to Various Surface-enhanced Spectroscopic Technique" 2013.02.25
(63) Tadaaki Ikoma (Niigata University)
"Photocarrier Dynamics in Organic Solar Cell Studied by Magnetic Field Effects" 2012.10.26
(64) Atsushi Nakajima (Keio University)
"Electronic Properties of Binary Super Atom Clusters and Their Assembly" 2012.10.03
(65) Trevor Smith (University of Melbourne, Australia)
"Microscopy with High Spatial and Temporal Resolution" 2012.10.02
(66) Masahiro Kitajima (National Defense Academy of Japan)
"Coherent Phonons and Application to The Study of SERS Dynamics" 2012.10.02

(67) Tohru Yoshioka (Kaohsiung Medical University)
"Significance of Proton Signaling in the Living Cell" 2012.09.19
(68) A.M. Brouwer (University of Amsterdam)
"Fluorescence Microscopy in Materials Science" 2012.09.06
(69) Hiroshi Yoshikawa (Saitama University)
"Bio-applications of Ultrafast Laser Pulses to Protein Crystallization and Cell Adhesion Strength Measurement" 2012.08.22
(70) Yu Nabetani (Tokyo Metropolitan University)
"Photochemistry of Molecular Assembly Coupled with Surrounding Microenvironment" 2012.08.22
(71) Hideko Koshima (Ehime University)
"Solid-state Photochemistry: from Photoreactions to Mechanical Crystal Machinery" 2012.08.21 ~ 2012.08.25
(72) Yukiteru Katsumoto (Hiroshima University)
"Molecular Picture of the Thermo-Responsive Polymers" 2012.08.06
(73) Keitaro Yoshihara (Emeritus professor of Institute for Molecular Science)
"Reminiscence of a Molecular Scientist: Some Words for Young Researchers" 2012.05.28
(74) Dong-Hee Son (Texas A&M University)
"Energy Transfer and Charge Carrier Transfer Dynamics in Mn-doped Semiconductor Nanocrystals" 2012.05.21
(75) Hirofumi Tanaka (Osaka University)
"Electronic Measurement in Nanoscale: Nanoparticle on Nanocarbon Systems" 2012.04.16
(76) Hajime Ishihara (Osaka Prefecture University)
"Challenge for Resonant Optical Manipulation of Nanostructures" 2012.04.06
(77) Masaaki Ashida (Osaka University)
"Optical Manipulation of Semiconductor Nanoparticles Using Resonant Radiation Force" 2012.04.06
(78) Hiroshi Miyasaka (Osaka University)
"Multiphoton-gated Photochromic Reaction in Diarylethene and Fulgide Derivatives" 2011.11.16
(79) Minoru Kato (Ritsumeikan University)
"Understanding of Pressure Denaturation of Proteins: An Approach from Model Peptides" 2011.07.08
(80) Hitoshi Watarai (Osaka University)
"Novel Application of Magnetic Fields in Micro-Analytical Chemistry" 2011.03.07

(81) Kenji Katayama (Chuo University)
"A New Transient Grating Technique and Its Application for Photochemical Reaction Dynamics Measurement" 2011.01.13 ~ 2011.01.16
(82) Michel Sliwa (University de Lillel, France)
"Chemometric Analysis of Ultrafast Transient Absorption Spectroscopy Data: Characterization of The Ultrafast Photodynamics of Photochromic Reactions" 2010.08.19
(83) Masaaki Haga (Chuo University)
"Manipulation and immobilization of single DNA and nanoparticles at laser focal point on Au surface and its application" 2010.01.25
(84) Tamitake Itoh (AIST)
"Experimental elucidation of twofold electromagnetic enhancement theory for ultra-sensitive surface enhanced spectroscopy" 2009.10.13
(85) Vasudevan Pillai Biju (AIST)
"Bioconjugated quantum dots for probing biophysical dynamics in living cells" 2009.10.13
(86) Mitsuru Ishikawa (AIST)
"Enhancement of fluorescence detection using one-dimensional photonic crystal structures" 2009.10.13
(87) Hiroyuki Sugimura (Kyoto University)
"VUV Microfabrication-Photopatterning of Organic Materials Using Vacuum Ultra-Violet Light" 2009.04.29
(88) Takahiro Kaji (Osaka University)
"Conformational Fluctuation of DNA Chains on Time Scales from ns to ms Revealed by Single-Molecule Photon Statistics" 2009.04.29
(89) Shoji Ito (Osaka University)
"Evaluation of Nanoscale Heterogeneity in Thin Film Materials with Wide-Field Single Molecule Fluorescence Microscopy" 2009.04.29

List of Publications

- Shun Hirota, Chun-Liang Chiu, Chieh-Ju Chang,b Pei-Hua Lo, Tien Chen, Hongxu Yang, Masaru Yamanaka, Tsuyoshi Mashima, Cheng Xie, Hiroshi Masuhara and Teruki Sugiyama, “Structural region essential for amyloid fibril formation in cytochrome c elucidated by the laser trapping method”, *Chem. Commun*. submitted (2022).
- Tetsuhiro Kudo, Boris Louis, Hikaru Sotome, Jui-Kai Chen, Syoji Ito, Hiroshi Miyasaka, Hiroshi Masuhara, Johan Hofkens, Roger Bresolí-Obach, “Gaining control on optical force by stimulated-emission resonance effect”, *ACS Photonics*, will be submitted (2022).
- Boris Louis, Chih-Hao Huang, Rafael Camacho, Ivan G. Scheblykin, Teruki Sugiyama, Tetsuhiro Kudo, Marc Meléndez, Rafael Delgado-Buscalioni, Hiroshi Masuhara, Johan Hofkens, Roger Bresolí-Obach, “Unravelling the 3D dynamics and hydrodynamics during incorporation of dielectric particles to an optical trapping site”, *ACS Nano*, will be submitted (2022).
- Qingqing Wang, Roger Bresolí-Obach, Johan Hofkens, Shuichi Toyouchi, and Hiroshi Masuhara, “Optical Absorption Force Allows Controlling Three-Dimensional Assembling Dynamics of Colloidal Particles”, *Advanced Optical Materials*, in preparation (2022).
- Jim J.-K. Chen, Chih-Hao Huang, Hiroshi Masuhara, Roger Bresolí-Obach, Johan Hofkens, “Shape-dependent optically evolved assembling and swarming of gold nanoparticles at glass/solution interface”, *ACS Applied Materials and Interface*, in preparation (2022).
- Po-Wei Yi, Yuka Tsuri, Kazuki Inoue, Teruki Sugiyama, Hiroshi Masuhara, Yoichiroh Hosokawa, “AFM Detection of Vibration Propagation in a Single Protein Microcrystal Triggered by Femtosecond Laser Impulse”, *Applied Physics Express*, in preparation (2022).
- Wilson Chiu, Shuichi Toyouchi, Eri Chatani, Roger Bresolí-Obach, Johan Hofkens, Hiroshi Masuhara, “Cooperative optical assembling of protein and its crowding agent at solution surface”, *Langmuir*, in preparation (2022).
- Aaron Lin, Shuichi Toyouchi, Wilson Chiu, Po-Wei Yi, Eri Chatani, Roger Bresolí-Obach, Johan Hofkens, Hiroshi Masuhara, “Optically evolved assembling dynamics and morphology of protein studied by polarized Raman microscopy”, *J. Phys. Chem. C*, in preparation (2022).
- Andy Kuo, Chih-Hao Huang, Wilson Chiu, Po-Wei Yi, Shuichi Toyouchi, Enrica Bordignon, Laura Galazzo, Takuji B. M. Adachi, Roger Bresolí-Obach, Johan Hofkens, Hiroshi Masuhara, “Optically

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- Shuichi Toyouchi, Hsuan-Yin Wang, Tetsuhiro Kudo, Hiroshi Masuhara, "Optical evolved assembly of microparticles and its application to reconfigurable random laser", *ACS Applied Materials and Interface,* in preparation (2022)
- Po-Wei Yi, Wilson Chiu, Shuichi Toyouchi, Eri Chatani, Roger Bresolí-Obach, Johan Hofkens, Yoichiroh Hosokawa, Teruki Sugiyama, Hiroshi Masuhara, "Optically evolved assembling dynamics of lysozyme at solution surface", *Photonics*, in preparation (2022).
- Chih-Hao Huang, Ya-Chiao Lee, Teruki Sugiyama, Tetsuhiro Kudo, Xu Shi, Kosei Ueno, Hiroaki Misawa, Hiroshi Masuhara, "Guiding the Expanding Direction of Optically Evolved Swarming of Gold Nanoparticles by Lithographically Fabricated Gold Nanodisks", *Nano Lett.*, in preparation (2022)
- Chih-Hao Huang, Roger Bresolí-Obach, Johan Hofkens, Lui Lits-Marzan, Hiroshi Masuhara, "Optically evolved assembling and swarming of silica-coated gold nanoparticles at interface", *Langmuir*, in preparation (2022)

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2. Y.-C. Chang, R. Bresoli-Obach, T. Kudo, J. Hofkens, S. Toyouchi, H. Masuhara, "The optical absorption force allows controlling colloidal assembly morphology at an interface", *Adv. Opt. Mater.*, 10, 13, 2200231-1 ~ 2200231-9 (2022).
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4. A. Kamit, C.-S. Tseng, T. Kudo, T. Sugiyama, J. Hofkens, R. Bresolí-Obach, H. Masuhara, "Unraveling the three-dimensional morphology and dynamics of the optically evolving polystyrene nanoparticle assembly using dual-objective lens microscopy", *J. Chin. Chem. Soc.*, 69, 1, 120-132 (2022).
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6. T. Sugiyama, S.-F. Wang, "Manipulation of nucleation and polymorphism by laser irradiation", *J. Photochem. Photobiol. C: Photochem. Rev.*, 52, 100530_1-14 (2022).
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11. H. Masuhara, “From nanosecond photochemistry to optical force chemistry: My Journey”, *Chem. Rec.*, 21, 6, 1261-1269 (2021).
12. H. Masuhara, K. Yuyama, “Optical force-induced chemistry at solution surfaces”, *Annu. Rev. Phys. Chem.*, 72, 565-589 (2021).
13. H. Niinomi, T. Sugiyama, A.-C. Cheng, M. Tagawa, T. Ujihara, H. Y. Yoshikawa, R. Kawamura, J. Nozawa, J. T. Okada S. Uda, “Chiral optical force generated by a superchiral near-field of a plasmonic triangle trimer as origin of giant bias in chiral nucleation: A simulation study”, *J. Phys. Chem. C*, 125, 11, 6209-6221 (2021).
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15. H. Takahashi, T. Sugiyama, S. Nakabayashi, H. Y. Yoshikawa, “Laser-assisted nanowetting (LAN): Hierarchical nanocomposites containing polymer/gold nanorods on breath figure films”, *Polymer*, 221, 123636_1-7 (2021).
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18. P.-W. Yi, W.-H. Chiu, T. Kudo, T. Sugiyama, R. Bresolí-Obach, J. Hofkens, E. Chatani, R. Yasukuni, Y. Hosokawa, S. Toyouchi, H. Masuhara, “Cooperative optical trapping of polystyrene microparticle

and protein forming a submillimeter linear assembly of microparticle", *J. Phys. Chem. C*, 125, 34, 18988-18999 (2021).
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List of Invited Talks

- NAIST Symposium on “Taiwan Interdisciplinary Nano/Bio in Kansai”, Keynote
  Nara, Japan, January 9-10, 2023
  “How we have collaborated and will collaborate”
  Hiroshi Masuhara
- 11th International Conference on Organic Nonlinear Optics and International Conference on Organic Photonics and Electronics 2009 (ICONO 13/ICOPE2022), Invited
  Nara, Japan, November 8-11, 2022
  “Nonlinearly evolving assembling of nanoparticles in optical trapping”
  Hiroshi Masuhara
- 4th Workshop on “Collective Optofluidic Dynamics of Nanoparticles (COODy-Nano)” (Online), Invited
  Hsinchu, Taiwan, November 3-4, 2022
  “Ophicallly Endured Assembling and Swarming of Gold Nanoparticles with Different Shape”
  Chih-Hao Huang
- Kick-off Symposium of JSPS Grant-in-Aid for Transformative Research Area (A) “Chiral Materials Science pioneered by helicity of light”, Special
  Chiba, Japan, September 1, 2022
  “Nonlinear integration of photoexcitation and optical manipulation of nanomaterials”
  Hiroshi Masuhara

1. 10th Optical Manipulation Meeting (Online), Invited
   Online, Japan, July 25, 2022
   “Optically Evolved Assembling of Nanoparticles at Solution Interface”
   Hiroshi Masuhara
2. 16th International Conference on Laser Ablation (COLA 2022/2021) (Hybrid), Invited
   Kunibiki Messe, Shimane, Japan, April 24-29, 2022
   “Enantioselectivity in polymorphic transition by femtosecond laser ablation”
   Teruki Sugiyama, Shun-Fa Wang, and Yu-Hau Ye
3. The Symposium in Honor of Prof. Mark Van der Auweraer (Hybrid), Invited
   Leuven, Belgium, March 11, 2022

“Nanoparticles Assembling and Swarming at Solution Interface: Optically Evolved Phenomena”
Hiroshi Masuhara

4. Molecular Chirality Center, Chiba University (Hybrid), Invited
Chiba, Japan, December 23, 2021
“Optically Evolved Assembling and Optically Evolving Assembly of Nanoparticles at Solution Interface”
Hiroshi Masuhara
5. Pacifichem 2021, Invited
Hybrid Congress, December 16-21, 2021
“Plasmonic manipulation controls crystal chirality”
Teruki Sugiyama
6. RSC Tokyo International Conference 2021, Invited
Online, December 6-7, 2021
“In-situ fluorescence analysis on aggregation-induced emission manipulated by optical force”
Teruki Sugiyama
7. IPT Seminar, Institute of Photonics Technologies, National Tsing Hua University, Invited
Hsinchu, Taiwan, November 19, 2021
“Optically Evolved Assembling of Nanoparticles at Solution Interface”
Hiroshi Masuhara
8. Momose Iso Symposium of National Cheng Kung University (Hybrid), Invited
Tainan, Taiwan, November 5, 2021
“Optical Force Chemistry at Solution Interface”
Hiroshi Masuhara
9. 2021 International Workshop on Emergence of Life-Nano-Bio Science, Plenary
Online, March 10-11, 2021
“Artificial fabrication of protein amyloid fibers by optical tweezers”
Teruki Sugiyama
10. The 8th Asian Conference on Crystal Growth and Crystal Technology, Invited
Online, March 1-4, 2021
“Chirality control in chiral crystallization by femtosecond laser irradiation”
Teruki Sugiyama
11. Exciton Science Annual Workshop, Invited
Melbourne, Australia, December 9-11, 2019

"Optically Evolving Assembly of Nanoparticles at Solution Interface"
Hiroshi Masuhara

12. 3rd Workshop on "Collective Optofluidic Dynamics of Nanoparticles (COODy-Nano)", Invited
Kobe, Japan, November 15, 2019
"Recent progress in optical manipulation study in NCTU"
Hiroshi Masuhara
13. 3rd Workshop on "Collective Optofluidic Dynamics of Nanoparticles (COODy-Nano)", Invited
Kobe, Japan, November 15, 2019
"Manipulation of gold Nanoparticle Swarming by the Focusing Depth and Angle of Trapping Laser"
Chih-Hao Huang
14. International Symposium on Plasmonics and Nanophotonics, Keynote
Kobe, Japan, November 11-14, 2019
"Optical Manipulation in Chemistry"
Hiroshi Masuhara
15. Workshop of Optical Force Science, Invited
Awaji, Japan, November 10-11, 2019
"Optically evolved assembling and swarming of nanoparticles"
Hiroshi Masuhara
16. Workshop on Optofluidics and Electrokinetics in Micro and Nanoscale Devices, Invited
Kyoto, Japan, November 7-8, 2019
"Dynamic alignment of microparticles at solution surface due to scattering"
Hiroshi Masuhara
17. 32nd International Microprocesses and Nanotechnology Conference (MNC 2019), Invited
International Conference Center Hiroshima, Hiroshima, Japan, October 28-31, 2019
"Laser-based fabrication of organic crystals"
Chi-Shiun Wu, Hiroshi Y. Yoshikawa, and Teruki Sugiyama
18. KULeven Symposium on "Let there be ...LIGHT", Invited
Leuven, Belgium, October 4, 2019
"Optical Manipulation in Chemistry"
Hiroshi Masuhara
19. The International Workshop on Ultrafast Micro/Nano Photonics and Photochemistry, Plenary

Hokkaido, Japan, August 19-21, 2019
"Femtosecond laser trapping, assembly, and ejection dynamics of nanoparticles in solution"
Hiroshi Masuhara

20. International Conference of Photochemistry (ICP 2019), Plenary
Boulder, USA, July 22-26, 2019
"Optical Manipulation in Chemistry"
Hiroshi Masuhara
21. Organic Electronics Summer School, Invited
Bordeaux, France, July 8-11, 2019
"Optical Manipulation in Chemistry and Material Science"
Hiroshi Masuhara
22. 2nd Workshop on "Collective Optofluidic Dynamics of Nanoparticles (COODy-Nano)", Invited
Leuven, Belgium, May 30-31, 2019
"Introduction to the Swarming Phenomenona for Gold NPs"
Hiroshi Masuhara
23. Laboratory Seminar on "Optical Manipulation in Chemistry" in KU Leuven, Invited
Leuven, Belgium, May 28, 2019
"Laser Trapping Assembling Dynamics of Nanoparticles"
Hiroshi Masuhara
24. SPIE, OPIC (Optics & Photonics International Congress 2019), Invited
Yokohama, Japan, April 24-26, 2019
"Assembling and Dynamic Ejection of Polystrene Particles in CW Laser Trapping at Solution Surface"
Hiroshi Masuhara
25. "Light x Massd Spectroscopy" Project Sympoisium, Plenary
Osaka, Japan, March 22-23, 2019
"Assembling and Structuring of Proteins and Nanoparticles in Solution by Intense Laser Irradiation"
Hiroshi Masuhara
26. The 99th CSJ Annual Meeting, Invited
Konan University, Kobe, Japan, March 16-19, 2019
"Preparation of Drug Nanoparticles by Laser Ablation in Liquid"
Teruki Sugiyama
27. The 66th JSAP Spring Meeting, 2019, Invited
Tokyo Institute of Technology, Tokyo, Japan, March 9-12, 2019
"Control of Chiral Crystallization and Crystal Chirality by Plasmonic Optical Trapping"

Teruki Sugiyama

28. International Symposium & School on Crystal Growth Fundamentals, Invited
    Convention Hall of Hotel Sakan, Sendai, Japan, November 3-7, 2018
    “Crystallization controlled by optical trapping”
    Teruki Sugiyama
29. Japanese Conference on Crystal Growth-47, Award lecture
    Sendai City War Reconstruction Memorial Hall, Sendai, Japan, October 30-November 2, 2018
    “Control of Amino Acid and Protein Crystallization by Optical Trapping”
    Teruki Sugiyama
30. 1st Workshop on “Collective Optofluidic Dynamics of Nanoparticles (COODy-Nano)”, Invited
    San Sebastian, Spain, October 23-24, 2018
    “Introduction of Laser Trapping and Swarming of Metallic Nanoparticles at Glass/Solution Interface”
    Chih-Hao Huang
31. SPIE, OPIC (Optics & Photonics International Congress 2018), OMC (Optical manipulation Conference) and BISC (Biomedical Imaging and Sensing Conference), Plenary
    Yokohama, Japan, April 25, 2018
    “Laser Trapping, Assembling, and Ejection Dynamics of Dielectric Nanoparticles in Solution”
    Hiroshi Masuhara
32. The 98th CSJ Annual Meeting, Invited
    Nihon University, Funabashi, Japan, March 20-23, 2018
    “Optical trapping method toward crystal chemistry”
    Teruki Sugiyama
    “Crystallization control with optical forces”, Invited
    Teruki Sugiyama
33. Colloquium of Katholieke Universiteit Leuven for Honorary doctorate for Professor Thomas Ebbesen, Invited
    Leuven, Belgium, February 1, 2018
    “Optical trapping and assembling of molecules and nanoparticles”
    Hiroshi Masuhara
34. JSPS Ishihara Project Symposium, Plenary
    “Nano-Material Manipulation and Structural Order Control with Optical Forces”
    Osaka, Japan, January 22, 2018

“Photochemistry, Photoscience and Science of “Photon Pressure”
Hiroshi Masuhara

35. International Conference of Applied Sciences 2018, Plenary
Taipei, Taiwan, January 9, 2018
“Laser Trapping Dynamics and Chemistry”
Hiroshi Masuhara
36. 1st Workshop of Australian Research Council Excellence of Science in Exciton Science, Plenary
Melbourne, Australia, December 11, 2017
“My Exciton Science, Related Projects in Japan, and University Globalization in Taiwan”
Hiroshi Masuhara
37. The 5th Solid-State Physics Seminar at Osaka University, Invited
Osaka, Japan, December 19, 2017
“Collective motion of the nanoparticles under laser trapping”
Tetsuhiro Kudo
38. The 46th National Conference on Crystal Growth, Invited
Hotel CONCORDE Hamamatsu, Hamamatsu, Japan, November 27-29, 2017
“Crystal growth controlled by optical trapping”
Teruki Sugiyama
39. Toyota Riken International Workshop on Chirality in Soft Matter, Invited
Nagoya, Japan, November 26, 2017
“Crystallization and Enantiomorphism Controlled by Optical Trapping”
Teruki Sugiyama
40. 2017 Taiwan-Israel Bilateral Workshop on Optofluidics and Electrokinetics, Invited
Hsinchu, Taiwan, November 9, 2017
“Optical Trapping Dynamics of Nanoparticles by CW and Femtosecond Lasers”
Hiroshi Masuhara
41. Asian spectroscopy conference 2017, Invited
Hsinchu, Taiwan, September 3-6, 2017
“Laser Trapping Dynamics and Chemistry Utilizing Spectroscopy”, Invited
Teruki Sugiyama
42. Symposium on Surface Science & Nanotechnology -25th Anniversary of SSSJ Kansai- (SSSN-Kansai), Invited
Kyoto, Japan, January 25, 2017

"Nanoparticle assembling and molecular crystallization at solution surface by laser trapping"
Teruki Sugiyama

43. 9th Asian and Oceanian Photochemistry Conference (APC2016), Invited
Singapore, Singapore, December 8, 2016
"Laser Trapping-Induced Crystallization: From Amino Acid to Protein"
Teruki Sugiyama
44. 1st International Symposium on PhotoSynergetics, Invited
Osaka, Japan, June 2, 2016
"What to expect from this research group: Laser Trapping Chemistry",
Hiroshi Masuhara
45. Public Lecture at Universiti Brunei Darussalam, Invited
Brunei, May 19, 2016
"Photon Science & Technology and Molecular Systems (1)"
Hiroshi Masuhara
46. 251th National ACS Meeting, Physical Principles in Functional Nanoscience: Symposium in Honor of Mostafa A. El-Sayed, Invited
San Diego, USA, March 16, 2016
"Laser Trapping Assembling and Crystallization of Nanoparticles at Solution Surface"
Hiroshi Masuhara, Ken-ichi Yuyama, Masayasu Muramatsu, Teruki Sugiyama
47. Invited Seminar at Katholieke Universiteit Leuven
Leuven, Belgium, September 13, 2016
"Advances in Laser Trapping Chemistry and Spectroscopy"
Hiroshi Masuhara
48. France-Japan Bilateral Workshop Toward an international laboratory between France & Japan on Photochemistry, Invited
Tokyo, Japan, April 1, 2016
"Laser Trapping Chemistry"
Hiroshi Masuhara
49. Annual Meeting of The Physical Society of The Republic of China, Invited
National Sun Yat-sen University, Kaohsiung, Taiwan, January 25-27, 2016
"Optical trapping-controlled protein crystallization",
Teruki Sugiyama
50. International Conference on Materials for the Millennium, Invited

Kochi, India, January 15, 2016
"Photoluminescence Enhancement and Spectral Fluctuations of CdSe/ZnS Quantum Dots in Solutions and at Interfaces: From Single-molecule Studies to the Construction of Self-assembled Nanostructures"
Morihiko Hamada, Ken-ichi Yuyama, Hiroshi Masuhara, Shinsuke Nakanishi, Vasudevan Pillai Biju

51. International Conference on Photochemistry (ICP2015), Invited
Jeju, Korea, July 1, 2015
"Laser Trapping Dynamics and Mechanism of Molecular Clusters and Nanoparticles in Solution"
Hiroshi Masuhara, TerukiSugiyama, Ken-ichiYuyama, Jing-Ru Tu, Shun-Fa Wang, Shimpei Nishimura
52. 2nd International Symposium on Plant Environmental Sensing, Invited
Tokyo, Japan, March 15, 2015
"Laser-induced Phenomena and Their Applications to Bio/Nano Science"
Hiroshi Masuhara
53. 18th Osaka City University International Conference (OCUIC 2015), Invited
Osaka, Japan, March 9, 2015
"Control of protein crystallization using laser trapping"
Teruki Sugiyama
54. JSPS Grant-in-Aid for Scientific Research on Innovative Areas:
"Application of Cooperative-Excitation into Innovative Molecular Systems with High-Order Photofunctions "The 2nd International Symposium, Invited Osaka, Japan, January 23, 2015
"Photon Science & Technology and Photochemistry"
Hiroshi Masuhara
55. The 10th SPSJ International Polymer Conference (IPC2014), Keynote
Tsukuba, Japan, December 2, 2014
"Photon Science& Technology and Polymers"
Hiroshi Masuhara
56. The 1st International Symposium on Interactive Materials Science Cadet Program of Graduate School of Engineering Science, Keynote
Osaka, Japan, November 19, 2014
"Laser Trapping Assembling Dynamics of Molecules and

Nanoparticles”
Hiroshi Masuhara

57. Collaborative Conference on Crystal Growth 2014, Invited
Phuket, Thailand, November 5, 2014
“Crystallization and crystal growth of lysozyme induced by laser trapping”
Teruki Sugiyama
58. Collaborative Conference on Crystal Growth 2014, Invited
Phuket, Thailand, November 4-7, 2014
“Control of Crystal Growth of L-Phenylalanine by Optical Trapping”
Ken-ichi Yuyama
59. Invited Seminar at Georgia Institute of Technology
Atlanta, USA, October 23, 2014
“Laser Trapping Assembling Dynamics of Molecules and Nanoparticles”
Hiroshi Masuhara
60. Invited Seminar at Ecole Normale Superier Cachan
Cachan, France, September 23, 2014
“Laser Trapping Assembling Dynamics of Molecules and Nanoparticles”
Hiroshi Masuhara
61. Puli Lecture at National Chi Nan University, Invited
Puli, Taiwan, June 20, 2014
“New Chemistry by Laser Trapping”
Hiroshi Masuhara
62. The Second RIKEN-NCTU Symposium on Physical and Chemical Sciences, Invited
Wako, Japan, June 5, 2014
“Laser trapping study toward molecular science”
Hiroshi Masuhara
63. SPIE, OPIC (Optics & Photonics International Congress 2014), OMC (Optical manipulation Conference) and BISC (Biomedical Imaging and Sensing Conference), Plenary
Yokohama, Japan, April 22, 2014
“Laser Trapping Assembling of Clusters and Nanoparticles”
Hiroshi Masuhara
64. Invited Seminar at Chiba University
Chiba, Japan, April 21, 2014
“Laser trapping-induced phase transition of molecules, polymers, and nanoparticles in solution”
Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama

65. Invited Seminar at Rice University,
    Houston, USA, February 3, 2014
    “Laser trapping dynamics of molecular clusters and nanoparticles in solution”
    Hiroshi Masuhara, T. Sugiyama, K. Yuyama, A. Usman
66. SPIE Photonics West (8983-19), Plenary
    San Francisco, USA, February 4, 2014
    “Laser trapping studies toward fabrication of organic materials and devices”
    Hiroshi Masuhara, T. Sugiyama, K. Yuyama, A. Usman
67. Symposium on Functional Nanostructures/Symposium Honoring the 60th Birthday of Prof. Thomas W. Ebbesen, Invited
    Strasbourg, France, January 31, 2014
    “Laser trapping, assembling and crystallization of nanoparticles and amino acid clusters in solution”
    Hiroshi Masuhara
68. JSPS Grant-in-Aid for Scientific Research on Innovative Areas:
    “Dynamical ordering of biomolecular systems for creation of integrated functions” The 2nd International Symposium, Invited
    Kyoto, Japan, January 12, 2014
    “A millimeter-sized assembly of amino acids in solution formed by laser trapping”
    Hiroshi Masuhara
69. CNRS Bronze Medal Scientific Symposium, Invited
    Lille, France, November 5, 2013
    “Laser Trapping in Chemistry and Material Science”
    Hiroshi Masuhara
70. The First MPI-NCTU Joint Symposium on Correlated Materials, Thin Films and Chemical Physics of Solid, Invited
    Hsinchu, Taiwan
    “Laser Trapping and Crystallization Dynamics at Solution Interface/Surface”
    Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama
71. Invited Seminar at Katholieke Universiteit Leuven
    Leuven, Belgium, September 17, 2013
    “Laser Trapping and Crystallization Dynamics at Solution Surface and Interface”
    Hiroshi Masuhara
72. 2013 Fall Symposium of Photochemistry Association in Taiwan, Keynote

Danshui, Taiwan, September 6, 2013
"Cooperative Photochemical Reaction of Molecular Solids and Its Evolution to Their Morphological Changes"
Hiroshi Masuhara

73. Invited seminar at Toyo University
Kawagoe and Itakura, Japan, July 4, 2013
"In situ laser micropatterning of proteins for dynamically arranging living cells"
Kazunori Okano
74. 5th International Symposium on Optical Tweezers in Life Sciences, Invited
Berlin, Germany, June 18, 2013
"Laser Trapping and Crystallization Dynamics of Biomolecules and Nanoparticles"
Hiroshi Masuhara
75. 11th International Symposium on Functional π-electron systems, Invited
Arcachon, France, June 2, 2013
"Laser Trapping in Chemistry and Materials Science"
Hiroshi Masuhara
76. Organic Electronics Summer School, Invited
Biarritz, France, May 28, 2013
"Laser fabrication and single particle spectroscopy of organic nanoparticles"
Hiroshi Masuhara
77. Invited Seminar at Department of Chemistry, National Taiwan University,
Taipei, Taiwan, May 9, 2013
"Laser Trapping in Chemistry and Material Science"
Hiroshi Masuhara
78. Invited Seminar at Department of Chemical Engineering, National Cheng Kung University
Tainan, Taiwan, 19 April 2013
"Laser Trapping in Chemistry and Material Science"
Hiroshi Masuhara
79. 5th European Conference on Applications of Femtosecond Lasers in Materials Science (FemtoMat 2013), Invited
Mauterndorf, Austria, March 18, 2013
"Laser Trapping Assembly, Scattering, and Crystallization by CW and Femtosecond Lasers"
Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama, and Anwar

Usman

80. Annual Meeting of Physical Society of Republic of China, Invited
Hualien, Taiwan, January 31, 2013
"Optical Trapping of Nanoparticles by Femtosecond Laser Pulses"
Hiroshi Masuhara
81. Invited Seminar at National Dong Hwa University
Hualien, Taiwan, December 18, 2012
"Laser assembling, scattering, and crystallization of nanoparticles and molecules in solution"
Hiroshi Masuhara
82. Japan-India Bilateral Seminar on Supramolecular Nanomaterials for Energy Innovation, Invited
Takamatsu, Japan, October 15-16, 2012
"Laser Trapping Chemistry"
Hiroshi Masuhara, T. Sugiyama, K. Yuyama, A. Usman, and W. Y. Chiang
83. RCAS-TNNA Symposium, Invited
Taipei, Taiwan, October 5, 2012
"Laser trapping chemistry: From polymer assembling to amino acid crystallization"
Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama
84. Department Seminar at National Yang Ming University, Invited
Taipei, Taiwan, October 1, 2012
"Laser trapping chemistry: From polymer assembling to amino acid crystallization"
Hiroshi Masuhara
85. Brussels, Belgium, May 8, 2012
"Laser light can crystallize amino acids and proteins in solution"
Hiroshi Masuhara
86. 3rd AIST-ANNA Seminar on Nanoparticles & Single Molecules, Invited
Takamatsu, Japan, February 17, 2012
"Laser Trapping Chemistry on Nanoparticle Assembling and Phase Transition"
Hiroshi Masuhara
87. RCAS-ANNA International Symposium, Invited
Taipei, Taiwan, November 17, 2011
"Molecular Trapping Phenomena by CW and Femtosecond Laser Irradiation"
Hiroshi Masuhara, T. Uwada, A. Usman, K. Yuyama, T. Sugiyama
88. International Scientific Instrument Technology Workshop, Invited

Hsinchu, Taiwan, October 24, 2011
"Femtosecond Laser Fabrication and Manipulation in Bio/Nano Science"
Hiroshi Masuhara

89. The 2nd International Symposium on Recent Advances in Applied Sciences, Invited
Hualien, Taiwan, October 3, 2011
"Radiation pressure chemistry: Confinement of polymerization and solidification by a focused laser beam"
Hiroshi Masuhara
90. 242nd ACS National Meeting & Exposition, Invited
Denver, USA, August 30, 2011
"Assembling and crystallization of amino acids and proteins by intense laser irradiation in solution"
Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama, Takayuki Uwada, and Atsushi Miura
91. The 25th International Conference on Photochemistry (ICP 2011) Invited
Beijing, P. R. China, August 7-12, 2011
"Laser trapping dynamics of gold nanoparticles probed by wide-field light scattering spectroscopic imaging"
Hiroshi Masuhara, Takayuki Uwada, Teruki Sugiyama
92. International Workshop on Nanoplasmonics for Energy and the Environment, Invited
Vigo, Spain, June 10, 2011
"Laser trapping and wide-field Rayleigh scattering imaging of gold nanoparticles in solution"
Hiroshi Masuhara, Takayuki Uwada
93. Invited Seminar at Ecole Normale Superier Paris
Paris, France, June 6, 2011
"Laser-induced Crystallization and Crystal Growth"
Hiroshi Masuhara
94. The 2nd Taiwan-Japan Symposium on Nanomedicine, Invited
Taipei, Taiwan, February 24, 2011
"Living cell manipulation, nanoparticle preparation, and molecular crystallization by lasers"
Hiroshi Masuhara
95. Japan-Taiwan joint workshop: Future Perspective on NanoBio Science Pioneered by Light, Invited
Hsinchu, Taiwan, October 2011
"Tightly focused laser induced trapping, migration, assembling, and

fabrication of gold nanoparticles under optical microscope”
Takayuki Uwada

96. APA Taiwan Branch Meeting, Invited
Taipei, Taiwan, September 2011
“Crystallization and Nanoparticle Formation Induced by a Focused Laser Beam”
Takayuki Uwada
97. 6th Asian Photochemistry Conference, Award Lecture
Auckland, New Zealand, November 15, 2010
“An exploratory study with lasers: From nanosecond laser photolysis to laser trapping crystallization”
Hiroshi Masuhara
98. 3rd Nanotechnology International Forum, Invited
Moscow, Russia, November 1-3. 2010
“Laser Nanoscience and Nanotechnology in View of Materials”
Hiroshi Masuhara
99. International Scientific Instrument Technology Workshop at Instrument Technology Research Center, National Applied Research Laboratories
Hsinchu, Taiwan, October 25, 2010
“Laser Fabrication and Microspectroscopy of Organic Nanoparticles”
Hiroshi Masuhara
100. 2010 The International Conference on Green Technologies, Keynote
Pingtung, Taiwan, October 6, 2010
“Laser and Organic Nanoparticles: From Nano to Real Worlds”
Hiroshi Masuhara
101. Third Asia Pacific Symposium on Radiation Chemistry (APSRC 2010) and DAE-BRNS Tenth Biennial Trombay Symposium on Radiation & Photochemistry (TSRP2010), Invited
Lonavala, India, September 15, 2010
“Laser is opening a new horizon in molecular crystallization studies”
Hiroshi Masuhara and Teruki Sugiyama
102. XXIII IUPAC Symposium on Photochemistry, Invited
Ferrara, Italy, July 14, 2010
“Laser trapping crystallization dynamics at surface and interface: glycine and nanoparticle solutions”
Hiroshi Masuhara, Teruki Sugiyama, Thitiporn Rungsimanon, Ken-ichi Yuyama, Takayuki Uwada, and Atsushi Miura

103. Invited Seminar at National Synchrotron Radiation Research Center
Hsinchu, Taiwan, June 22, 2010
“Laser Fabrication of Molecular Nanoparticles and Nanocrystals”
Hiroshi Masuhara
104. Invited Seminar at Instrument Technology Research Center
Hsinchu, Taiwan, June 10, 2010
“Exploration with Lasers into New Areas of Molecular Photoscience”
Hiroshi Masuhara
105. The 4th Yamada Conference on Advanced Photon and Science Evolution, Invited
Ibaraki, Osaka, Japan, June 3, 2010
“Molecular Nano Fabrication and Crystallization by Lasers”
Hiroshi Masuhara
106. The 3rd Taiwan-Japan Joint Symposium on Organized Nanomaterials and Nanostructures Related to Photoscience Invited
Taroko, Hualien, Taiwan, March 23, 2010
“Laser trapping crystallization and polymorph control of glycine in solution”
Hiroshi Masuhara, Thitiporn Rungsimanon, Ken-chi Yuyama, and Teruki Sugiyama
107. Invited Lecture at Bhabha Atomic Research Centre
Mumbai, India, 2010, February 9, 2010
“Exploration with Lasers into New Areas of Molecular Photoscience”
Hiroshi Masuhara
108. Invited Lecture at Tata Institute of Fundamental Research
Mumbai, India, 2010, February 8, 2010
“Laser and Organic Nanoparticles”
Hiroshi Masuhara
109. The Raman-Mizushima Lecture in the Annual Meeting of Chemical Research Society of India, Award Lecture
Hyderabad, India, 2010, February 7, 2010
“Laser and Organic Nanoparticles”
Hiroshi Masuhara
110. Invited Seminar at University of Hyderabad
Hyderabad, India, 2010, February 6, 2010
“Laser-induced Crystallization and Related Phenomena of Glycine and Proteins in Solution”

Hiroshi Masuhara

111. M L Sircar Lecture at Indian Association for the Cultivation of Science, Invited
Kolkata, India, February 3, 2010
"Exploratory Research in Photoscience: Laser Tsunami Manipulation of Single Living Cells and Laser Trapping Crystallization of Molecules"
Hiroshi Masuhara

112. Invited Seminar at Indian Institute of Technology Bombay, Mumbai, India, February 2, 2010,
"Laser and Organic Nanoparticles"
Hiroshi Masuhara

113. 11th Japan-Belgium Symposium on Polymer Science, Invited
Tokyo, Japan, November 10, 2009
"Laser-induced crystallization and crystal growth of amino acids and proteins in solution"
Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama, Thitiporn Rungsimanon, Atsushi Miura, Takayuki Uwada, and Anwar Usman

114. Invited Seminar at ISIS, CNRS et Universite Strasburg
Strasburg, France, December 16, 2009
"Laser-induced Crystallization and Related Phenomena of Glycine and Protein in Solution"
Hiroshi Masuhara, Teruki Sugiyama, Kenichi Yuyama, Thitiporn Rungsimanon, Atsushi Miura, Takayuki Uwada

115. 2009 RCAS Taiwan-Japan Workshop on Single Molecule/Confocal Microscopy, Invited
Taipei, Taiwan, October 15, 2009
"Spectroscopy, Photochemistry, and Fabrication of Single Nanocrystals"
Hiroshi Masuhara

116. Wazapalooza: Mike Wasielewski's 60th Birthday Symposium, Invited
Evanston, USA, September 25-26, 2009
"Laser-induced Crystallization and Crystal Growth: Exploration with Lasers into New Areas of Molecular Photoscience"
Hiroshi Masuhara

117. International Conference on Organic Photonics and Electronics 2009 (ICOPE2009) & The 11th International Conference on Organic Nonlinear Optics (ICONO 11), Plenary
Beijing, P. R. China, September 21, 2009
"Spectroscopic and imaging study on laser trapping dynamics and

crystallization of amino acids and proteins in solution”
Hiroshi Masuhara, Teruki Sugiyama, Ken-ichi Yuyama, Thitiporn Rungsimanon, Takayuki Uwada, and Atsushi Miura

118. XXIV International Conference on Photochemistry (ICP 2009), Invited
Toledo, Spain, July 21, 2009
“Crystallization and crystal growth of amino acids in solution by photon pressure of a focused cw near-infrared laser beam”
Hiroshi Masuhara, Teruki Sugiyama, Kenichi Yuyama, and Thitiporn Rungsimanon

119. International Conference Organic Nanophotonics (ICON2009), Plenary
St. Petersburg, Russia, June 22, 2009
“Laser and Organic Nanoparticles”
Hiroshi Masuhara, Teruki Sugiyama, Kenichi Yuyama, Thitiporn Rungsimanon, Atsushi Miura, and Takayuki Uwada

120. A Special Symposium of Physical Chemistry Division “Physical Chemistry for Biological Application” in Spring Annual Meeting of the Korean Chemical Society, Invited
Seoul, Korea, April 17, 2009
“Femtosecond “Laser Tsunami” Manipulation for Single Living Cells in Solution”
Hiroshi Masuhara

121. Korea Advanced Institute of Science and Technology
Korea, April 20, 2009, Invited
“Laser Trapping Dynamics and Crystallization of Molecules in Solution”
Hiroshi Masuhara, Teruki Sugiyama

122. Asian Academic Seminar 2009, Invited
KAST, Kawasaki, March 2-7, 2009
“Laser Trapping Spectroscopy and Crystallization in Solution”
Hiroshi Masuhara

123. The 1st NCTU-NAIST workshop on Molecular/Nano Science, Invited
Hsinchu, Taiwan, November 2009
“Development of Rayleigh scattering microspectroscopy and its application to particle diffusion/assembling dynamics study”
Takayuki Uwada

124. The 8th GIST/NAIST Joint Symposium on Advanced Materials, Invited
Ikoma, Japan, November 26, 2008

"Dynamics, mechanism, and application of laser ablation of molecular and biosystems"
Hiroshi Masuhara, Yoichiroh Hosokawa, Teruki Sugiyama, and Kazunori Okano

125. The 2nd Japan-Taiwan Joint Symposium on Organized Nanomaterials and Nanostructures Related to Photoscience, Invited
Kyoto, Japan, November 5, 2008
"Laser tsunami crystallization and laser trapping crystallization: a challenge for molecular materials"
Hiroshi Masuhara, Yoichiroh Hosokawa, Teruki Sugiyama, Atsushi Miura, and Takayuki Uwada

126. The 3rd BK21 International Symposium on Materials Chemistry, Invited
Busan, Korea, October 20, 2008
"Spectroscopy and Imaging of Single Nanoparticles"
Hiroshi Masuhara

127. Symposium on Organic Micro- and Nano-Crystals (as a satellite meeting of IUCr 2008), Invited
Sendai, Japan, August 22, 2008
"Spectroscopy and laser fabrication of single organic nano crystals"
Hiroshi Masuhara, Tsuyoshi Asahi, and Teruki Sugiyama

128. Samsung Electronics Co. Ltd., Invited
Korea, August 18, 2008
"Photophysical/chemical Processes and Recent Topics on Nano Fabrication and Patterning"
Hiroshi Masuhara

129. SPIE Optics+Photonics 2008, Invited
San Diego, USA, August 12, 2008
"Molecular assembling and crystallization in solution by photon pressure of a focused cw laser beam"
Hiroshi Masuhara, Teruki Sugiyama, Hiroyuki Yoshikawa, Yu Nabetani, and Takuji Adachi

The Laboratory BBQ for the 78 Birthday of Prof. Hiroshi Masuhara at the BBQ place of Guangfu Campus of NYCU on March 29, 2022.

Chair Professor Hiroshi MASUHARA
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