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The subject of this survey is specified as “International Collaborative Research”. It refers to an international research carried out jointly on a departmental, laboratory or Personal level, and introduces works, which were presented officially, as well as works expected to be presented.

Matters of Survey

1. − Name of the research project
2. − Chiba University representative research worker
   (place of work / occupation / full name)
3. − Partner abroad
   (country / name of institution / full name)
4. − Implementation period
5. − Project outline
6. − Funds, grants, etc
7. − Main result
8. − Other important items to be stated
   (awards received, symposiums attended, etc)
Faculty of Letters
1. Study on Russian Literature and Culture of Silver Age
2. Faculty of Letters/Associate Professor/Wakana Kono
3. Russia/Russian State University of Humanities/Professor Dina Makhmudovna Magomedova
4. 2002~
5. Reading the texts of Silver Age and 20-th Russian literature, and looking into the issues of religion, philosophy and culture.
6. Grants-in-Aid for Scientific Research
8. None

Graduate School of Humanities and Social Sciences
1. Shifting Re-creations of European and Asian ‘Others’ in East Asian Schoolbook
2. Graduate School of Humanities and Social Sciences/Professor/MIYAKE, Akimasa
3. Germany/Heidelberg University/Prof. Wolfgang Seifert, Prof. Gotelind Müller-Saini et.al.
4. 2008~
5. We are interested in exploring recent tendencies of cross-national teams in establishing source books and textbooks in history
from a multi-national and transnational perspective, i.e. by writing a common textbook for two or more Asian countries' pupils and students.

6. Heidelberg University

### Faculty of Education

1. Comparative study for brain cognition of mother and foreign language between Japanese and Italian children
2. Faculty of Education / Professor / Katsuo Sugita
3. Italy / Tor Vergata University of Rome / Paolo Culatorto
4. 2010-
5. We perform phonological reaction time test to Italian primary school students who learn Japanese and compare the time differences between these students and native Japanese children. We will prepare for more effective analysis for brain cognition of languages, such as Japanese characters and “Romaji” (Roman characters).
6. Grant-in-Aid for Scientific Research from the Ministry of Education, Culture, Sports, Science and Technology, Japan
7. Sugita K, Uesaka T, Nomura J, Sugita Ki, Inagaki M. A family-based association study does not support DYX1C1 as a candidate gene in dyslexia in Japan. IMJ (in press)
   Miyuki Torii, Ichiro Shimoyama, Katsuo Sugita Phonemic and semantic working memory in information processing in children with high function pervasive developmental disorders IMJ Vol 17, No 1, 35-39, 2010
8. None

1. Comparative Research about Health Promoting School in Asia
2. Education, Professor, Kanako OKADA
3. ・Mainland China , Shanghai／School of Public Health, Fudan University／F. Hua,
   ・South Korea, Wonju／Department of Health Administration ,College of Health Sciences, Yonsei University／Eun Woo Nam,
   ・Taiwan, Taichung／Department of Healthcare Administration,College of Health Science, & Director, Learning and Career Development Center／S. Y. Huang
4. This study aims to show an overview and characteristics of Asian HPS and school health related organizational activities and collaboration. Investigations regarding HPS were conducted via literature review and observational studies of schools visited in Asia.
5. The United graduate school of Education Tokyo Gakugei University 「Research Project」subvention in 2008-2009, COE start up subsidy in 2009, Model curricula development research for course of Teacher in 2010, 2011
   Bulletin of the faculty of education, 58, 2010.3
   Kanako OKADA et.al. : CHARACTERISTICS OF HEALTH PROMOTING SCHOOLS IN ASIA-JAPAN, HONG KONG, CHINA,SOUTH KOREA AND TAIWAN 20th IUHPE World Conference on Health Promotion,11-15 July 2010, Geneva,
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<th>Switzerland (2010.7)</th>
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<tr>
<td>8. Speaker / International Health Promoting School Symposium in Taipei (Taiwan) (2009.12)</td>
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<td>· Lecture / International Health Promoting School Conference in Taipei (Taiwan) (2009.12)</td>
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<td>· Speakers (Kanako OKADA, Daisuke Fujikawa, Satoshi Isobe &amp; Fumiko Sunagami) at Health Promoting School Seminar in Shanghai (Mainland China)</td>
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<td>· International Symposium Planner, coordinator &amp; speaker / The 2nd East Asian International Conference on Teacher Education Research</td>
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1. Investigational study on Learning Environment of Japanese-language learners facilitating by a distance tutor

2. Faculty of Education / Professor / YOSHIDA, Masami

3. Thailand / Thailand cyber University Project, Commission on Higher Education, Ministry of Thailand / SOMBUNTHAM, Supannee, THEERAROUNGCHAI SRI, Anuchai, SAENGCHOT, Thapanee

4. 2009-

5. Investigate effects of Japanese-language learners on community enhancement and distance tutoring by using e-Learning and online communication

6. Grant-in-aid for scientific research (C) of JSPS, project number 21520525


8. The research project is informed and supported by the Ministry of Education, Thailand. See URL below http://www.thaicyberu.go.th/

---

1. Effects on Long-term teaching Practice in Teacher Training

2. Faculty of Education / Professor / YOSHIDA, Masami

3. Thailand / Chulalongkorn University / TIRANASAR, Ampai

4. 2009-

5. Investigate effects of Long-term teaching practice by monitoring cases in Thailand which already started 5 years' in-service course and one year teaching practice

6. No external assistance


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1. Development of Method and Materials for Physics Education (PDL system)

2. Education, Professor / Ken-ichi TOZAKI

3. Cambodia, Phnom Penh / Royal University of Phnom Penh (RUPP) / Ing Heng, Sou Kalyan

4. 2002～

5. This study aims to develop the method and materials on physics teaching/learning for wider people in the world. The apparatus named PDL has the characteristics as: low cost, small space, ease of re-construction, portable.

7 Published paper:


Patent:

2) Patent application, 2005 – 368470 Apparatus for measurement of fluid density and the measurement method
3) Patent application, 2007 – 513561 Sectional desk experiment method and device
4) Patent application, 2006 – 199741 Radiative heat flow sensor and measurement method of radiative heat flow
5) Patent application, 2006 – 337152 Method for magnetic flux measurement and magnetic field sensor
6) Patent application, 2007 – 010053 Education system with sectional experimental apparatus
7) Patent application, 2007 – 137936 Thermal analyzer

8.

- President prize award at open research exhibition (2006)
- Good Practice (GP) project (2007-2010, MEXT)

Graduate School of Science

1. Environmental change and the Indus civilization
2. Graduate School of Science/Professor/Takahiro Miyauchi
3. Prof. Kwarakwal of Rajastan University, India and Prof. Ajitprasad of Baroda University, India
4. 2006-
5. Our project aims to understand the formation, development and decline of the Indus Civilization by means to an interdisciplinary approach. Especially, we attempt to evaluate the impact of environmental change on the subsidence economy and the trade network, which sustained the urban system. The Paleo-environment Research Group studies the environment surrounding the Indus Civilization
6. Research Institute for Humanity and Nature, Japan
1. Molecular mechanisms of cellular and physiological functions of small GTPases and their target proteins
2. Graduate School of Science/Professor/Takeshi Endo
3. Germany/University of Saarland Medical Center/Gerald Thiel
4. 2006–
5. This project aims to elucidate molecular mechanisms of cellular and physiological functions of small GTPases and their target proteins, which we have identified.
8. None

1. Theoretical and Computational Study of High-Temperature Superconductors Including Cuprates
2. Department of Physics/Professor/Yukinori Ohta
3. Germany/Karlsruhe Institute of Technology/Robert Eder
4. from 2003
5. We use some theoretical and computational methods for correlated electron systems to study the electronic states and mechanisms of high-temperature superconductivity in, e.g., cuprate materials. Origins of a variety of anomalous electronic phenomena observed in experiment are thereby clarified and thus we can contribute to the elucidation of the mechanism of high-temperature superconductivity of these materials.
6. Grant-in-Aid for Scientific Research
8. N/A

1. Theoretical Study of Iron-Based High-Temperature Superconductivity
2. Department of Physics/Professor/Yukinori Ohta
3. Germany/Karlsruhe Institute of Technology/Robert Eder
4. from 2008
5. We study the correlated electronic structures of recently-discovered iron-based high-temperature superconductors on the basis of the variational cluster approximation (VCA) within the framework of the self-energy functional theory (SFT). From this
study, we can clarify the effects of electron correlations on the electronic states of iron-based superconductors and thereby we can contribute to the elucidation of the mechanism of high-temperature superconductivity of this materials.

6. JST-TRIP, Grant-in-Aid for Scientific Research
7. In preparation
8. N/A

1. Computational Physics on Anomalous Electronic Properties of Strongly Correlated Electron Systems
2. Department of Physics/Professor/Yukinori Ohta
3. Germany/Leibniz Institute for Solid State and Materials Research Dresden/Satoshi Nishimoto
4. since 2001
5. We study the electronic states of low-dimensional strongly correlated electron systems such as transition-metal oxides and organic materials by means of recently developed computational techniques such as density-matrix renormalization group (DMRG) method. In particular, we aim at the construction of the theory that can explain experimental findings for novel quantum phase transitions such as charge ordering and anisotropic superconductivity.
6. Grant-in-Aid for Scientific Research
8. N/A

1. On the study of electromagnetic phenomena associated crustal activity
2. Graduate School of Science/Professor/Katsumi Hattori
3. Russia / Institute of Physics of the Earth / Dr. Oleg Molchanov
   Russia / Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) / Dr. Yuri Kopytenko
   Russia / Geophysical Service Kamchatka Department / Dr. Evginii Gordeev
   Ukraine / Lviv Center of Space Research / Dr. Varely Korepanov
4. 1998~
5. Recognizing the importance of ULF geomagnetic field changes among electromagnetic phenomena preceding large earthquakes, this project aims at researches on developments of sensors, observation, and methodology, clarification of physical mechanism, and establishing the monitoring and short-term prediction of crustal activity.
6. RIKEN (-2002)
   A. Schekotov, O. Molchanov, K. Hattori, E. Fedorov, V. Gladyshev, G. Belyaev, V. Chebrov, V. Sinitsin, E. Gordeev and M. Hayakawa, Seismo-ionospheric depression of the ULF geomagnetic fluctuations at Kamchatka and Japan, Physics and

Kopytenko Yu.A., Ismaguilov V.S., Hattori K., Hayakawa M., Gradients and Phase Velocities of ULF magnetic disturbances (F=0.1-0.4Hz) before and during strong earthquakes in 2003 year at Bosso Peninsula (Japan), 2004 Asia-Pacific Radio Science Conference Proceedings, p. 545, August 24-27, 2004, (Qingdao, China).


Concerning with this project, following workshops and symposium were held in Japan.


September, 1998 : Set up the electromagnetic sensors at Paratunka of Kamchatka Peninsula.

November, 1998 : Visit to IZMIRAN in St. Petersburg and Institute of Physics of the Earth in Moscow to make technical and scientific discussions with Dr. Kopytenko and Dr. Molchanov, respectively.

September, 1999 : Visit to Kamchatka station for maintenance of observation system.

August, 2000 : Visit to Kamchatka station for maintenance of observation system.

November, 2001 : Mr. Pavel Maltsev(Lviv Center of Space Research, Ukraine) stayed at Chiba University for technical and scientific discussion.

July - August, 2002 : Dr. Vareli Ismaguilov and Andrei Radilov (IZMIRAN, Russia) stayed at Chiba University for technical and scientific discussion.

December, 2004 : Mr. Pavel Maltsev(Lviv Center of Space Research, Ukraine) stayed at Chiba University for technical and scientific discussion.

March, 2005 : Dr. Yuri Kopytenko (IZMIRAN) and Dr. Oleg Molchanov came to Japan to make technical and scientific discussions.

March, 2007 : Dr. Oleg Molchanov (Institute of Physics of the Earth) came to Japan to make technical and scientific discussion (at the University of Electro-Communications).

November, 2007 : Technical and scientific discussion with Dr. Yuri Kopytenko (IZMIRAN) and Dr. Oleg Molchanov at Bandung, Indonesia.

March, 2008 : Technical and scientific discussion with Dr. Koerpanov (Lviv Center of Space Research, Ukraine) at Sagamihara, Japan

April 2009 : Technical and scientific discussion with Dr. Koerpanov(Lviv Center of Space Research, Ukraine) and Dr. Molchanov (Institute of Physics of the Earth) at Vienna, Austria

August 2010 : Dr. Vira Pronenko (Lviv Center of Space Research, Ukraine) come to Japan to make technical and scientific discussion and visit Matsushiro station to maintain the system.

1. Monitoring of Earthquake activity with use of electromagnetic approach in Taiwan,

2. Graduate School of Science/Professor / Katsumi Hattori

3. Taiwan National Central University / Professor / Jann-Yenq Liu

Taiwan National Central University / Professor / Lung-Chi Tsai
Taiwan National Chung Cheng University / Professor / Chiou-Fen Shieh  
Dahan Institute Technology / Professor / Hua-Hi Sheu

4. 2001 ~

5. The project aims at clarification of the physical mechanism of electromagnetic phenomena preceding earthquakes and realizing of monitoring and short-term prediction of large earthquake in Taiwan.

NiCT R&D promotion scheme funding international joint research (2007-2010)

7.


Katsumi Hattori, ULF geomagnetic changes associated with large earthquakes, Terrestrial, Atmospheric and Oceanic Sciences, Vol.15, No.3, 329-360, 2004

Masashi Kamogawa, Jann-Yenq Liu, Hironobu Fujiwara, Yu-Jung Chuo, Yi-Ben Tsai, Katsumi Hattori, Toshiyasu Nagao,
Seiya Uyeda, and Yoshi-Hiko Ohtsuki, Atmospheric field variations before the March 31, 2002 M6.8 earthquake in Taiwan, Terrestrial, Atmospheric and Oceanic Sciences, Vol.15, 397-412, September 2004.


8. Install electromagnetic sensor in Chia-Yi.(September, 2001)

Filed survey around Hualien (March, 2002)

Invited talk in the kick off meeting of project of National Central University entitled integrated Search for Taiwan Earthquake Precursors” (2002 International Workshop on Earthquake Precursor iSTEP ) (June, 2002)

Install electromagnetic sensor in Hualien.(September, 2002)

Install electromagnetic sensor in Fuli (March, 2003)

Profs. Jann-Yeng Liu and Yi-Ben Tsai came to Chiba University and gave talks (December, 2003)

International workshop was organized at National Central University, Taiwan (March, 2004)

Install electromagnetic sensor in Donghua University (October, 2004)

Discussion with Prof. Liu at National Central University (December 2005)

Mr. Chieh-Hung Chen stayed at Chiba University for collaboration (March-April 2005)

Discussion with Prof. Liu at National Central University (June, 2005)

Discussion with Prof. Liu at National Central University (November, 2005)

Install meteorological equipment at Dong-Hua University (December, 2005)

International workshop on Earthquake Precursor was organized at National Central University, Taiwan (March, 2006)

Prof. Liu came to Chiba University to see the observation network for seismo-electromagnetic and to give a seminar. And we make technical and scientific discussions. (May, 2006)

Masahide Nishihashi who is a Ph. D student visited the Prof. Liu's laboratory at National Central University, Taiwan to have a collaboration on ionospheric disturbances associated with earthquakes (August-September, 2006)

System maintenance of stations at Taiwan (Chia-Yi, Hualien, NCU) (May, 2007)

System maintenance of stations at Hualien. (July 2007)

Prof. Liu came to Chiba University to give a talk and make technical and scientific discussions.(July, 2007)

System maintenance of stations at Hualien. (August-September, 2007)

Technical and scientific discussion at Bandung, Indonesia with Prof. Liu. (November, 2007)

Technical and scientific discussion at Sagamihara, Japan with Profs. Liu and Tsai. (March, 2008)

Technical and scientific discussion at NCU, Chung-li, Taiwan with Prof. Liu. (June, 2008)

Preliminary observation of beacon radio wave form FORMOSAT-3 satellite at Aso with Prof. Tsai's group (July, 2008)

Technical and scientific discussion at San Francisco, USA with Profs. Liu and Tsai. (August, 2008)

Mr. Simpei Kon (B4 student at Chiba Univ.) visited NCU, Taiwan to participate Ionosphere School organize by Prof. Tsai (October, 2008)

Prof. Tsai’s group installed the antenna system to observe beacon radio wave form FORMOSAT-3 satellite at Aso (October-November, 2008)
International workshop (IWSLEC-2) at Tsukuba. Technical and scientific discussion with Profs. Liu (November, 2008)

Preliminarily field survey for beacon radio wave observation form FORMOSAT-3 satellite at Okinawa with Prof. Tsai (January 2009)

Fieldwork at Taiwan (maintenance of stations in Taiwan) (February, 2009)

International workshop (VESTO) at Chiba. Technical and scientific discussion with Profs. Liu (March, 2009)

Preliminarily observation of beacon radio wave observation form FORMOSAT-3 satellite at Sesoko and Cape Heto, Okinawa with Prof. Tsai (May 2009)

International workshop (IWSLEC-3) at Singapore. Technical and scientific discussion with Prof. Liu (June, 2009)

Prof. Tsai’s group installed the antenna system to observe beacon radio wave form FORMOSAT-3 satellite at Sesoko, Okinawa (July, 2009)

Prof. Tsai’s group visit Japan to perform maintenance of the antennas (September 2009)

International workshop for EQ prediction in Indonesia at Buki-Tinggi, Indonesia. Technical and scientific discussion with Prof. Liu (November, 2009)

June, 2010: Prof. Hattori and Ms. Yoshinp visit Taiwan to perform maintenance.

December, 2010: Technical and scientific discussion with Prof. Liu and his group at AGU meeting, US.

December, 2010: Prof. Hattori and Ms. Yoshinp visit Taiwan to perform maintenance.

March 2011: Prof. Liu visit Chiba Univ. and make technical and scientific discussion

April 2011: Technical and scientific discussion with Prof. Liu and his group at EGU meeting, Vienna.

1. Ground-based and satellite geophysical monitoring and modeling of seismotectonic structure

2. Graduate School of Science/Professor/Katsumi Hattori

3. Istituto di Metodologie per l'Analisi Ambientale, CNR C.da S.Loja/Prof. Vincenzo Lepenna

4. 2003~

5. the statistical analysis of geomagnetic and geoelectric signals recorded in seismic areas

6. 2003–2004 JSPS Bilateral collaboration project between Japan and Italy (PI: Prof. M. Hayakawa (The University of Electro-Communications))

2006 Research Foundation for the Electrotechnology of Chubu (REFEC), Chubu Electric Power Co. Inc.

2007 JSPS project on Bilateral Seminar between Japan and Italy (CNR).

2007 千葉大学国際会議助成金

2007-2010 NiCT R&D promotion scheme funding international joint research.


Luciano Telesca, Gerardo Colangelo, Katsumi Hattori, Vincenzo Lapenna, Principal component analysis of geoelectrical signals measured in the seismically active area of Basilicata Region
8. October-November 2003, Visit to Istituto di Metodologie per l'Analisi Ambientale, CNR and discuss and analyze geoelectrical potential difference data recorded in seismic areas, southern Italy.

June 2004, Dr. Colangelo at Istituto di Metodologie per l'Analisi Ambientale, CNR stayed at Chiba University and discuss and analyze geoelectrical potential difference data recorded in seismic areas, Japan.

March 2005, Discussion on future collaboration with Prof. Lapenna, Dr. Telesca, and Dr. Colangelo in Japan when they came to attend meeting in Japan.

May, 2005, Discussion on landslide study at EGU meeting, Vienna.

July, 2006, Visit Istituto di Metodologie per l'Analisi Ambientale, CNR and give a talk at the institute. Technical and scientific discussion on seismo-electromagnetics and landslide.

July, 2006, Dr. Telesca at Istituto di Metodologie per l'Analisi Ambientale, CNR stayed at Chiba University to discuss on fractal/multi-fractal analysis and analyze geomagnetic data recorded in seismic areas, Japan.

October-November, 2006, Visit Istituto di Metodologie per l'Analisi Ambientale, CNR and set up the collaborative landslide monitoring station at Picerno, Potenza, in the southern Italy with CNR.

July, 2007, Visit Istituto di Metodologie per l'Analisi Ambientale, CNR and give a seminar on seismo-electromagnetics.

July 2007, JSPS bilateral seminar Japan-Italy on electromagnetic study in seismic and volcanic areas(July 25-27, 2007). Discussion on satellite data have been done.

April 2008, Visit Istituto di Metodologie per l'Analisi Ambientale, CNR and give a seminar on seismo-electromagnetics.

April 2009, Technical and Scientific discussion on landslide and seismo-electromagnetics have been done.

November, 2008: Italian group visited to Japan to attend International Landslide Forum held at UN Univ., Tokyo. Technical and Scientific discussion on landslide and seismo-electromagnetics have been done.

April 2009, Technical and Scientific discussion on landslide and seismo-electromagnetics have been done at Viena, Austria during EGU meeting.

December, 2010: Technical and scientific discussion with Dr. Pergola and his group at AGU meeting, US.

1. Electromagnetic approach to monitor crustal activities such as earthquake and landslide and their modeling

2. Graduate School of Science / Professor / Katsumi Hattori

3. Peking University / Professor / Qinghua Huang

4. 2004~

5. Develop an Early Warning System for crustal activity such as large earthquakes and landslides using electromagnetic approach. And Clarify the mechanism on them.

6. 2007-2010 NiCT R&D promotion scheme funding international joint research.

2009-2013 JST Japan(JST)-China(DOIC)-Korea(NRF) Cooperative Research Projects


Han, P., Hattori, K., Huang, Q., Hirano, T., Ishiguro, Y., Febriani, F., and Yoshino, C., Evaluation of ULF Electromagnetic

8.
August 2004: After APRASC’04 meeting, Hattori visited Peking Univ. and made a seminar on Seismo-Electromagnetics.

March 2005: After IWSE meeting at Chofu, Japan, Prof. Huang (Peking Univ.) came to Hattori Lab. to make scientific discussion. He went to one of our observatory at Boso Peninsula.

July, 2006: After WPGM Beijing, Hattori visited Peking University and made a seminar. He visited China Earthquake Administration with Prof. Huang.

March 2008: Hattori invited Prof. Huang to IWSLEC-2 held at Sagamihara, Japan. Also he visited Hattori Lab. to discuss technical and scientific matters at Chiba University after the meeting.

December 2008: Technical and Scientific discussion with Prof. Huang at AGU meeting, San Francisco, US.

March 2009: Hattori invited Prof. Huang to VESTO meeting held at Chiba, Japan. Also he visited Hattori Lab. to discuss technical and scientific matters at Chiba University after the meeting. He visited Prof. Nonami during his stay in Chiba.

April 2009: Technical and Scientific discussion with Prof. Huang at EGU meeting, Vienna

May 2009: Technical and Scientific discussion with Prof. Huang at JpGU meeting held at Chiba.

June 2009: Hattori visited Prof. Huang and made a seminar.

June 2009: Mr. Gomita, director of the foreign affair office at Chiba Univ. visited Prof. Huang and foreign affair office at Peking Univ.

October 2009: Mr. Han Peng, former Prof. Huang’s graduated student, joined Hattori Lab. as a doctoral student.

December 2009: Technical and Scientific discussion with Prof. Huang at AGU meeting, San Francisco, US.

February-march 2010: Hattori visited Prof. Huang to discuss scientific matters and make a seminar.

March 2010: Prof. Huang came to Hattori Lab. to participate international workshop on landslide monitoring and discuss scientific matters.

May 2010: Prof. Huang came to Hattori Lab. to participate international workshop on landslide monitoring and discuss scientific matters.

October-November 2010: Prof. Hattori, Ms Yoshinp and Mr. Han visited Prof. Huang to discuss scientific matters and make a seminar a short course on magnetic environment on Earth.

March 2011: Prof. Huang and his group came to Hattori Lab. to participate international workshop on landslide monitoring and discuss scientific matters.

1. Ground-based Monitoring of Seismo-Electromagnetic Signals in Indonesia

2. Graduate School of Science / Professor / Katsumi Hattori

3. Research Center for Geotechnology, Indonesian Institute of Science / Senior Researcher / Dr. Djedi Widarto
   Research Center for Geotechnology, Indonesian Institute of Science / Senior Researcher / Dr. Eddy Gaffar
   National Institute of Aeronautics and Space-LAPAN / Senior Researcher / Dr. Sarmoko Saroso
   Metrological Agency, Indonesia (BMKG / Director / Dr. Prih Harijadi)

4. 2005~

5. The project aims at clarification of the physical mechanism of electromagnetic phenomena preceding earthquakes and realizing of monitoring and short-term prediction of large
earthquake in Indonesia.

6. 2005-2007 JSPS Bilateral collaboration project between Japan and LIPI, Indonesia (PI: Dr K. Hattori (Chiba University))

2007-2009 JSPS Grants-in Aid for Scientific Research B

2007-2010 NiCT R&D promotion scheme funding international joint research.

2009-2010 JSPS Japan-East Asia Network of Exchange for Students and Youths (JENESYS) Programme (PI Dr. K. Hattori)


January-March 2006, Dr. Widarto and Mr. Hananto at LIPI and Dr. Saroso at stayed at Chiba University and discuss and analyze geoelectrical potential difference and geomagnetic data recorded in seismic areas, Japan.
March 2006, Visit to Indonesia and install Electromagnetic sensor at LIWA station. Discussion on future collaboration with
Drs. Widarto and Saroso.

October, 2006. Vice Chairman of LIPI visited Chiba University and Hattori Laboratory.

November, 2006. Mini-workshop have been held at LAPAN, Bandung, Indonesia. Visit the candidate of a new site at PLRatu
near Sukabumi, which belongs to BMG.

February-March, 2007, Dr. Widarto and Mr. Dadan at LIPI and Dr. Saroso at stayed at Chiba University and discuss and
analyze geoelectrical potential difference and geomagnetic data recorded in seismic areas, Japan.

March, 2007, Set up the geoelectromagnetic station at PLRatu, BMG station. But thee is a power trouble.

April, 2007, Visit PLRatu station to improve the power troubles.

September, 2007, Install sensors at the Kototabang near Padan, Sumatra Islands.

November, 2007, Organize international workshop on seismo-electromagnetic phenomena, 2007 (IWSEP2007), at Bandung,
Indonesia. System maintenance at Kototabang station. Visit to see the candidate of landslide station and VLF
subionospheric monitoring station.

February-March 2008 : Dr. Widarto and Mr. Dadan at LIPI and Dr. Saroso at stayed at Chiba University and discuss and
analyze geoelectrical potential difference and geomagnetic data recorded in seismic areas, Japan.

March 2008, Dupty Chairman of LIPI, Dr. Hery Hariyono and Dr. Mastrijono visited the Dean of Graduate School of Science,
Chiba University.

March 2008. Internatinal Workshop (IWSLEC2008) at Sagamihara, Japan. Drs. Widarto and Hery Hariyoono (LIPI) and
Sarmoko (LAPAN), and Mastrijono (BMKG) joined it and made technical and scientific discussions

March 2008: Technical and scientific discussion at Jakarta and Bandung, Indonesia with BMKG and LIPI.

March 2008: Field survey of Kotabumi station, Sumatra and Technical and scientific discussion at Jakarta, Indoensia witj
BMKG and LIPI.

May 2008, EMC test at Kotabumi station.


October 2008: Maintenance of PLRatu station. Technical and scientific discussion at BMKG Jakarta

October 2008: Ms. Febti Febrinani participated in Hattori Lab. as a foreign research student supportd by INPEX foundation.

October-November 2008: Hattori visited bandung to participate in HAGI meeting. Maintenace of PLRatu station also has been
performed.

November 2008: International workshop (IWSLEC-2) at Tsukuba. Dr. Sarmoko (LAPAN), Dr. Husni and Dr. Subarjo
(BMKG ) joined and made technical and scientific discussion.

February 2009: Dr. Widarto came to Lab. and made a seminar .

March 2009: Maintenance of KotabumiPL station. Technical and scientific discussion at BMKG Jakarta

March 2009: International workshop “VESTO”have been held at Chiba. Sunaryo(BMG) participated. Technical and scientific
discussion has been done.

April 2009: Ms. Febti Febrinani joined Hattori Lab. as a master student supported byINPEX foundation.

June 2009: International workshop “IWSLEC-3” was held at Singapore. Dr. Prih Harijadi and Dr. Sunarjo participated in the
meeting and made technical and scientific discussion.

July-August 2009: Fieldwork at PLRatu have been done/ EM exploration for landslide and understand the underground
structure.

October 2009: Dr. Widarto came to Lab. and made a seminar .

November 2009: Participate the International workshop organized by BMKG at Buki-Tinnggi
December 2009: Dr. Gaffar visited Hattori Lab. and Technical and scientific discussion has been done

February 2010: Hattori visited LIPI, LAPAN, BMKG to make technical and scientific discussion.

June-July, 2010: Adrin(LIPI), Khori(LIPI), Iwan(BMKG), Noor(BMKG), Boko(BMKG), and Andi(BMKG) come to Chiba Univ. for cooperation under the JSPS JENESYS program

August-September, 2010: Prof. Hattori, Ms. Yoshno, and graduated students visit Indonesia for cooperative observation under the JSPS JENESYS program

November 2010: Dr. Bambang (BMKG), Dr. Hendri (BMKG) visit Hattori lab. to make technical and scientific discussion.

November 2010: Ms. Yoshino and Mr. Yabe visit Indonesia and perform fieldworks at PLRatu station.

February 2011: Dr. Gaffar(LIPI) come to Chiba Univ. to make technical and scientific discussion.

March 2011: Dr. Adrin(LIPI) and Ms. Khori(LIPI), come to Chiba Univ. to make technical and scientific discussion.

1. Project on Development of early warning system for landslide using EM method
2. Graduate School of Science / Professor / Katsumi Hattori
3. KIGAM, Korea / Senior Researcher / Chae Byng-Gong
4. 2009~
5. Development of early warning system for landslide using EM method
6. JST China-Korea-Japan trilateral program (2009~2013)
7.
8. November, 2010: Prof. Hattori visit KIGAM to make technical and scientific discussion with Dr. Chae and his group. and participate in CKJ workshop held at Cheju, Korea

April, 2011: Technical and Scientific discussion among PIs in Japan, Korea and China at EGU meeting, Vienna.

1. Block theory in representation theory of finite groups
2. Faculty of Science / Professor / Shigeo Koshitani
3. Germany / RWTH Aachen University / Juergen Mueller, F. Noeske
4. 2007~
5. Block theory which was developed by R. Brauer (1901–1977) in representation theory of finite groups. A notion "groups" is essentially a way to describe a sort of "symmetries" abstractly. Representation theory is a kind of a way to describe groups in terms of matrices over fields. Here we study Schur-Frobenius indicators in character theory of finite groups.
7. Grant-in-Aid for Scientific Research(C) 20540008, 2008—2010
9. Joint work with J. Mueller and F. Noeske during 28 March - 6 April, 19-23 June, 9 – 16 December 2009, 10—14 Nov 2010 in RWTH Aachen University, Germany

1. Frobenius-Schur indicators theory in representation theory of finite groups
2. Faculty of Science / Professor / Shigeo Koshitani
3. Ireland / National University of Ireland Maynooth / John Murray
4. 2006~
5. Block theory which was developed by R. Brauer (1901–1977) in representation theory of finite groups. A notion "groups" is essentially a way to describe a sort of "symmetries" abstractly. Representation theory is a kind of a way to describe groups in terms of matrices over fields. Here we study Schur-Frobenius indicators in character theory of finite groups.
6. Grant-in-Aid for Scientific Research(C) 17540010, 2005–2007, and National University of Ireland Maynooth,
1. Grant-in-Aid for Scientific Research(C) 20540008, 2008--2010

7. In preparation

8. Joint work with J.Murray during 8 - 16 April 2006, in National University of Ireland Maynooth, Ireland
   Joint work with J.Murray during 18 - 23 August 2009, in National University of Ireland Maynooth, Ireland

| 1. | Brauer blocks theory in representation theory of finite groups |
| 2. | Graduate School of Science / Professor / Shigeo Koshitani |
| 3. | United Kingdom / University of Aberdeen / Markus Linckelmann |
| 4. | 2003-- |
| 5. | Block theory which was developed by R. Brauer (1901--1977) in representation theory of finite groups. A notion "groups" is essentially a way to describe a sort of "symmetries" abstractly. Representation theory is a kind of a way to describe groups in terms of matrices. Brauer blocks theory in representations of finite groups. over fields which are something like sets of all real numbers, complex numbers, .... |
| 6. | Grant-in-Aid for Scientific Research(C) 17540010, 2005--2007, Oberwolfach Mathematical Institute in Germany, Grant-in-Aid for Scientific Research(C) 20540008, 2008--2010 |
|   | (2) Conjectures of Alperin and Broue for 2-blocks with elementary abelian defect groups of order 8, Radha Kessar, Shigeo Koshitani, Markus Linckelmann, Journal fuer die reine und angewandte Mathematik, 40pages, In press. |

   Joint work with M.Linckelmann during 19 November -- 29 November 2006 in University of Aberdeen in the UK.
   Joint work with M. Linckelmann during 27 May -- 2 June, 2007 Luminy Mathematics Institute in France.
   Joint work with M.Linckelmann during 21 August -- 2 September, 2007, in Chiba University and Kyoto University.
   Joint work with M.Linckelmann and R.Kessar during 7 December -- 15 December, 2008, in University of Aberdeen, UK
   Joint work with M.Linckelmann and R.Kessar during 22 March -- 28 March, 2009, Oberwolfach Mathematical Institute in Germany
   Joint work with M.Linckelmann and R.Kessar during 8 -- 15 June, 2009, in the institute in Isle Skye in Scotland, UK.
   Joint work with R.Kessar during 18 - 24 October, 2009, Luminy Mathematics Institute in France.

| 1. | Morita equivalences in blocks theory in representation theory of finite groups |
| 2. | Graduate School of Science / Professor / Shigeo Koshitani |
| 3. | USA / University of Illinois at Chicago / Morton E. Harris |
| 4. | 2002-- |
| 5. | Block theory which was developed by R. Brauer (1901--1977) in representation theory of finite groups. A notion "groups" is essentially a way to describe a sort of "symmetries" abstractly. Representation theory is a kind of a way to describe groups in terms of matrices over fields. Here we study Morita equivalences appearing blocks of finite groups. |
| 6. | Grant-in-Aid for Scientific Research(C) 17540010, 2005--2007 |
| 7. | An extension of Watanabe's theorem for the Isaacs-Horimoto-Watanabe corresponding blocks, M.E.Harris and S.Koshitani, |
1. Blocks theory in representation theory of finite groups
2. Faculty of Science / Professor / Shigeo Koshitani
3. Germany / University of Jena / Burkhard Kuelshammer
4. 1995--
5. Block theory which was developed by R. Brauer (1901--1977) in representation theory of finite groups. A notion "groups" is essentially a way to describe a sort of "symmetries" abstractly. Representation theory is a kind of a way to describe groups in terms of matrices over fields. Here we study blocks of finite groups.
6. Grant-in-Aid for Scientific Research(C) 17540010, 2005--2007
    and the Mathematical Institute University of Jena Germany, Grant-in-Aid for Scientific Research(C) 20540008, 2008--2010
7. In preparation
8. Joint work with B.Kuelshammer during 1--8 April 2006, in University of Jena, Germany
    Joint work with B.Kuelshammer during 6—13 April 2009, In University of Jena, Germany

1. Selective CO2 separation using Elastic Layer-structured MOFs (ELMs)
2. Graduate School of Science/Professor/Hirofumi Kanoh
3. USA/University of Michigan/Professor/Christian Lastoskie
4. 2009--
5. The aim of this collaboration is to study the selective separation of CO2 using ELMs with experimental methods and simulations
6. JSPS, Grants in Aid for Scientific Research (2007--)
7. None
8. Prof. Lastoskie was invited to the conference in Chiba organized by Prof. Kanoh and his colleagues.

1. Study on Structural Changes of Elastic Layer-structured MOFs (ELMs)
2. Graduate School of Science/Professor/Hirofumi Kanoh
3. Spain//Instituto de Tecnologia Quimica (UPV-CSIC)/Research Scientist/ German Sastre
4. 2010--
5. The aim of this collaboration is to study the origin of structural flexibility of ELMs with experimental methods and simulations
6. JST, A-STEP
7. None
8. Prof. Kanoh visited Dr. Sastre and discussed the collaborative research during his stay in Tottori University.

2. Graduate School of Science/Professor/Hirofumi Kanoh
3. UK/University of Bristol/Professor/Terrence Cosgrove
4. 2010--
5. The aim of this collaboration is to study structures and properties of ionic liquids in nanopore based on nano-scale dynamics
6. JSPS, Young Researcher Overseas Visits Program for Vitalizing Brain Circulation (2010--)
Dr. Ishii visited Univ. of Bristol and stay ther for two months and a half. Prof. Kanoh and a PhD Student, Ms. Lu, also visited that and discussed the collaboratve study with Prof. Cosgrove and his colleagues.

1. In-situ Monitoring of Active Structure Transformation Selectively Extracted among Metallic Nanoparticle Catalysts
2. Department of Chemistry, Graduate School of Science, Associate Professor, Dr. Yasuo Izumi
3. CNRS, France / Dr. Jean Pierre Candy (Director) / Dr. Eric Roisin
4. 2005 to Present
5. One of the most important applications of nanotechnology is catalysis of nanoparticles for environment and energy. This international joint project delineates the reason why the selective hydrogenation activity is enhanced by some orders with the addition of tin to nanoparticles and nanoparticles at three phase interface of electrodes of Polymer Electrolyte Fuel Cells, e.g. platinum, immobilized on surface. The structural and electronic effects of tin are investigated to surface Pt atoms. The originality of this work is to monitor the in-situ structure transformation by selecting Pt atoms to partake in catalysis using high-energy-resolution fluorescence spectrometry.

7. Research Grant for Basic Science from Sumitomo Foundation, The Iwatani Naoji Foundation's Research Grant.
(e) "Development of Structural Analysis Technique for Nano-particles" Yasuo Izumi, Polyfile, 45(528), 46 – 49 (2008).
8. None

1. Application of Metal Nanoparticle Catalysts Modified with Tin to Fine Chemicals Synthesis and In-situ Monitoring of the Active Structure Transformation
2. Department of Chemistry, Graduate School of Science, Associate Professor, Dr. Yasuo Izumi
3. CNR, Italy, Dr. Laura Sordelli, Dr. Matteo Giudotti, Dr. Rinaldo Psaro
4. 2004 to Present
5. One of the most important applications of nanotechnology is catalysis of nanoparticles for environment and energy. This international joint project explores the application of nanoparticles, e.g. platinum, immobilized on surface to fine chemicals synthesis. Concretely, selective hydrogenation of unsaturated carbonyl intermediate is performed. In situ active structure over the discovered catalysts is investigated for surface metallic and Sn sites and control factor of selective catalysis is clarified.
7. (a) "Tin K-edge XAFS of Pt-Sn/MgO Catalyst Combined with the X-ray Fluorescence Spectrometry", Yasuo Izumi, Laura Sordelli, Sandro Recchia, Rinaldo Psaro, and Dilshad Masih, SPring-8 User Experiment Report 2004A, 13, 169 (2004).
   (c) "Tin K-edge XAFS study of supported Ir-Sn/SiO2 catalysts utilizing brilliant X-ray beam at 29 keV from PF-AR", Yasuo Izumi, Kazushi Konishi, Laura Sordelli, Matteo Guidotti, and Rinaldo Psaro, Photon Factory Activity Report 2006, 24B, 16 (2007).
   (e) "Development of Structural Analysis Technique for Nano-particles" Yasuo Izumi, Polyfile, 45(528), 46 – 49 (2008).
8. None

1. Development of Environmental-benign Catalysts based on Nano/Meso Reaction Space
2. Department of Chemistry, Graduate School of Science, Associate Professor, Dr. Yasuo Izumi
3. Henan University of Science and Technology, People's Republic of China, Associate Professor Shuge Peng
4. 2007 to Present
5. Hetero-atom-doped titanium oxides have been applied to photo-catalysis excited under visible light, however, very few examples are known consisted of ordered pore structure. In this project, visible light-excited photo-catalysts consisted of nanotubes or ordered mesopores are synthesized and the catalytic performance will be optimized. Further, we found new catalyst to convert carbon dioxide to methanol utilizing sunlight.
   (b) "Site Structure and Photocatalytic Role of Sulfur or Nitrogen-Doped Titanium Oxide with Uniform Mesopores under
Visible Light." (Erratum).


5. Nuclear level densities are important physical quantities in low energy nuclear reactions, and therefore are key inputs to nucleosynthesis in the space, as well as to calculations of reaction rates in nuclear reactors. However, it has been difficult to reproduce or to predict nuclear level densities to a good accuracy.

We have proposed a method to compute nuclear level densities via the shell model Monte Carlo methods. Applying it to the nuclei in the iron-nickel region, we have shown that the experimental data on the nuclear level densities are reproduced to an excellent accuracy, from microscopic standpoints. We now proceed to the study aiming at better and wider understanding of the physics regarding the nuclear level densities.

6. Grant-in-Aid (for Encouragement of Young Scientists, Category A; for Scientific Research, Category B)


8. None

1. Theoretical study on nuclear level densities by the shell model Monte Carlo methods

2. Graduate School of Science / Professor / Hitoshi Nakada


4. 1994-

5. Nuclear level densities are important physical quantities in low energy nuclear reactions, and therefore are key inputs to nucleosynthesis in the space, as well as to calculations of reaction rates in nuclear reactors. However, it has been difficult to reproduce or to predict nuclear level densities to a good accuracy.

We have proposed a method to compute nuclear level densities via the shell model Monte Carlo methods. Applying it to the nuclei in the iron-nickel region, we have shown that the experimental data on the nuclear level densities are reproduced to an excellent accuracy, from microscopic standpoints. We now proceed to the study aiming at better and wider understanding of the physics regarding the nuclear level densities.

6. Grant-in-Aid (for Encouragement of Young Scientists, Category A; for Scientific Research, Category B)


8. None

1. Theoretical and Numerical Studies of Quasi-Periodic Oscillations Observed in Accreting Objects

2. Graduate School of Science/Professor/Ryoji Matsumoto

3. Sweden/Goteborg University/Professor/Marek Abramowicz
4. 2006–
5. The aim of this collaboration is to explain the origin of quasi-periodic oscillations (QPOs) observed in accreting objects such as black hole candidates by means of theoretical modeling and magnetohydrodynamic simulations.
7. None
8. Matsumoto chaired the international workshop “Quasi-periodic Oscillations and Time Variabilities of Accretion Flows” held at Yukawa Institute for Theoretical Physics in Nov. 20–22, 2007. Prof. Marek Abramowicz was invited to Japan from Nov. 18 to Nov. 23.

1. Theoretical and Numerical Studies of Black Hole Accretion Flows
2. Graduate School of Science/Professor/Ryoji Matsumoto
3. China/Shanghai Astronomical Observatory/Professor/Feng Yuan
4. 2008–
5. The aim of this collaboration is to study the structure, time variability and radiation spectra of black hole accretion flows by means of theoretical modeling and magnetohydrodynamic simulations
6. JSPS, Grants in Aid for Scientific Research (2008–)
7. None
8. Matsumoto visited Shanghai Astronomical Observatory in Nov. 2008. Prof. Feng Yuan visited Chiba University in Feb. 2009 and carried out collaborative study on black hole accretion flows

1. Theoretical and Numerical Studies of Black hole Accretion Flows and State Transitions
2. Graduate School of Science/Professor/Ryoji Matsumoto
3. USA/Harvard University/Professor/Ramesh Narayan
4. 2009–
5. The aim of this collaboration is to reveal the structure of black hole accretion disks during hard-to-soft state transitions by means of theoretical modeling and magnetohydrodynamic simulations.
6. Grants in Aid for Scientific Research (2008–)
7. None
8. A JSPS postdoctoral fellow at Chiba University visited Harvard Smithsonian Center for Astrophysics and collaborated with prof. Ramesh Narayan for theoretical models of magnetized black hole accretion flows.

**Graduate School of Medicine**

1. *In vivo* assessment of human axonal ion channel function
2. Department of Neurology, Graduate School of Medicine • Professor, Satoshi Kuwabara
3. Sobell Department of Neurophysiology, Institute of Neurology, London, UK, Prof. Hugh Bostock
   Department of health Science, Neurophysiology, University of Sydney, Prof. David Burke
4. From 2000 to date
5. Development of methods to assess human peripheral nerve ion channel function in vivo

2) Kanai K, Kuwabara S, Misawa S, Tamura N, Ogawara K, Nakata M, Sawai S, Hattori, T, Bostock H. Altered axonal excitability properties in amyotrophic lateral sclerosis: impaired potassium channel function related to disease...


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1. Search for candidate compounds with anticancer activity from the plants growing in China and comparative evaluation of characteristics of environmental water between Japan and China

2. Department of Environmental Biochemistry, Graduate School of Medicine · Associate Professor, Kazuko Kita

3. Faculty of Forensic Medicine, the School of Basic Medical Science, Hebei Medical University, China, Associate Professor, Mei Dong

4. From April, 2005

5. Many chemical compounds have been purified from the plants growing in China in Dr. Dong's laboratory. Among those compounds, we are searching for chemicals with growth-inhibitory effect on cancer cells. We also investigate the mechanisms of the growth-inhibitory effect of some candidate compounds.


7.


2) Anticancer agents containing cyatane-derivative form, JPN patent application number 2006-108075

8. None

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1. Urinary creatinine project

2. Graduate School of Medicine / Associate professor / Yasushi Suwazono
3. Sweden / Karolinska Institutet, The Institute of Environmental Medicine, Unit of Metals and Health / Agneta Åkesson

4. From 2003 to date

5. We assessed how much urinary creatinine and urinary cadmium was affected by potential factors, such as age, weight and meat intake and to assess to what extent creatinine adjustment of urinary cadmium introduce errors in the dose estimate, comparing urinary cadmium adjusted to specific gravity.

6. Yoshida Scholarship Foundation


8. None.

1. Benchmark dose estimation for Cadmium-induced health effects in humans

2. Graduate School of Medicine / Associate professor / Yasushi Suwazono

3. Sweden / Karolinska Institutet, The Institute of Environmental Medicine / Agneta Åkesson

4. From 2004 to date

5. We estimated the benchmark dose of urinary cadmium for cadmium-induced tubular, glomerular and other health effects in an environmentally exposed population, using the hybrid approach.


8. None.

1. Analysis of the expression and function of spermatogenic specific glycolytic enzyme.

2. Graduate School of Medicine / Professor / Chisato Mori

3. USA/U.S. National Institute of Environmental Health Science, National Institutes of Health (NIH)

4. 2000-

5. Using DNA microarray technique, we are carrying out toxicogenomic analysis of endocrine disruptors on male reproductive organs. The purpose of this project is to accumulate the toxicological data internationally, and to develop a new risk evaluation method for chemicals.

6. Grant-in-aid for Department of Bioenvironmental Medicine of Chiba University

7. Nakamura N, Miranda-Vizuete A, Miki K, Mori C and Eddy EM. Cleavage of disulfide bonds in mouse spermatogenic
cell-specific type 1 hexokinase isozyme is associated with increased hexokinase activity and initiation of sperm motility.

Biology of Reproduction. 79:537-545, 2008


Analysis of the role of NAAG in the nociceptive transmission

Department of Anesthesiology, Graduate School of Medicine / Associate Professor / Tatsuo Yamamoto

USA / Department of Biology, Georgetown University / Professor Joseph H Neale

We began this project at 2001 and this project is still going.

We have characterized the N-acetylaspartylglutamate (NAAG) and found the peptide inhibits transmitter release by activation of mGluR3 receptors at presynaptic endings. To learn more about the synaptic activity of NAAG, we have synthesized a series of novel compounds that are potent inhibitors of brain NAAG peptidase activity as well as the activity of cloned human and rat glutamate carboxypeptidase II (GCPII), an enzyme that was believed to be solely responsible for inactivation of NAAG following synaptic release. We tested two of these compounds in models of chronic and neuropathic pain and found them to be anti-nociceptive. We have produced and characterized a strain of CGPII knock-out mice and discovered a residual NAAG peptidase activity in the brains and spinal cords. They appear quite similar to their wild type littermates in terms of growth, reproduction, basic neurological features, acute pain threshold, rotor rod and open field behavior, and NAAG, glutamate, and mGluR3 mRNA levels. These data support the hypothesis that one or more uncharacterized enzymes may be involved in the inactivation of this peptide. We have found several differences between the NAAG peptidase activity found in the knock-out versus wild type brain membranes, including differential sensitivity to the peptidase inhibitor 2-PMPA. The cloning of an additional gene(s) coding for nervous system NAAG peptidase and the development of selective inhibitors of NAAG peptidase activity have the potential to contribute to understanding the role of NAAG in excitotoxicity and chronic pain perception.

This study was supported in part by a Grant-in-Aid for Scientific Research (B) 12470315, Japan.


Development of novel opioid analgesics

Graduate School of Medicine / Assistant Professor / Megumi Shimoyama

U.S.A. / Cornell University Medical College / Hazel H. Szeto

From 1998 to date

Opioid analgesics currently available such as morphine, although effective, have many problems including side effects, development of tolerance and dependence, and ineffectiveness to certain pain conditions. In order to develop novel opioid
analgesics with more ideal characteristics, we are examining newly synthesized opioids such as dermorphin analogs by characterizing the analgesic and side effect profiles of the compounds. Furthermore, by investigating the mechanisms by which they differ from morphine, we aim to define targets for future development of opioid analgesics.

6. Grant-in-Aid for Cancer Research, Ministry of Health and Welfare, Japan

7. a) Shimoyama, M., Shimoyama, N., Zhao, G.-M., Schiller, P.W., Szeto, H.H., Antinociceptive and respiratory effects of intrathecal H-Tyr-D-Arg-Phe-Lys-NH\textsubscript{2} (DALDA) and [D\textsubscript{MT1}]DALDA, J Pharmocol Exp Ther 297:364-371,2001

8. None.

1. Regulation of growth arrest and differentiation of cells by the transcription factor C/EBP\textalpha

2. Graduate School of Medicine / Professor / Masaki Takiguchi

3. USA / Baylor College of Medicine / Gretchen J. Darlington

4. From 1998 to date

5. C/EBP\textalpha is a transcription factor which couples growth arrest and differentiation of cells. We demonstrated that in the parotid gland of C/EBP\textalpha knockout mice expression of arginase, a differentiation marker of the gland, was decreased, and that expression of proliferating cell nuclear antigen (PCNA), a marker for cell growth, was increased.

6. The Hamaguchi Foundation for the Advancement of Biochemistry, and the Yamada Science Foundation


8. None.

1. Effects of the focal adhesion kinase (FAK) activities on the formation of fibronectin matrix

2. Graduate School of Medicine / Assistant Professor / Yuji Shino

3. USA / Department of Stomatology, University of California San Francisco / Dusko Ilic

4. 1998-

5. Focal adhesions are sites where cells interact with extracellular matrix (ECM) through integrin receptors. The glycoprotein fibronectin (FN) is a major component of ECM. FAK is both a structural and an enzymatic component of the focal adhesions. Integrins binding to ECM results in activation of FAK. Once activated, FAK, in turn, can stimulate multiple intracellular signaling pathways. Integrin binding to ECM is not only required for transduction of signals from matrix to cells but also initiates responses within the cell that make it possible for the cell to organize a fibrillar FN matrix. This is the first report to approach the inside-out signaling from FAK to FN through integrins: using FAK-null cells to determine how the absence of FAK affects the FN matrix.

6. None


8. None
1. Molecular interaction between hyaluronan and hyaladherins in inflammation and cancer

2. Graduate School of Medicine / Professor and Director / Kenichi Harigaya MD & PhD

3. Austria / Boehringer Ingelheim Austria, R&D Vinna / Dr. Frank Hilberg Associate Director

4. 2000~

5. Hyaladherin CD44 is a transmembrane protein and plays a role of a linker between extracellular matrix proteins and actin cytoskeleton. It has been accumulated a lot of clinical reports about the role of CD44 in the modulation of acute and chronic inflammation and cancer metastasis. However, the molecular analysis of CD44 remains in enigma. This study aims to elucidate the molecular mechanism of CD44 function by using CD44-deficient mice and to develop the novel strategy of molecular therapy in acute and chronic inflammation and cancer metastasis.


CD44 Suppresses TLR-Mediated Inflammation. The Journal of Immunology. 180, 4235-4245, 2008

8. None

1. Effect of Hyaluronan-CD44 interaction on human melanoma cells

2. Graduate School of Medicine / Professor and Director / Kenichi Harigaya MD & PhD

3. USA / Department of Medical Oncology, Thomas Jefferson University / Takami Sato MD & PhD

4. 2010~

5. This study deals with the effect of hyaluronan-CD44 interaction on tumor progression of human melanoma cells. Sato T et al. have recently reported that IL-6 defines the degree of malignancy in the progression of melanoma. Now, they want to survey the upstream of IL-6-induced production of IL-10 in melanoma cells. To examine whether or not hyaluronan might be one of upstream regulators, they asked to explore the possibility of sharing our result concerning with CD44- hyaluronan interaction on melanoma study. Thus, this study will determine the upstream regulator of melanoma cell activation and would develop the novel molecular therapy against melanoma cell progression.

6. Grants-in-Aid for Scientific Research (B)

7. None


(2) Harigaya K, “Fragmented hyaluronan is an autocrine chemokinetic motility factor supported by HAS2-CD44/hyaluronidase-2 system on the plasma membrane.” Invited speaker, 15th World Congress on Advances on Oncology, (2010.10.08, Loutraki, Greece)


2. Graduate School of Medicine / Associate Professor / Hiroyoshi Suzuki

3. U.S.A. / Johns Hopkins University / Prof. William B. Isaacs

4. 1999~

5. Recent several reports have revealed the presence of Hereditary Prostate Cancer (HPC) genes by linkage analyses. This investigator joined HPC project at Johns Hopkins until 1998 and have collaborations with their group now. To select
high-risk group for prostate cancer, this research project is collecting HPC families in Japan and analyzing their genomic
information.


7. 1) Wilkens, E.P., Freije, D., Xu, J., Nusskern, D.R., Suzuki, H., et al.: No evidence for a role of BRCA1 or BRCA2 mutations in


107, 224-228, 2003


1. Establishment of dendritic cell targeting gene vaccine against toxoplasmosis
2. Graduate School of Medicine / Associate Professor / Fumie Aosai
3. Cuba / Department of Reference National Laboratory Toxoplasma Institute of Tropical Medicine “Pedro Kouri” / Martha
Solangel Rodrigues Pena M.D., PhD
4. From 2004 to date
5. Dendritic cell-mediated Gene vaccine using TgHSP70 has been established.
6. The Matsumae International Foundation
Toxoplasma gondii-derived heat shock protein 70 stimulates maturation of murine bone marrow-derived dendritic cells via
8. None.

1. Pathophysiological role of p38 mitogen-activated protein kinase
2. Graduate School of Medicine / Associate Professor / Yoshitoshi Kasuya
3. U.S.A / University of California San Diego, Faculty of Medicine, Department of Pharmacology / Prof. Michael Karin
4. From 2002 to date
5. Mitogen-activated protein kinases (MAPK) family which transduces a variety of extracellular signals to the transcriptional
machinery via a cascade of protein phosphorylation plays a crucial role in a variety of cell responses, i.e. growth,
differentiation, transformation, survival and apoptosis. There are three genetically distinct MAPKs in mammals, consisting
of extracellular signal-regulated kinase (Erk), c-Jun N-terminal kinase (JNK) and p38 MAPK. Among them, p38 MAPK
activated with extracellular stress like cytokines, UV and osmolarity shock is thought to be a critical molecule in inflammation
and vascular formation. To elucidate the pathophysiological role of p38 MAPK, we use p38 MAPK knockout mice.
6. The Cosmetology Research Foundation / Grant-in-aid for scientific research from the Ministry of Education, Science, Sports,
and Culture of Japan
Chem. 2002, 277, 37896-37903
2) Sakurai K, Matsuo Y, Sudo T, Takuwa Y, Kimura S and Kasuya Y. Role of p38 mitogen-activated protein kinase in
thrombosis. J. Receptor Signal Transduction 2004 24, 283-296

8. None

1. Molecular Analysis of atherosclerosis
2. Graduate School of Medicine / Professor / Yasushi Saito
   Graduate School of Medicine / Professor / Hideaki Bujo
3. Austria / University of Vienna / Dr. W. J. Schneider
4. From 2000 to date
5. In order to clarify the mechanism of atherosclerosis using the cell and molecular biology on the functional analysis of lipoprotein receptors
6. None
8. None

1. Molecular Analysis of atherosclerosis
2. Graduate School of Medicine / Professor / Yasushi Saito
   Graduate School of Medicine / Professor / Hideaki Bujo
3. USA / University of Emory / Dr. LahJJ
4. From 2004 to date
5. In order to clarify relationship between Alzheimer's disease and the LDL receptor family
6. None
8. None

1. Smad3 signaling in formation of atherosclerosis
2. Graduate School of Medicine / Professor / Koutaro Yokote
3. USA / National Cancer Institute / Anita B. Roberts
4. 2004~
5. Investigate the role of TGF-β/Smad signal transduction in formation of atherosclerotic vascular disease by use of mice genetically targeted for Smad3 gene.
8. 1) 2004 Japan Heart Foundation, Research award on Cardiovascular disease
2) Keystone symposia, “The role of TGF-β in disease pathogenesis: Novel therapeutic strategies (March 28-April 2, 2005)”. Our study introduced at the session by Anita Roberts, an organizer of the meeting.


4) Young Investigator Award. 2005 Japanese Society of Diabetes complication.

| 1. | Cell lineage analysis of dorsal neurons in the spinal cord |
| 2. | Graduate School of Medicine / Professor / Tetsuichiro Saito |
| 3. | United States of America / University of Texas / Jane E. Johnson |
| 4. | 2004~ |
| 5. | We have shown that a proneural bHLH transcription factor, Math1, directly activates the Mbh1 gene, thereby controlling commissural neuron identity in the developing spinal cord. |
| 6. | Grants-in-Aids for Scientific Research from Japan Society for the Promotion of Science, and from Ministry of Education, Culture, Sports, Science and Technology |
| 8. | None |

| 1. | Role of CD69 in immune responses |
| 2. | Graduate School of Medicine/ Professor/Toshinori Nakayama |
| 3. | United States of America/ University of Washington/Steven Ziegler |
| 4. | from April 2001 to date |
| 5. | We are investigating the role of CD69 in Asthma induction using CD69-deficient mice. We have found that CD69 molecules are essential for the induction of asthma |
| 6. | Ministry of Education, Science, Sports, Culture and Technology of Japan(Grant in aid for Scientific Research B) |
| 8. | None |

| 1. | Crucial role of CD8αα for T cell memory survive. |
| 2. | Graduate School of Medicine/Professor/Toshinori Nakayama /G-COE Fellow/Ryo Shinnakasu |
| 3. | USA / La Jolla Institute for Allergy & Immunology / Dr. Hilde Cheroutre |
| 4. | From 2008 to date |
| 5. | A hallmark of immune T cell memory is that repeated infections with a pathogen are met with more rapid and enhanced protective immunity against that organism. On the other hand, Allergy responses are caused by abnormally immunoresponse for antigens which are non-pathogen originally. Effector memory T cells are located at various tissues and have a heightened and immediate effector function. By contrast, central memory T cells reside within lymphoid tissues and require proliferation and differentiation to become effector cells. It becomes clear from our past study gradually that CD8 αα serve as key components for maintain the effector memory T cells and now I am starting the analysis from a molecule level about the mechanism |
| 6. | Ministry of Education, Science, Sports, Culture and Technology of Japan(Grant in aid for Scientific Research B) |
| 7. | None |
| 8. | None |
1. In vivo microenvironment in immunological memory

2. Graduate School of Medicine / Assistant Professor Koji Tokoyoda

3. Germany / German Rheumatism Research Centre / Andreas Radbruch

4. From 2008 to date

5. Understanding immunological memory leads to developing a treatment of autoimmune disease and allergy by suppressing the harmful “memory” and of cancer and infectious disease by enhancing efficient “memory”. Especially, focusing on memory CD4 T cells which work as a key component in immunological memory, we have so far clarified the maintenance mechanism of memory CD4 T cells as a pioneer in the world. We are now analyzing the molecular mechanisms for maintenance of memory CD4 T cells and for the secondary immune response in vivo, which is the most important reaction of immunological memory. We believe that clarifying the cellular and molecular mechanisms of memory CD4 T cells in vivo provides the understanding of immunological memory.

6. Ministry of Education, Science, Sports, Culture and Technology of Japan (Grant-in-Aid for Young Scientists (Start up))


8. The award of the Post-doctorate Prize 2010 of the Robert-Koch Foundation (November 2010)

The 5th JSI Young Investigator Award (December 2010)

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1. Regulation of Th2 cell function by TSLP

2. Graduate School of Medicine / Professor Toshinori Nakayama

3. United States of America / University of Washington / Steven Ziegler

4. From April 2010 to date

5. We investigate a role for TSLP in the modulation of Th2 cell function by TSLP, and found that TSLP enhance Th2 cell function directly.


7. Masayuki Kitajima Hai-Chon Lee, Toshinori Nakayama and Steven F. Ziegler. TSLP enhances the function of helper type2 cells, EUI in press

8. None

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1. Hepatitis A virus (HAV) replication

2. Department of Medicine, Graduate School of Medicine / Associate Prof. Tatsuo Kanda

3. Institute of Medical Molecular Biology, University of Lübeck, Lübeck, Germany / Associate Prof. Verena Gauss-Müller

4. From 2003 to date


1. HAV viral genome sequences and severities of acute hepatitis A
2. Department of Medicine, Graduate School of Medicine, Associate Prof. Tatsuo Kanda
3. Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam-si, Republic of Korea, Prof. Sook-Hyang Jeong
4. From 2009 to date


1. Androgen receptor in carcinogenesis of liver cancer and pancreatic cancer
2. Department of Medicine, Graduate School of Medicine, Associate Prof. Tatsuo Kanda
3. Department of Pathology and Cancer center, Saint Louis University, St. Louis, MO, USA, Prof. Ratna B. Ray
   George Whipple Laboratory for Cancer Research, Departments of Pathology and Urology and The Cancer Center, University of Rochester Medical Center, Rochester, NY, USA, Prof. Chawnshang Chang
4. From 2008 to date


1. Methylation analysis of suppressor genes in lung cancer
2. Graduate school of medicine / Professor / Takehiko Fujisawa
3. USA / UT Southwestern medical center at Dallas / Adi F Gazdar
4. From 2000
5. Tumor suppressor genes are down regulated by mutation, deletion / insertion, or methylation of promoter region. This study is aimed that the analysis of DNA methylation patterns of suppressor genes in lung cancer could become a powerful tool for carcinogenesis, and accurate and early cancer diagnosis.
6. Supported by an Early Detection Research Network Grant (5U01CA8497102)
   Grant-in-Aid for Scientific Research from the Ministry of Education of Japan (C)
   Emphasis Research Project by expenditure at the discretion of the president of The Chiba University in 2005.
   Grant from the Smoking Research Foundation
Profile of Human Malignant Mesotheliomas and Its Relationship to SV40 infection. Oncogene. 2005 Feb 10; 24(7):1302-8.


8. None

1. The analysis of the mechanism of the differentiation of cardiomyocyte
2. Issei Komuro, Department of Cardiovascular Science and Medicine, Chiba University Graduate School of Medicine
3. Prof. Eggon BJ, Groningen Biomolecular Sciences and Biotechnology Institute, Groningen University, Ntherland
4. 2005 –
5. The analysis of the mechanism and the detection of the essential factor of the differentiation of cardiomyocytes using cardiomyocytes differentiation model (mouse embryonic carcinoma P19CL6 cells).
6. Grant in aid from Ministry of Education, Science, Sports, Culture and Technology of Japan(Grant in aid for Scientific Research A, 2006), Naito foundation, Tokyo seikagakuenkyuuikai, Takeda foundation, Mitsubishi foundation

8. None

1. Physiological functions of endothelin
2. Graduation School of Medicine / Professor / Tomoyuki Kuwaki
3. USA / Dept of Molecular Genetics, Texas Univ / Masashi Yanagisawa
   Italy / Scuola Superiore S. Anna / Flavio Coceani
4. From 1995 to date
5. To reveal roles of endothelin-1, -2, -3, endothelin receptors A, B, and endothelin converting enzyme-1, -2 in the cardiorespiratory regulation, development of the cardiorespiratory system, and pain processing using genetically engineered mice.


   Coceani F. et al., J. Cardiovasc. Res. 36: S75-7 ’00
   Nakamura A. et al., Resp. Physiol. 124: 1-9 ’00
   Kuwaki T. et al., Clin. Sci. 103: 488-52 ’02
   Hasue F. et al., Neurosci. 130: 349-58 ’05

8. None

1. Physiological functions of orexin
2. Graduation School of Medicine / Professor / Tomoyuki Kuwaki
3. USA / Dept of Molecular Genetics, Texas Univ / Masashi Yanagisawa
4. From 2000 to date
5. To reveal roles of orexin in the central neural regulation of the cardiorespiratory system using genetically engineered mice.
   Watanabe S, et al., Neuroreport 16: 5-8 ’05
   Kuwaki T. et al., Autonom. Nerv. Syst. 42: 113-9 ’05
   Nakamura A. et al., J. Appl. Physiol. 102: 241-8 ’07
   Deng BS. et al., J. Appl. Physiol. 103: 1772-9 ’07
   Terada J. et al., J Appl. Physiol. 104: 499-507 ’08
8. Distinguished Poster Award (International Symposium on the Study of Brain Functions, 2002)

1. Gating mechanism of aquaporin water channels.
2. Graduate School of Medicine / Assistant Professor / Takehiko Ogura
3. USA / Department of Molecular Pharmacology and Biological Chemistry, Northwestern University Medical School / Professor Kunihiko Goto
4. From 2007 to date
5. To reveal details of the filter open-close mechanism of water channels, we are performing molecular dynamics simulation of bovine AQP0 and human AQP1.
6. None
7. None
8. None

1. Role of chemokines in the T cell response to ocular toxoplasmosis
2. Department of Infection and Host Defense, Graduate School of Medicine/ Assistant Professor/ Kazumi Norose
3. Department of Pathobiology, University of Pennsylvania, Professor Christopher A. Hunter
4. 2008 ~
5. Analysis of the roles of chemokines in the T cell response to ocular toxoplasmosis
Therapeutic application of c-myc gene transcriptional repressor via its apoptotic function for cancer and malignant mesothelioma treatment

Department of Molecular Diagnosis & Division of Clinical Genetics and Proteomics
Graduate School of Medicine, Chiba University/Associate Professor/Kazuyuki Matsushita

USA/National Institute of Health/David Levens

Since 2000.

Elevated expression of c-myc has been detected in a broad range of human cancers, indicating a key role for this oncogene in tumor development. Recently, an interaction between FIR (FBP Interacting Repressor) and TFIIH/p89/XPB helicase was found to repress c-myc transcription and so might be important for suppressing tumor formation. In this study, we showed that enforced expression of FIR induced apoptosis. Deletion of FIR's amino terminal repression domain rescued the cells from apoptosis, as did co-expression of c-Myc with FIR: thus repression of myc mediates FIR-driven apoptosis. Surprisingly, a splicing variant of FIR unable to repress c-myc nor to drive apoptosis was frequently discovered in human primary colorectal cancers, but not in the adjacent normal tissues. Coexpression of this splicing variant with repressor-competent FIR, not only abrogated c-Myc suppression but inhibited apoptosis. These results strongly suggest the expression of this splicing variant promotes tumor development by disabling FIR-repression to sustain high levels of c-Myc and oppose apoptosis in colorectal cancer.

1. Supported by Grants from Ministry of Education and Science of Japan
2. Supported by Grants from JST (Japan Science and Technology Agency)

References

(10) Hattori N, Oda S, Sadahiro T, Nakamura M, Abe R, Shinozaki K, Nomura F, Tomonaga T, Matsushita K, Kodera Y, Sogawa...


### Center for Forensic Mental Health

1. Molecular study of psychiatric diseases
2. Center for Forensic Mental Health/Professor/Kenji Hashimoto and Director/Professor/ Masaomi Iyo
3. Department of Psychiatry, The Johns Hopkins University School of Medicine, USA · Professor Akira Sawa
4. From April, 2004
5. We measured levels of amino acids associated with NMDA receptor function using postmortem human brain sample. Also, we studied the role of PICK1 gene in the pathophysiology of schizophrenia and methamphetamine abuse.
6. Ministry of Education, Science, Sports, Culture and Technology of Japan
7. Publication

8. None

1. Molecular study of psychiatric diseases
2. Center for Forensic Mental Health/Professor/Kenji Hashimoto and Director/Professor/ Masaomi Iyo
3. Department of Physiology and Pharmacology, Karolinska Institute, Sweden · Professor, Goran Engberg
4. From April, 2004
5. We measured levels of amino acids associated with NMDA receptor function using human CSF sample.
6. Ministry of Education, Science, Sports, Culture and Technology of Japan
7. Publication

8. None

1. Molecular mechanism of neuropeptide S in thbiological system
2. Center for Forensic Mental Health/Professor/Kenji Hashimoto, Director/Professor/ Masaomi Iyo, and Assistant Professor/ Naoe Okamura
3. Department of Pharmacology, University of California at Irvine, USA · Professor, Rainer Reinscheid
4. From April, 2004
5. We studied the association of NPS gene and psychiatric disorders.
6. Ministry of Education, Science, Sports, Culture and Technology of Japan
7. Publication
8. None

1. Biological role of alpha-7 nicotinic receptors in the pathophysiology of schizophrenia
2. Center for Forensic Mental Health/Professor/Kenji Hashimoto, Director/Professor/ Masaomi Iyo,
3. Department of Psychiatry, University of Colorado Health Science Center, USA · Professor, Robert Freedman and Professor Karen Stevens
4. From April, 2004
5. We studied the effects of tropisetron on auditory sensory gating P50 deficits in schizophrenic patients. Furthermore, we found that tropisetron improved auditory sensory gating N20/P40 deficits in DBA/2 mice.
6. Ministry of Education, Science, Sports, Culture and Technology of Japan
7. Publication
8. None

1. Biological marker of bipolar disorders
2. Center for Forensic Mental Health/Professor/Kenji Hashimoto, Director/Professor/ Masaomi Iyo,
3. Department of Psychiatry, Gothenburg University, Sweden · Professor, Hans Agren and Prof. Keiko Funa
4. From March, 2009
5. We will study the development of biological markers in bipolar disorders.
6. None
7. Publication: none
8. None

1. Development of the novel SPECT radioligand
2. Center for Forensic Mental Health/Professor/Kenji Hashimoto, Director/Professor/ Masaomi Iyo,
3. Department of Nuclear Medicine, Pekin University, China · Professor, Rong Fu Wang
4. From December, 2008
5. We will develop the novel SPECT radioligand for nicotinic receptors.
6. None
7. Publication: none
8. None

1. Methamphetamine abuse and neuroinflammation: a PET study with [11C] (R)PK-11195
We investigate on 12 abstinent methamphetamine abusers and 12 age-, gender-, and education-matched control subjects who underwent positron emission tomography using a radiotracer [11C](R)-PK11195, in order to evaluate the possible extendibility of the neuroinflammation in the living brains of methamphetamine abusers.


Cutaneous electrogastrography (EGG) is used for the noninvasive measurement of gastric myoelectrical activity, which is mediated by the autonomic nervous system. We measure gastric myoelectrical activity before and after meal intake using a cutaneous EGG recorder and analyzed the gastric myoelectrical activity in patients with neurological disorders and healthy controls.

We held the first meeting for this study project in November 2010 at St Mary's Hospital, Imperial College London.
5. Pure autonomic failure (PAF) is an idiopathic, sporadic, neurodegenerative disorder characterized by autonomic failure without other neurological symptoms and signs. However, the clinical features of PAF have not been well defined, although there have been one report about the details of the symptoms associated with orthostatic hypotension in PAF (Mathias CJ et al., 1999). It seems to be important to reveal its clinical characteristics for differential diagnosis and prediction of the prognosis in autonomic disorders. We retrospectively investigated patients with PAF in order to reveal its clinical features.

6. None

7. None

8. We held the first meeting for this study project in November 2010 at St Mary's Hospital, Imperial College London.


(3) D Watanabe, R Kerakawati, T Morita, T Nkamura, K Ueno, T Kumamoto, W Nakanishi, T Ishikawa, Isolation of β-sitosterol and digalactopyranosyl-diacylglyceride from citrus hystrix, a thai traditional herb, as pancreatic lipase inhibitors. Heterocycles, 2009, 78, 1497-1505


8. None

1. Examination of the roles of prostanoids and their receptors on cancer cells

2. Graduate School of Pharmaceutical Sciences / associate professor / Hiromichi Fujino

3. United States of America / The University of Arizona / Professor, John W. Regan

4. 2005–

5. Elucidating the mechanisms of prostanoids and their receptors signaling(s) on cellular malignancy and/or cellular development in cancer cells will be able to help estimating the molecular target(s) for novel anti-cancer therapeutics.

6. Partially from the Grants-in-Aids for Scientific Research (C).

7. (1) Prostaglandin E regulates cellular migration via induction of vascular endothelial growth factor receptor-1 in HCA-7 human colon cancer cells.

   Fujino H, Toyomura K, Chen XB, Regan JW, Murayama T.


(2) Assessment of constitutive activity in E-type prostanoid receptors.

   Fujino H, Murayama T, Regan JW.


(3) Human EP3I prostanoid receptor induces VEGF and VEGF receptor-1 mRNA expression.

   Taniguchi T, Fujino H, Israel DD, Regan JW, Murayama T.


(4) FP prostanoid receptor-mediated induction of the expression of early growth response factor-1 by activation of a Ras/Raf/mitogen-activated protein kinase signaling cascade.

   Xu W, Chou CL, Sun H, Fujino H, Chen QM, Regan JW.


(5) Indomethacin decreases EP2 prostanoid receptor expression in colon cancer cells.

   Fujino H, Chen XB, Regan JW, Murayama T.
2. Graduate School of Pharmaceutical Sciences, Professor, Yasushi Arano
3. International Atomic Energy Agency (IAEA)
4. 2007
5. The development of a new 99mTc-radiopharmaceutical useful for identification of sentinel lymph node or for cancer diagnosis.
6. IAEA (only for traveling and accommodation fee for the CRP meeting from developed countries)
7. to be published in the IAEA Monograph

8.

1. Study on Thai Medicinal plants
2. Graduate School of Pharmaceutical Sciences / Associate Professor / Mami Yamazaki
3. Thailand / Faculty of Pharmaceutical Sciences, Chulalongkorn University / Associate Professor Suchada Sukrong
   Thailand / Faculty of Pharmaceutical Sciences, Chulalongkorn University / Associate Professor Nijsiri Ruangrungsi
4. 2007~
5. In this project, we are screening medicinal plants producing compounds exhibiting specific bioactivity.
6. JSPS Core University Program
7. None
8. None

1. Regulation of sulfur assimilation in higher plants
2. Graduate School of Pharmaceutical Sciences / Professor / Kazuki Saito
3. Germany / Max Planck Institute / Rainer Hoefgen
4. 2009–
5. In this project, we are investigating the cellular and molecular regulation of sulfur transport, assimilation, and metabolism in plants.
8. None

1. Regulation of sulfur assimilation in higher plants
2. Graduate School of Pharmaceutical Sciences / Professor / Kazuki Saito
3. United Kingdom / John Innes Centre / Stanislav Kopriva
4. 2009–
5. In this project, we are investigating the cellular and molecular regulation of sulfur transport, assimilation, and metabolism in plants.
8. None

1. Identification of Biologically Active Principles from Thai Medicinal Plants
2. Graduate School of Pharmaceutical Sciences / Professor / Tsutomu Ishikawa
3. Thailand / Faculty of Pharmaceutical Sciences, Chulalongkorn University / Associate Professor Chaiyo Chaichantipyuth
   Thailand / Faculty of Pharmaceutical Sciences, Chulalongkorn University / Associate Professor Nijsiri Ruangrungsi
4. From 2004
5. Identification of Biologically active principles from Thai medicinal plants for the discovery of important lead compounds, mainly focusing on anti-tumor activity, inhibition activities to lipase and nitric oxide.
6. Royal Golden Jubilee (RGJ) Ph D Program (Thai) etc


8. Under RGJ Program Ms Mayuree Kanlayavattanakul and Mr Chaiak Chansriniyom were successfully given a Ph D degree from Chulalongkorn University, Thai, in 2005 and 2010, respectively.

1. Studies on Chemical Constituents of Formosan Medicinal Plants
2. Graduate School of Pharmaceutical Sciences / Professor / Tsutomu Ishikawa
3. Taiwan/Kaoshiung Medical University/Prof. Ih Sheng Chen
4. 2007~
5. Identification of biologically active principles from Formosan medicinal plants for the discovery of important lead compounds, mainly focusing on anti-tumor activity and anti-tubercular activities
6. Collaboration Research between Taiwan and Japan (2010) etc
8. None

1. Chemical Approaches to Guanidine Compound
2. Graduate School of Pharmaceutical Sciences / Professor / Tsutomu Ishikawa
3. Croatia / Ruder Boskovic Institute / Dr Davor Margetic
4. 2006~
5. Collaboration researches have been developed to uncover potential functionality of strongly basic guanidine compounds based on chemistry and calculation.
6. Own funds


8. Dr Margetic comes Chiba almost every year for discussion.

1. Chemical studies on indole alkaloids from Rubiaceous plants growing in Yunnan Province, China.
2. Graduate School of Pharmaceutical Sciences/Professor/Hiromitsu Takayama
3. China/Kuming Medical College/Professor/Rongping Zhang
4. 2006~
5. Isolation, structure elucidation and biological evaluation of indole alkaloids from *Kopsia* plant (Rubiaceae) growing in Yunnan Province, China.

6. Grant-in-Aid for Scientific Research from the Japan Society for the Promotion of Science, The Uehara Memorial Foundation.


8. None

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2. Graduate School of Pharmaceutical Sciences / Professor / Hiromitsu Takayama

3. Thailand / Chulalongkorn University / Associate Professor Dhavadee Ponglux

4. 2005-

5. 7-Hydroxymitragynine, an indole alkaloid in the Thai medicinal plant (*Mitragyna speciosa*), and its synthetic derivatives were proven to exhibit potent analgesic activity through the opioid receptors in in vitro and in vivo experiments using mice.

6. Grant-in-Aid from the Ministry of Education, Science, Sport, Culture and Technology, Japan, and Uehara Memorial Foundation


   (8) MGM-9 ([3β]-Methyl 2-(3-ethyl-7a,12a-(epoxyethanoxy)-9-fluoro-1,2,3,4,6,7,12b-octahydro-8-methoxyindolo[2,3-a]quinolizin-2-yl]-3-methoxyacrylate), a Derivative of the Indole Alkaloid Mitragynine: A Novel Dual-acting μ and δ-Opioid Agonist with Potent Antinociceptive...

1. Chemical studies on the alkaloidal constituents in the Pandanus plants (Pandanaceae) native to the tropical area.
2. Graduate School of Pharmaceutical Sciences/Professor/Hiromitsu Takayama
3. Philippines/Santo Tomas University/Associate Professor Maribel G. Nonato
4. 2000～
5. Isolation, structure elucidation, synthetic study, and pharmacological investigation of the alkaloidal constituents in the Pandanus plants (Pandanaceae) native to the tropical area.
6. None
8. None

1. Chemical studies on the indole alkaloids in Gelsemium plant (Loganiaceae).
2. Graduate School of Pharmaceutical Sciences/Associate Professor/Mariko Kitajima
3. Thailand/Chulalongkorn University/Assistant Professor/Sumphan Wongseripipatana
4. 2006～
5. Isolation and structure elucidation of new oxindole alkaloids in Gelsemium elegans growing in Thailand.
6. Grant-in-Aid for Scientific Research from the Japan Society for the Promotion of Science, The Uehara Memorial Foundation.
8. None
1. Mechanisms of substrate recognition by AAA+ proteases, ClpXP and Lon
2. Graduate School of Pharmaceutical Sciences/Professor/Tomoko Yamamoto
3. Canada, University of Toronto/Professor/Walid Houry
4. 2005–
5. Biochemical approaches and bioinformatics to reveal the mechanism of recognition of novel substrates proteins for AAA+ proteases, ClpXP and Lon.
6. Grants-in-Aids from the Ministry of Education, Science, Sport, Culture and Technology, Japan
8. 2008, The 91st Japanese Society for Microbiology General Meeting Kanto Branch

1. Molecular mechanisms of Salmonella Pathogenesis
2. Graduate School of Pharmaceutical Sciences/Professor/Tomoko Yamamoto
3. UK, Imperial college London/Professor/David Holden
4. 2008–
5. Molecular mechanisms of Salmonella-host interaction are studied.
6. Grants-in-Aids from the Ministry of Education, Science, Sport, Culture and Technology, Japan
8. 2011, Japanese Society for Microbiology Award

1. Search for bioactive natural products from plants of Thailand
2. Graduate School of Pharmaceutical Sciences / Professor / Masami Ishibashi
3. Thailand / Khon Kaen University / Professor Thaworn Kowithayakorn
4. 2007–
5. In this project, we are investigating isolation and structure elucidation of new bioactive natural products from plants of Thailand
8. None

1. Search for bioactive natural products from plants of Bangladesh
2. Graduate School of Pharmaceutical Sciences / Professor / Masami Ishibashi
3. Bangladesh / Khulna University / Professor Samir K. Sadhu
4. 2007 ~
5. In this project, we are investigating isolation and structure elucidation of new bioactive natural products from plants of Bangladesh
6. Grants-in-Aids for Scientific Research
7. (1) Firoj Ahmed, Samir K. Sadhu, and M. Ishibashi, "Search for bioactive natural products from medicinal plants of Bangladesh"
   _J. Nat. Med. 2010, 64_, 393-401
8. None

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School of Nursing

1. Cross-Cultural Research : Role Model Behaviors of Nursing Faculty in the United States and Japan—Toward Enriching Faculty Development—
2. Naomi Funashima, Chiba University, Graduate School of Nursing, Professor
3. Patricia A. Gorzka, South Florida University, School of Nursing, the United States
4. 2003 ~
5. For one’s professional development, each nursing faculty has to know the feature of their professional activities, and cross-cultural comparison promotes it.

So, the purpose of this research project is to explore the similarities and differences between role model behaviors of nursing faculty in the United States and Japan, toward enriching nursing faculty development by both countries’ collaboration.

The focus of this research project is role model behaviors of nursing faculty. It was defined as behaviors which reflect the attitude of nursing professionals to perform various functions, students observe their faculty’s teaching activities and their nursing practice, and sympathize and identify with them as their ideal status.

The progress of the research project is following procedure. Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, Japanese original version(RMBNF-J) was developed to measure the quality of the role model behaviors of nursing faculty by graduate school of nursing, Chiba University. At first, Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, English version(RMBNF-E) was developed by using the back-translation technique, and had well established validity, reliability and equality with RMBNF-J. The second, we clarified the current status of role model behaviors of nursing faculty in BSN programs in Japan. The third, we clarified the current status of role model behaviors of nursing faculty in BSN programs in United States. The fourth, we compared the quality of role model behaviors of nursing faculty between the United States and Japan, and clarified the similarities and differences.

Now, the nursing faculty in China and Thailand has participated in our research project and we will compare the role model behaviors of nursing faculty in four countries. Furthermore, the nursing faculty in Colombia and Panama will participate in
our research.

In addition, in 2011, we will make the results of our research public. We are writing a research paper “Self-Evaluation of Role Model Behaviors of Nursing Faculty in BSN Programs—A Comparison Between Japan and the United States” for publication at “Journal of Nursing Scholarship” published by Sigma Theta Tau International.

6. 21st Century COE Program


1. Cross-Cultural Research: A Comparison of Quality of Teaching-Learning Process in Japan and China; Focusing on Nursing Lectures

2. Naomi Funashima, Chiba University, Graduate School of Nursing, Professor

3. Zao Qui-li, Herbin Medical University, School of Nursing, China

4. 2007～

5. Japanese and Chinese nurses have deepened mutual understanding for many years. To deepen further cultural exchanges, each nursing faculty in Japan and China has to know each current status of educational activities and its features.

So, the purpose of this research project is to explore the similarities and differences in the quality of the teaching-learning process of nursing lectures in Japan and China, toward enriching nursing faculty development by both countries' collaboration.

The progress of the research project is following procedure. The Scale for Evaluating Nursing Lectures, Japanese original version (ENL-J) was developed to measure the quality of the teaching-learning process of nursing lectures by Graduate School of Nursing, Chiba University. At first, The Scale for Evaluating Nursing Lectures, Chinese version (ENL-C) was developed by using the back-translation technique and had well established validity and reliability. The second, we clarified the quality of teaching-learning process in Japan. The third, we clarified the quality of teaching-learning process in China. The fourth, we compared the quality of teaching-learning process in Japan and China, and clarified the similarities and differences.

Now, we are exploring the factors related to each quality of teaching-learning process in Japan and China. Furthermore, we
will conduct another qualitative research for the development of Scale for Evaluating Nursing Lectures, Chinese original version.

6. 21th Century COE Program


2. Naomi Funashima, Chiba University, Graduate School of Nursing, Professor
3. Zao Qui-li, Herbin Medical University, School of Nursing, China
4. 2007～
5. Japanese and Chinese nurses have deepened mutual understanding for many years. To deepen further cultural exchanges, each nursing faculty in Japan and China has to know each current status of educational activities and its features.

So, the purpose of this research project is to explore the similarities and differences between role model behaviors of nursing faculty in Japan and China, toward enriching nursing faculty development by both countries' collaboration.

The focus of this research project is role model behaviors of nursing faculty. It was defined as behaviors which reflect the attitude of nursing professionals to perform various functions, students observe their faculty's teaching activities and their nursing practice, and sympathize and identify with them as their ideal status.

Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, Japanese original version (RMBNF-J) was developed to measure the quality of the role model behaviors of nursing faculty by Graduate School of Nursing, Chiba University. Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, Chinese version (RMBNF-C) was developed by using the back-translation technique and had well established validity, reliability and equality with RMBNF-J. In 2010, we clarified the current status of role model behaviors of nursing faculty in BSN programs in China, compared the quality of role model behaviors of nursing faculty between China and Japan, and clarified the similarities and differences. In addition, we had a presentation about this research at the nursing congress in China, and contributed a research paper to a journal of nursing in China.

Now, the nursing faculty in the United States and Thailand has participated in our research project, so we will compare the role model behaviors of nursing faculty in four countries. Furthermore, the nursing faculty in Colombia and Panama will participate in our research.

6. 21th Century COE Program

2. Naomi Funashima, Chiba University, Graduate School of Nursing, Professor
3. Areewan K. Chiang Mai University, Thailand
4. 2007~
5. To deepen cultural exchange between Japan and Thailand, each nursing faculty in both countries has to know each current status of educational activities and its features.

So, the purpose of this research project is to explore the similarities and differences between role model behaviors of nursing faculty in Japan and Thailand, toward enriching nursing faculty development by both countries’ collaboration.

The focus of this research project is role model behaviors of nursing faculty. It was defined as behaviors which reflect the attitude of nursing professionals to perform various functions, students observe their faculty's teaching activities and their nursing practice, and sympathize and identify with them as their ideal status.

Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, Japanese original version (RMBNF-J) was developed to measure the quality of the role model behaviors of nursing faculty by Graduate School of Nursing, Chiba University. Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, Thai version (RMBNF-T) is being developed by using the back-translation technique, and had well established validity, reliability and equality with RMBNF-J. In 2010, the second, we clarified the current status of role model behaviors of nursing faculty in BSN programs in Thailand. Then, we finished writing a research paper, “Role Model Behaviors of Nursing Faculty in Thailand”, have promised publication at “Nursing and Health Sciences”.

From now on, we have the comparison of the quality of role model behaviors of nursing faculty between Thailand and Japan, and will clarify the similarities and differences.

The nursing faculty in the United States and China has participated in our research project, so we will compare the role model behaviors of nursing faculty in four countries. Furthermore, the nursing faculty of Colombia and Panama will participate in our research.


1. Development of Chinese Original Version“The Scale for Evaluating Nursing Lectures” and “Self-Evaluation Scale on Role Model Behaviors of Nursing Faculty”—Toward Enriching Faculty Development—
2. Naomi Funashima, Chiba University, Graduate School of Nursing, Professor
3. Zao Qui-li, Herbin Medical University, School of Nursing, China
4. 2009~
5. Japanese and Chinese nurses have deepen mutual understanding for many years. To deepen further cultural exchanges, each nursing faculty in Japan and China has to know each current status of educational activities and its features.

So, the purpose of this research project is to develop two scales for evaluating “The Scale for Evaluating Nursing Lectures” and “Self-Evaluation Scale on Role Model Behaviors of Nursing Faculty” Chinese original version.

The Scale for Evaluating Nursing Lectures was developed to measure the quality of the teaching-learning process of nursing lectures. Japanese original version(ENL-J) was developed by graduate school of nursing, Chiba University. Our project, at first, to reveal the evaluation point of view by students about the quality of the teaching-learning process of nursing lecture in 

- 50 -
China, will analyze inductively the data translated into Japanese by the researcher of Chinese and Japanese. Then, we will develop the scale on the result of qualitative research, well established validity and reliability.

In the meanwhile, Role model behaviors of nursing faculty was defined as behaviors which reflect the attitude of nursing professionals to perform various functions, students observe their faculty's teaching activities and their nursing practice, and sympathize and identify with them as their ideal status.

To develop the Self-Evaluation Scale on Role Model Behaviors for Nursing Faculty, Chinese original version has been developed to measure the quality of the role model behaviors of nursing faculty in China, our project, at first, has collected data from students in China. From now on, through analyses, we will clarify student’s perception of their faculty's role model behaviors in China, and develop the scale on the result of the qualitative research, well established validity and reliability.

Graduate School of Engineering

1. Study on antennas for body-centric wireless communications
2. Graduate School of Engineering / Professor / Koichi Ito
3. England / Queen Mary, University of London / Yang Hao
4. From 2006 to date
5. Body-centric wireless communications system is one of the techniques for the next generation communication. In this technique, human body is used as signal transmission line. Therefore, novel high efficiency and small size antennas are required. Accordingly, under the equal collaboration, both universities are studying and developing these kinds of high-performance antennas. Prof. Hao’s group at Queen Mary is developing the antennas by various numerical analyses and Prof. Ito’s group is improving the antennas and is evaluating their performances by experimental techniques.
6. None


8. Prof. Koichi Ito discussed with Prof. Yang Hao at Queen Mary, University of London (Nov. 2010).

1. Foetus and pregnant woman exposure to telecom new wireless usages and systems
2. Graduate School of Engineering / Professor / Koichi Ito
   Research Center for Frontier Medical Engineering / Associate Professor /Masaharu Takahashi ・ Kazuyuki Saito
3. France / France Telecom etc. / Leader: Dr. Joe Wiart (France Telecom Orange Labs -WHIST Lab)
4. From 2010 to 2013
5. New wireless systems have changed the usages: twenty years ago the mobile was used as a phone, today 3G phones are used as regular phones but also as modem, wireless storage, PDA, music players, cameras, internet browsers etc. because of that the systems can be used in different configurations, in front of a head, located at the belt, in a pocket, on the knees. This project focuses on the foetus exposure. New anatomically correct models (MRI or US based) of mother and foetus will be developed to assess the exposure. The project will also develop new innovative tools to deform phantoms and organs to create new posture and position of the foetus taking into account the anatomical deformation of the foetus and mother tissues encountered with new usage and new wireless technologies. Using these models and tools the project will be able to assess and analyze the foetus and mother exposure in term of SAR or temperature rise if any.
6. Japan-France Cooperative Research Projects: Japan Science and Technology Agency (JST)


8. The meeting of collaboration research was held at Paris in Dec. 2010, and Associate Profs. Takahashi and Saito attended.

| 1. | Symbiosis Building of PLUS50 |
| 2. | Graduate School of Engineering / Professor / Hideki Kobayashi,  Assistant Professor / Jung Ji-Young |
| 3. | Korea / Korea Institute of Construction Technology / Ph.D. Kim, Soo-Am |
| 4. | 2007- |
| 5. | The legal system and policies of open building |
| 6. | R&D program (Korea Institute of Construction Technology) |
| 7. | We are preparing the first joint paper. |
| 8. | None |

1. Reliability on loads and actions for structural design
2. Graduate School of Engineering / Professor / Toru Takahashi
3. U.S.A./ Georgia Institute of Technology / Bruce R. Ellingwood
4. Nov. 2000 to present
5. Discussion on evaluation of loads and actions for structural design and its international harmonization.
6. YAMASHITA Taro Fellowship
8. None

1. Rheology Control of Printing Inks and Evaluation of Printability
2. Faculty of Engineering / Professor / Yasufumi Otsubo
3. Korea / Pukyong National University / Professor Su Yong Nam
4. 2001~present
5. Analysis of relations between rheological properties and printability of printing inks and establishment of control method for industrial applications
6. None
7. (1) ‘Rheological Behavior during Phase Separation Induced by UV Curing’ Su Yong NAM, Mikihiro SAKAI, and Yasufumi OTSUBO, Material Science Research International, 8, 9-13(2002)
8. None

1. Molecular Design of New Electron Donating Polymer
2. Graduate School of Engineering / Associate Professor / Yuji Sasanuma
3. United Kingdom / Imperial College (Department of Chemistry) / Dr. Joachim H. G. Steinke and Dr. Robert V. Law
4. From 2002
5. Intramolecular and intermolecular interactions of polyethers, polysulfides, and polyamines, which have been recently attracted attention to because of their applications to polymer electrolytes and gene delivery polymers, have been revealed and investigated. On the basis of the information thus obtained, molecular design of electron donating polymers has been attempted.
6. The Grand-in-Aid for Scientific Research(c) (No. 14655003)
8. None.

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Graduate School of Advanced Integration Science

1. Interaction mechanism in singlet excited dye/photoacid generator photosensitive system
2. Graduate School of Advanced Integration Science / Associate Professor / Shigeru Takahara
3. France / Department of Photochemistry, Universite de Haute Alsace / Prof. Xavier Allonas
4. France / Department of Photochemistry, Universite de Haute Alsace / Prof. Jean-Pierre Fouassier
5. 2004.7.16
6. Some novel visible photoinitiating systems mainly based on the PAG sensitization have been investigated.
   The photodissociation processes of some important classes of PAGs and photophysical and photochemical behavior of the sensitizing dyes have been also studied, as well as their sensitization mechanisms.
7. COMMUNICATIONS AND PAPERS
   BOOK
   CONTRIBUTIONS TO CONFERENCE
   Shota Suzuki, Xavier Allonas, Jean-Pierre Fouassier, Toshiyuki Urano, Shigeru Takahara, and Tsuguo Yamaoka, Photosensitization of Photocid Generators by Pyrromethene Dyes, XXIst IUPAC SYMPOSIUM ON PHOTOCHEMISTRY, 2006 (Kyoto).
1. Electronic structure of organic semiconductor interfaces

2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno

3. China / Department of Physics and Materials Science, City University of Hong Kong / Prof. S. T. Lee
   China / Department of Physics and Materials Science, City University of Hong Kong / Prof. C. S. Lee
   China / Functional Nano & Soft Materials Laboratory (FUNSOM), Soochow University/ Prof. J.Tang

4. From Oct.2005

5. Electronic structure of functional organic thin films are studied by using high resolution ultraviolet photoelectron spectroscopy.

6. 21 Century COE program and Global COE Program

7. Under preparation of the first joint paper.

8. 6-7 Nov.2009, Chiba Univ. “Global-COE Workshop on Organic Electronics: Electronic States, Charge Transport and Devices” (Fastening Asian researcher’s network), Invited speaker: Prof. A. Wee /National Univ. Singapore, Prof. W.-Y. Chou /National Cheng Kung Univ., Dr. T.Hasegawa/ AIST.


1. Spectroscopic study of organized organic films

2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno

3. India/ Indian Institute of Technology (IIT) , Madras /Prof. A. Patnaik

4. From 2002

5. Electronic states of self-assembled monolayers are studied with high-resolution electron spectroscopy.

6. JSPS program, 21 Century COE program and Global COE Program etc.


   (2) Polarized near-edge x-ray-absorption fine structure spectroscopy of C60-functionalized 11-amin-1-undecane thiol self-assembled monolayer:Molecular orientation and Evidence for C60 aggregation, Archita Patnaik, Koji K. Okudaira, Satoshi Kera, Hiroyuki Setoyama, Kazuhiko Mase and Nobuo Ueno


1. High-resolution UPS studies on electronic states of oriented molecular films

2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno

3. Sweden / Linkoeping University / Prof. William E. Salaneck
   Sweden / Linkoeping University / Dr. Rainer Friedlein
   USA/Georgia Institute of Technology/Prof. G-L. Bredas

4. Continued from 2003
5. Band dispersion of angle-resolved UPS based on quantitative analysis of the UPS intensity.
6. Grant-in-Aid for Creative Scientific Research of JSPS, 21 Century COE program and Global COE Program

1. Electronic states and charge mobility in organic devices
2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno
3. Sweden / Linkoeping University / Prof. William E. Salaneck
Sweden / Linkoeping University / Dr. Rainer Friedlein
4. Continued from July, 2004
5. The hole-vibration coupling in organic semiconductors is studied using ultrahigh-resolution UPS.
6. JSPS(Invitation program), Grant-in-Aid for Creative Scientific Research of JSPS, 21 Century COE program and Global COE Program
(2) Hole-vibration coupling in the uppermost valence band photoemission of pentacene monolayer on graphite, H. Yamane, S. Nagamatsu, H. Fukagawa, S. Kera, K.K. Okudaira, N. Ueno and R. Friedlein,
(http://www.vjultrafast.org)

1. Electronic states of single-molecular devices
2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno
3. Israel / Weizmann Inst. Science / Prof. David Cahen
USA / Princeton University / Antoine Kahn
4. Continued from Nov. 2005
5. Electronic structure of the molecule-metal link in a single molecular device is studied.
6. Grant-in-Aid for Creative Scientific Research of JSPS, 21st Century COE program and Global COE Program

1. Electronic states of organic-related interfaces
2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno
3. USA / Princeton University / Antoine Kahn
4. Continued from April 2001
5. Electronic structure of the molecule-metal interface in organic devices is studied.
6. Grant-in-Aid for Creative Scientific Research of JSPS, 21st Century COE program and Global COE Program


1. Studies of structure and electronic states at well-characterized organic interfaces
2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno
3. Germany/Humboldt University (Berlin)/Prof. N. Koch
   Germany/Tuebingen University / Prof. F. Schreiber
4. Continued from September 2004
5. Interface structure and molecular-orientation dependent electronic structure of organic-metal interfaces are studied
6. 21st Century COE program and Global COE Program


1. Interfaces electronic states of organic-based devices
2. G-COE, Graduate School of Advanced Integration Science / Professor / Nobuo Ueno
3. Singapore / National University of Singapore / Prof. A. Wee and Dr. W. Chen
4. Continued from April 2009
5. Electronic structure of the molecule-metal interface in organic devices is studied.
6. JSPS program and G-COE
7. in preparation
8. 6-7 Nov.2009, Chiba Univ., “Global-COE Workshop on Organic Electronics: Electronic States, Charge Transport and Devices” (Fastening Asian researcher’s network), Invited speaker: Prof. A. Wee /National Univ. Singapore, Prof. W.-Y. Chou /National Cheng Kung Univ., Dr. T.Hasegawa/ AIST.

1. Power-scaling of a diode-pumped Nd doped solid-state lasers with a bounce amplifier geometry
2. Graduate School of Advanced Integration Science / Professor / Takashige Omatsu
3. UK / Imperial College London / Prof. M. J. Damzen
4. Feb.1997-present
5. We have investigated power scaling issues of diode-pumped Nd doped bounce laser amplifiers based on highly doped Nd: YAG ceramic as well as Nd doped mixed vanadates.
6. The Scientific Exchange Programme of the Japan Society for the Promotion of Science
The Joint Research Project of the Japan Society for the Promotion of Science
7. 10 journal papers have been published.
102 conference papers have been published.
1 book has been published.
International workshop Nonlinear optics for high power laser technology (Chiba, July,2008)

1. Physical properties of low-dimensional nano structure formed on semiconductor surfaces
2. Graduate School of Advanced Integration Science / Associate Professor / Kazuyuki Sakamoto
3. Sweden / Linköping University / Professor R.I.G. Uhrberg
4. From 2002 (continuing)
5. One- and two-dimensional nano structures, which are formed on semiconductor surfaces by the adsorption of metal atoms, have attracted much attention due to the possibility of observing various exotic low-dimensional physical phenomena. The final goal of this project is to observe and to determine low-dimensional physics that have not been reported so far.
(3) “High-temperature annealing and surface photovoltage shifts on Si(111)7×7”, H. M. Zhang, K. Sakamoto, G.V. Hansson, and
8. None

2. Graduate School of Advanced Integration Science / Professor / Keiko Nishikawa

3. Canada / The University of British Columbia / Yoshikata Koga
   Denmark / Roskilde University / Peter Westh

4. 2000

5. Comprehensive structural and thermodynamic studies on non-electrolyte aqueous solutions by X-ray diffraction, measurements of chemical potential and partial molar enthalpy, and determination of entropy.


   Y. Koga, Y. Kasahara, K. Yoshino and K. Nishikawa

3) Chemical Potential and Concentration Fluctuation in Some Aqueous Alkane-mono-ols at 298 K.
   K. Nishikawa and Y. Koga

4) Excess Partial Molar Entropy of Alkane-mono-ols in Aqueous Solutions at 298 K.
   Y. Koga, P. Westh and K. Nishikawa

5) The Effects of Na2SO4 and NaClO4 on the Molecular Organization of H2O.
   Y. Koga, P. Westh and K. Nishikawa

6) "Icebergs" or No "Icebergs" in Aqueous Alcohols?: Composition-dependent Mixing Schemes.
   Y. Koga, K. Nishikawa and P. Westh

7) Towards Understanding the Hofmeister Series (1): The Effect of Sodium Salts of Some Anions on the Molecular Organization of H2O.
   Y. Koga, P. Westh, J. V. Davies, K. Miki, K. Nishikawa H. Katayanagi

8. None

1. Expression analysis of Duox gene in the ascidian endostyle

2. Graduate School of Advanced Integration Science / Assistant Professor / Michio Ogasawara

3. England / University of Reading / Dr. Francoise Mazet

4. 2004


8. None

1. Electronic structures of organic/metal interfaces studied by photoemission spectroscopy

2. Graduate School of Advanced Integration Science (Center for Frontier Science) / Professor / Hisao Ishii
3. Taiwan/ National Tsing Hua University / Shu-Jung Tang

4. FY2010

5. The electronic structures of organic / metal interfaces of various system which attracts interest are investigated by photoemission spectroscopy. The target system are (i) model interface of organic bistable device, and (ii) interface between organic semiconductor film and quantum well where free electrons are confined in nano-scale ultra thin metal film

6. Global COE Program, KAKENHI (Grant-in-Aid for scientific research A)


8. "Fine Piece Award" in National Synchrotron Radiation Research Center 2010 Users Meeting (Che-Chia Hsu in national Tsing Hua Univ)(Oct 2010)

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1. Properties of new interfaces built-up on ordered organic single crystal surfaces

2. Graduate School of Advanced Integration Science (Center for Frontier Science) / Professor / Hisao Ishii

3. Germany/Humboldt University (Berlin)/Prof. N. Koch

4. FY2010

5. The ordered structure of organic layer on clean organic single crystal surface are prepared, and the properties of the heterointerfaces are investigated by scanning probe microscope.

6. Funding Program for World-Leading Innovative R&D on Science and Technology (FIRST)

7. A paper is in preparation.

8. None

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1. Properties of charge accumulation at organic heterointerfaces and the device performance

2. Graduate School of Advanced Integration Science (Center for Frontier Science) / Professor / Hisao Ishii

3. Germany/University of Augsburg/Wolfgang Bruetting

4. FY 2010

5. Functions of organic semiconductor devices often originate from heterointerfaces in the device. We investigated the relations between charge accumulation mechanisms at the interfaces and the device performances using several experimental techniques, especially focusing on the role of orientation polarization. We have been conducting a good collaborating works including mutual people exchange.

6. JSPS "Institutional Program for Young Researcher Overseas Visits" (Frontier science international training program for young researchers leading in materials science and computational science (Graduate School of Advanced Integration Science)), Chiba University COE start-up Program

7. Paper

1) Displacement current measurement for exploring charge behaviors in organic semiconductor devices. Yutaka Noguchi, Yuya Tanaka, Yukimasa Miyazaki, Yasuo Nakayama, Hisao Ishii, in preparation (invited as a book chapter of "Physics of organic semiconductor devices II")

Conference

1) Yutaka Noguchi, Yukimasa Miyazaki, Yasuo Nakayama, Wolfgang Bruetting, Hisao Ishii, Charge accumulation mechanisms at organic hetero interfaces: Interface charge and orientation polarization [invited], The 10th International Discussion & Conference
2) Yutaka Noguchi, Yukimasa Miyazaki, Yuya Tanaka, Yasuo Nakayama, Wolfgang Bruetting, Hisao Ishii, Carrier behaviors at organic heterointerfaces studied by displacement current measurement and impedance spectroscopy, 6th international conference on Molecular and Bioelectronics (M&BE6), (March 2011) "The conference itself was cancelled due to the earthquake, but the abstract book has been published.


4) Yukimasa Miyazaki, Yutaka Noguchi, Yasuo Nakayama, Wolfgang Bruetting, Hisao Ishii, Charge accumulation mechanisms at organic hetero interfaces: the effects of interface charges and orientation polarization, 9th International Conference on Nano-Molecular Electronics (ICNME 2010), Dec 15 2010, Kobe, Japan.

8. COE Start-up International Workshop "Organic Semiconductors Towards the Next", Nov 11 2010, was chaired, in which Prof. Bruetting was invited.

1. Elucidation of electronic properties based on direct observations of frontier density of states in organic semiconductors
2. Graduate School of Advanced Integration Science (Center for Frontier Science) / Professor / Hisao Ishii
3. Germany / University of Augsburg / Wolfgang Bruetting
4. FY 2009
6. KAKENHI (Grant-in-Aid for scientific research A)
7. Paper

Conference
1) Yuya Tanaka, Yutaka Noguchi, Hisao Ishii, Displacement Current Measurement as a Tool to Investigate the Channel Formation Process of Organic Field Effect Transistor in Operation, OPERA Winter School 2010, Jan 19 2011
2) Yuya Tanaka, Yutaka Noguchi, Hisao Ishii, Capacitance-Voltage Measurement of an Ambipolar Pentacene Field Effect Transistor in Operation by Using Displacement Current Measurement, 2010 MRS Fall Meeting, Nov 29 2010

8. COE Start-up International Workshop "Organic Semiconductors Towards the Next", Nov 11 2010, was chaired, in which Prof. Bruetting was invited.

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**Graduate School of Horticulture**

1. A comparative study of soil microbial biomass dynamics and survival strategies in Northern European and Japanese soils
2. Graduate School of Horticulture / Professor / Kazuyuki INUBUSHI
3. UK / AFRC Arable Crop Research Institute Rothamsted Experimental Station / Philip C Brookes
4. Since 1986 (Continued)
5. Soil microorganisms play important roles in nutrient turnover and food production and even survivals of all livings on the Earth. This study is aimed to evaluate soil microbial biomass and their dynamics in bioelements' turnover by the methods commonly applicable to Northern European and Japanese soils
6. British Council, Grants-In-Aids (Basic Research (B), 1999-2001)
8. Chiba University International Symposium, July 6, 2001
Japanese Society of Soil Science and Plant Nutrition, Award, April, 2005

1. Composting of unutilized plant materials and their impacts on soil microbial, chemical and physical properties
2. Faculty of Horticulture / Professor / Kazuyuki INUBUSHI
3. Nepal / Consultant (Agricultural, Environmental Microbiology) / Dr. Shashi S. Rajbanshi
   India / Haryana Agricultural University / Dr. Sneh Goyal, Prof. K.K.Kapoor, Prof. R.S. Antil
   Malaysia / Putra Malaysia University / Dr. Rosenani Abu Bakar
   Hungary / Tessedik Samuel College / Dr. Peter Simandi
4. Since 1995 (Continued)
5. Huge amounts of waist materials are now discharged from urban and agricultural ecosystem and cause serious problems.
This study aimed to solve such problem by composting unutilized plant materials and evaluate their impacts on soil microbial, chemical and physical properties and ecosystems.

6. JSPS, Grants-In-Aids (Foreign Researchers – Invited Short-term), Nakajima Fundation, JASSO, Hangarian Academy of Sciences


8. Faculty of Horticulture Seminar, Chiba University, July 31, 2004

1. Emission and uptake of methane and nitrous oxide in peat wetland and agricultural field in tropical and temperate Asia

2. Graduate School of Horticulture / Professor / Kazuyuki INUBUSHI

3. Indonesia / Lambung Mangkurat University, President / Ir. Muhammad Rasmadi

Indonesia / Lambung Mangkurat University, Faculty of Agriculture, Lecturer / Abdul Hadi
4. Since 1998 (Continued)

5. Methane emission from wetland is estimated as 20% of global but accuracy is very low and such estimate for nitrous oxide is not available. This study is to investigate these emissions and their controlling factors in tropical wetland and agricultural field.

6. The Ministry of Environment (via NIAES)


Xu X and Inubushi K (2009) Soil acidification stimulates the emission of ethylene from temperate forest soils, Advances in Atmospheric Sciences, 266), 1253-1261.


Nishitsuji J, Saito H, Inubushi K, Thanh Nguyen Huu, Ha Tran Thi Le, Ha Pham Quang, Thang Vu, Cong Phan Thi, Quynh Nguyen Thi, Tinh Tran Kim: Properties regulating methane production in Southeast Asian paddy soils-3, JSSPN Annual Meeting Abstract: 188

8. Oze Award, June 2004

1. Paleecosystem in “Arkaim” Ecopreserve and Protection of Boreal Ecosystem in Central South Ural, Russia

2. Graduate School of Horticulture / Professor / Kazuyuki INUBUSHI, Susumu OKITSU / Assist Prof / Miwa MATSUSHIMA

3. Russia / Institute of Physicochemical and Biological Problems in Soil Science (IPBPSS), Russian Academy of Sciences / Professor / PRIKHODKO, Valentina et al.

Russia / Moscow State University / Scientific officer / Manakhov Dmitry Valentinovich et al.

Russia / Chelyabinsk State University / Professor / Zdanovich Gennady Borisovich et al.

4. Since 2009 (Continued)

5. Reconstruction of ecological conditions of unique civilization of Bronze Age and conservation of nature and soils and other natural components on the boundary of Europe and Asia. The project is devoted to solution of the fundamental problem – reconstruction of ecological conditions of Bronze Age, conservation of unique paleoworld, saving and recovery of soils and other natural components in reserve regime.

6. JSPS and RFBR (Russian Foundation of Basic Research) Joint Research Program 2009-2010


Susumu Okitsu, Valentina E. Prikhodko, Miwa Matsushima, and Kazuyuki Inubushi (2011), Vegetation landscape around the
1. Ecophysiological diversity of water convolvulus (Ipomoea aquatica Forsk.) strains.

2. Faculty of Horticulture / Associate Professor / Michiko Takagaki

3. Thailand / Faculty of Agriculture, Kasetsart University / Pariyanuj Chulaka

   Thailand / BIOTEC / C. Kirdmanee

4. From 2000 to date

5. An aquatic vegetable (Ipomoea aquatica Forsk.) is used in a tropical region for long time. There are a lot of uncertain points of the characteristic. There are inherited varieties among the strains: color of the stem or shape of the leaf. It is assumed that the color of the stem is green in the cultivation strains and red in the wild strains. There are a lot of unknown parts of the inherited difference and the characteristic.

From our current investigation, it has become clear that there are many cultivation methods of Ipomoea aquatica Forsk in Southeast Asia. In floating cultivation on the river or the canal, it has grown by minerals in water of river or canal. It can make a special mention of the high nutrient absorption ability of Ipomoea aquatica Forsk compared with other leafy vegetables. We collect many strains of Ipomoea aquatica Forsk in Thailand.

Differences of the physiological and ecological characteristic among strains are investigated. At the same time, selection of the strains which have high nutrient absorption ability or stress tolerance and analysis of genetic variability among strains are done.


   JSPS Grants-in-Aid for Scientific Research (B) 2006-2009.


2) The lowest limiting concentration of the nutrient solution that could be absorbed by the water convolvulus. Proceedings of annual meeting of the societies for Agricultural Environmental Engineering: 220. 2001.


5) Relations between leaf color or N contents of Ipomoea aquatica Forsk. strains and mineral contents of water, Jap. J. Tropic. Agric., 45 (ext.2) 3-4 2002

6) Morphological variability of Ipomoea aquatica Forsk strains, J. Tropic. Agric., 46(ext.1) 1-2 2002

7) Flowering variability of Ipomoea aquatica Forsk strains, J. Tropic. Agric., 47(ext.1) 33-34 2003


10) Comparison of photoperiodic responsibility of water convolvulus (Ipomoea aquatica Forsk.) and sweet potato (Ipomoea batatas Poir.), The First Int. Symposium on Water Convolvulus, KU, Bangkok, Thailand, 27.2005


8. None

1. Nutrient dynamics of vegetable cropping systems around Bangkok.
2. Faculty of Horticulture / Associate Professor / Michiko Takagaki

3. Thailand / Faculty of Agriculture, Kasetsart University / Sutevee Sukprakan, Spachai Aumka

4. From 2000 to date

5. After Green Revolution, amount of chemical or organic fertilizers applied to the vegetable fields in Tropical region is increased. Application amounts are too big and percentage of release to outside of field systems might be big. These are causes of water pollutions in river, canal or pond. Object of this project is to know N, P flow in field system. We select five cropping system in Supanburi province and collect data about field management and N, P contents in water and soil in the fields to know the environmental friendly system.

6. JSPS Aids for the Academic Research in Asia Region, 2002-04.

7. 1) The lowest limiting concentration of the nutrient solution that could be absorbed by the water convolvulus. Proceedings of annual meeting of the societies for Agricultural Environmental Engineering: 220, 2001.


3) Relations between leaf color or N contents of Ipomoea aquatica Forsk. strains and mineral contents of water, Jap. J. Tropic. Agric., 45 (ext.2) 3-4, 2002


8. None

1. Marketing Strategy for Sustainable Agri-tourism

2. Faculty of Horticulture / Professor / Yasuo Ohe

3. Italy / Faculty of Agriculture / Professor Adriano Ciani

4. Since 1998 on going

5. Objectives: In the developed countries, environmental friendly and local resource-using agri-tourism has been advocated to cope with serious depopulation of rural areas. Since establishment of marketing strategy is a curial point for sustainable agri-tourism, we need to collaborate on this field to find effective measures for the sustainable rural development.

Details: Through bilateral exchange of researchers, optimum marketing strategy will be clarified and give future directions for Japanese agri-tourism.

Forms: Exchange of researchers, joint survey analysis, and joint presentation at international meetings, finally joint publication of the research output.

Research fellowship from Japan Society for the Promotion of Science in 2000.

Yasuo Ohe and Adriano Ciani, Characteristics and Activities of Agri-tourism farms in Umbria, Italy, Ixth European of Agricultural Economists, poster paper, 1999.

Ohe, Y. and Ciani, A. (1999): Characteristics and Activities of Agri-tourism Farms in Umbria, Italy, Ixth European of Agricultural Economists, poster paper


   Invited speakers at Seminar on Agritourism in Italy organized by Italian Embassy in Japan in 2002.
   Invited speakers at Seminar on Sustainable Rural Development held at Tirana Agricultural University in Tirana, Albania.
   Invited speakers at Seminar on Multifunctionality and agri-tourism held at Perugia University, Italy in September, 2006.
   Invited speaker at the international conference ‘Quale Strategia per Lo Sviluppo Sostenibile? , Perugia, Italy in September, 2009.
   Invited speaker at the 4th International Conference on Sustainable Tourism, New Forest, UK July 5-7, 2010. The title: 'The demand trend of Italian agritourism.'

1. Study on the physiological active substances and aroma volatile biosynthesis in fruit
   Graduate School of Horticulture/ Professor/ Satoru Kondo

2. Roles of jasmonates in fruit trees
   Graduate School of Horticulture/ Professor/ Satoru Kondo

3. Physiological active substance, jasmonates influence tree or fruit physiology including coloring of the skin, fruit ripening, flower bud formation, and dormancy. This study investigates the metabolism and physiology of jasmonates in the fruit and tree.
   Bologna University

4. Grant-in-Aid for Scientific Research: Hiroshima Prefectural University


7. Invited speaker at a seminar held in Bologna university (Bologna, Italy, May, 2006)
   Invited speaker at the international symposium on plant growth regulation in fruit production (Italy, September, 2009)
1. Study on the postharvest physiology in tropical fruit
2. Graduate School of Horticulture, Professor Satoru Kondo
3. Thailand/ King Mongkut’s University of Technology Thonburi/ Associate Professor/ Dr. Sirichai Kanlayanarat
4. Since 2000 (Continued)
5. Effects of physiological active substances on fruit physiology such as pigmentation, chilling injury and so on are investigated in subtropical and tropical fruit.
6. JASSO, JSPS postdoctoral fellowship for foreign researchers
8. 1) Special seminar in King Mongkut's University Thonburi (Since 2000)
2) International symposium publication (Southeast asia symposium on quality and safety of fresh and fresh cut produce) (Thailand, 2009, August)
1. ABA metabolism and water stress regulation

2. Graduate School of Horticulture, Professor Satoru Kondo

3. Thailand/ Mae Fah Luang University/ Researcher/ Dr. Sutthiwal Setha

4. Since 2000 (Continued)

5. Abscisic acid levels and anti-oxidant activity are affected by an inhibitor of cytochrome P450 in apple seedlings.


6. Invited speaker at international symposium held in Mae Fah Luang University (The influence of the interaction between jasmonates, ethylene, and polyamines on fruit quality) (November, 2010, Chiang Rai, Thailand)

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1. Effects of plant hormones on fruit set and growth in fruit tree

2. Faculty of Horticulture/ Professor/ Hiroyuki Matsui

   Associate./ Hitoshi Ohara

3. USA/ Michigan State University/ Martin J. Bukovac

4. 1994~

5. The objectives of this project are to develop cultivation methods for steady fruit production and high-quality fruits production, through the following investigations, relationship between fruit set and growth, and plant hormones, and the factor that relates to the penetration of plant hormones from the fruit surface.

6. Michigan State University


   ③GA$_{45}$ is a genuine precursor of GA$_{3}$ in immature seed of Prunus cerasus L. 1998. 16th Inter. Conference on Plant Growth Substances, Abstracts 146.


   ⑥Endogenous gibberellins in immature seeds of Prunus persica L.: identification of GA$_{118}$, GA$_{119}$, GA$_{120}$, GA$_{121}$, GA$_{122}$ and GA$_{128}$. 2001. Phytochemistry 57:749-758.


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8. None

1. Improvement of stability in biological control effect on plant pathogens

2. Department of Bioproduction Science, Faculty of Horticulture/ Associate professor /Masahiro Shishido, Ph. D.
3. USA/Oregon State University/Department of Botany and Plant Pathology/Professor Kenneth B. Johnson
4. From April 2004
5. This research project aims at improving the stability of biological control effect on plant pathogens. We focus on not short-term effects of disease reduction but long-term stable activity of biological control agents by analyzing their ecological traits. Most of the researches relevant to biological control of plant pathogens have attempted to search for more effective agents and unveil the mechanisms involved in the control; however, few models to illustrate biological control of plant pathogens has been achieved. Therefore, we will develop ecological models to describe relationships between beneficial microorganisms and plant pathogens so that we can elucidate ecological factors influencing efficiency of biological control. The models will be useful for sustainable crop production by evaluating long-term efficiency of biological control.
6. Grants-in-Aid for Scientific Research (14560037) by the Japan Society for the Promotion of Science
8. None

1. Improvement of agricultural production in the arid area of China
2. Faculty of Horticulture / Associate Professor / Akihiro Isoda
3. China / Shihezi Agricultural and Environmental Institute for Arid Area in Central Asia / Peiwu Wang
4. From 1998
5. The object of this project is to improve agricultural production and to develop new agricultural technologies in the arid area of China. The main subjects of this project are water saving irrigation, mechanism of drought tolerance and organic agriculture on large scale.
6. None.
8. None

1. Studies on the ancient gardens in Japan, China, and Korea
2. Faculty of Horticulture / Associate Professor / Eijiro Fujii
To clarify the characteristics of ancient gardens in each country of Japan, China, and Korea which have long and intimate relations from cultural and political points of view

Grant-in-aids for Scientific Research (Basic Research A)

A Historical Consideration on the Gumnanji of the Bekje Kingdom in Korea Based on the Results of Recent Excavations

Symposium on the ancient gardens in Japan and Korea, held at Nara National Institute of Cultural Heritage in 2000

1. Longitudinal Study of Village Economy and Household Behavior under Economic Development in the Philippines

2. Graduate School of Horticulture (Development of Economics) / Associate Professor / Nobuhiko Fuwa

3. USA / University of California at Berkeley / James N. Anderson

4. 2000-present

This study intends to extend the longitudinal study of a village in Pangasinan Province in the Philippines initiated by Prof. James N. Anderson in the early 1960s, by constructing a panel data spanning over a 40 year period. It focuses on the long-term changes in the livelihood of the village residents and other aspects of the village economy. The study pays a particular attention to the effects of the dramatic expansion in the village of international labor migration opportunities after the 1980s on intrahousehold resource allocation behavior.


8. None

Impact Evaluation of the Female Secondary School Stipend Program in Bangladesh

Graduate School of Horticulture (Development of Economics) / Associate Professor / Nobuhiko Fuwa

USA / World Bank / Shahidur R. Khandker

1999-present

The study attempts to measure the impact of the Female Secondary Stipend Program initiated in 1994 in Bangladesh in an attempt to close the gender gap in the school enrolment at the secondary school level. It focuses on quantifying the program impact on the enrollment of both male and female students at the secondary school level based on the project Management and Information System data base maintained by the World Bank funded Female Secondary School Assistance Project, and intends to inform both the donors and the government of Bangladesh regarding the future design of the program.

World Bank


1. A study on Agricultural Productivity and Poverty Dynamics in Rain-fed Rice Producing Farmers in Eastern India
2. Graduate School of Horticulture (Development of Economics)/ Associate Professor/Nobuhiko Fuwa
3. India/Indian Statistical Institute (Agricultural Science Unit)/Pabitra Banik
   USA/East-West Center/Christopher M. Edmonds
4. 2001-present
5. The small scale rice farmers in the Bihar Plateau in Eastern India face severe natural conditions that constrains their agricultural production and have high incidence of poverty. The plateau is also known for its relatively high proportion of ethnic minority groups living in the area. Initial data collection was conducted in 1998 and the second round is planned for 2004-2005. The study intends to identify the crucial constraints, both natural and socioeconomic, on their rice production and to inform policy makers for suitable interventions for poverty reduction in the area.
6. International Rice Research Institute, East-West Center, Indian Statistical Institute
8. None

1. History of Rural Development Policies in the Philippines and Lessons for Poverty Reduction Policies
2. Graduate School of Horticulture(Development of Economics)/ Associate Professor/Nobuhiko Fuwa
3. Philippines/University of the Philippines at Diliman, School of Economics/Arsenio M. Balisacan
4. 1999-present
5. The study starts with a historical review of the rural development outcomes (e.g., agricultural growth, income growth, poverty incidence) in the Philippines and of government policies (development strategies, industrialization policies, agricultural policies, trade policies, land reform, etc.) that likely affected such outcomes. It also investigate the political background behind those policies adopted by the government. Based on a provincial-level dataset on the income growth and the rate of poverty reduction to identify the main determinants of those outcomes through econometric analyses. The goal of the study is to draw implications for policy makers for developing poverty reduction strategies.
8. None

1. Changes in Rural Economies in the Philippines and Poverty Dynamics

2. Graduate School of Horticulture (Development of Economics) / Associate Professor / Nobuhiko Fuwa

3. Philippines / International Rice Research Institute (IRRI) / Mahabub Hossain

4. 2002-present

5. International Rice Research Institute (IRRI) has conducted a longitudinal village-level study in the early 1990s focusing on 4 villages in different ecosystems in the Philippines. A combined qualitative and quantitative data collection through detailed interviews in the villages was carried out in 2003-2004, and this study intends to consolidate the findings on the changes in the livelihoods and the wellbeing of village residents as well as institutional aspects of the four villages over the past decades. It also focuses on the poor households in an attempt to identifying the difference between those who escape from poverty and those who do not. The study aims to inform policy makers for effective policy reduction strategies suited for different ecosystems.

6. International Rice Research Institute (IRRI)

7. None

8. None

1. Nutrient dynamics of some cropping system around Bangkok.

2. Faculty of Horticulture / Associate Professor / Toru Maruo

3. Thailand / Faculty of Agriculture, Kasetsart University / Sutevee Sukprakan, Pariyanuj Chulaka, Spachai Aumka

4. 2000-2005

5. After Green Revolution, amount of chemical or organic fertilizers applied to the fields in Tropical region is increased. Application amounts is too big and percentage of go outside of field systems might be big. These are causes of water pollutions in river, canal or pond. Object of this project is to know N, P flow in field system. We select five cropping system in Supanburi province and collect data about field management and N, P contents in water and soil in the fields to know the environmental friendly system.


7. 1) The lowest limiting concentration of the nutrient solution that could be absorbed by the water convolvulus. Proceedings of annual meeting of the societies for Agricultural Environmental Engineering, 220, 2001.


3) Relations between leaf color or N contents of Ipomoea aquatica Forsk. strains and mineral contents of water, Jap. J. Tropic. Agric., 45 (ext.2) 3-4, 2002

8. None

1. International Comparative Studies on the Roles of Green Environment for Urban Regeneration
2. Faculty of Horticulture / Associate Professor / Takeshi KINOSHITA, PhD
3. Republic of Korea / Keisen College of Horticulture / Kyungrock YE
   China / Institute of Natural and Environmental Sciences, Himeji Institute of Technology / Yue SHEN
   China / Shan-tong Agricultural University / Eikichi Boku
   United States of America / Harvard University Graduate School of Design / Ryosuke Shimoda
   United Kingdom / AA School Landscape Urbanism / Taku Suzuki
4. 2002 - continued
5. This project is the advanced research works based on the international comparative studies titled "The Roles of Traditional Gardens for Conservation of Historic Cities and Towns", which had been conducted 1999 to 2001. This research project aims to discuss on the ideal way of environmental regeneration and landscape planning.
6. No (own expense)
   Takeshi KINOSHITA, Ryosuke SHIMODA, Taku SUZUKI and others, How should we face to “Urbanism”, The National Meeting of the Japanese Institute of Landscape Architecture 2003, Chiba, Japan.
8. Cooporative Studies by the three countries' researchers
1. Comparison of Natural Landscape Evaluation Between Japan and Russia
2. Graduate School of Horticulture / Associate Professor / Katsunori Furuya
3. Russian Federation / Lomonosov Moscow State Univ. / Elena PETROVA
   Russian Federation / V.B. Sochava Institute of Geography SB RAS / Yuri SEMENOV
   Russian Federation / Vernadsky State Geological Museum of RAS / Yury MIRONOV
   Russian Federation / Institute of Orientalistic RAS / Anastasia PETROVA
4. Since 2008
5. The purpose of this study is to compare the landscapes appreciation in Russia and Japan, in two countries with deep-rooted traditions of landscape appreciation. The photo database of landscapes both similar and unique for Russia and Japan was made using the same methods. The respondents in both countries are suggested to classify and group photo images of different landscapes according to their personal perception as well as to estimate the attractiveness of given landscapes images.
6. 2008-2009 Joint Research Program in Bilateral Programs, JSPS and RFBR
   Yoji AOKI, Elena PETROVA, Yury MIRONOV, Anastasia PETROVA, Katsunori FURUYA, Hajime MATSUSHIMA, Norimasa TAKAYAMA Toshihiro NAKAJIMA, Comparison of natural landscapes appreciation between Russia and Japan: photo
Plant biotechnology is now expected to apply for the breeding of useful plants such as horticultural and medicinal plants. In our collaborative study, we have conducted various basic studies to develop the necessary biotechnologies for this purpose, such as establishment of plant regeneration system from tissue cultures, establishment of protoplast culture method and its utilization for the somatic hybridization through protoplast fusion, isolation of female gametophytes, and development of genetic transformation system for the useful transgenic plants, in important floricultural crops such as lily, petunia and agapanthus, and medicinal plants such as Artemisia annua which is an important source for anti-malarial substance, artemisinin.

6. None


8. None

| 1. | A Study on Area Management of Urban Redevelopment Projects from the Viewpoints of Sustainability and Identity |
| 2. | Graduate School of Horticulture/Professor/Isami Kinoshita |
| 3. | Switzerland/University of Applied Science of Bern |
| 4. | 2005～ |
| 5. | This study is aimed at making clear the direction of area management of redevelopment projects mainly applied at the post heavy industrial sites from the viewpoints of sustainability and identity by the comparison of the cases in Switzerland and Japan. |
| 6. | JSPS Grant in Aid for Scientific Research |
| 7. | Isami Kinoshita, Hans Binder (2011) About Identity and Sustainability by Area Management for Urban Regeneration Project at Industrial Site |
| 8. | A Report Focusing on the case of SulzerAreal, Switzerland |

Isami Kinoshita, Hans Binder (2008.8) , A Study on Identity and Sustainability by Area Management of Urban Regeneration Projects～From Some Cases in Switzerland and Japan, Proceedings of International Symposium on City Planning 2008 (peer reviewed), Korea Planners Association, 408・417


1. Solving the role of inducible glutamate dehydrogenase isoenzyme by $^{15}$N NMR
2. Graduate School of Horticulture / Associate Professor / Masami Watanabe
3. UK / University of Oxford / Professor / R. George Ratcliffe
4. Since 2007
5. Glutamate dehydrogenase isoenzyme patterns change after isolation of protoplasts. This project focused on the role of the inducible isoenzyme 7 in protoplasts and showed that the isoenzyme deaminated glutamate by using $^{15}$N NMR.

6. The Naito Foundation Fellowship (Sabbatical Leave)

7. Masami Watanabe, Ohnishi Yumi, Yasuhiro Itoh, Kaori Yasuda, Kazunari Kamachi, R. George Ratcliffe
   Solving the role of inducible glutamate dehydrogenase isoenzyme 7 in *Brassica napus* leaf protoplasts

Nitrogen 2010, 1st International Symposium on the Nitrogen Nutrition of Plants, P32
Masami Watanabe, Ohnishi Yumi, Yasuhiro Itoh, Kaori Yasuda, Kazunari Kamachi, R. George Ratcliffe
Deamination role of inducible glutamate dehydrogenase isoenzyme 7
in *Brassica napus* leaf protoplasts
Phytochemistry 72 (2011) 587–593

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Center for Environmental Remote Sensing

1. Remote sensing study of the atmosphere
2. Center for Environmental Remote Sensing / Professor / Hiroaki Kuze
3. China / Anhui Institute of Optics and Fine Mechanics (AIOFM), Chinese Academy of Sciences / Dr. Liu Wenqin, Director
4. From 1997

5. A wide range of collaboration activity has been made in the field of atmospheric remote sensing, including the differential optical absorption spectroscopy (DOAS), lidar and satellite observations, through visiting/staying at both institutes (CEReS and AIOFM) for various occasions such as participation to the workshop/international conferences and relatively long stay as visiting scientists.

6. COE fund, donated funds, support from CAS, etc.


・ Wenqing Liu, Pinhua Xie, Jianguo Liu, Yihuai Lu, Min Qin, Fuqi Si, Ang Li, Liang Xu, Daxian Wu, Tianshu Zhang, Xuesong Zhao, Air quality study in Beijing during Olympics with optical measurements, CEReS Colloquium, March 13, 2009 (CEReS).

8. None
8. None

1. Characterization of atmospheric aerosols and clouds using lidar remote sensing
2. Center for Environmental Remote Sensing / Professor / Hiroaki Kuze
3. India / University of Sri Venkateswara / Professor Musali Krishnaiah
4. From 2008
5. Prof. Krishnaiah has made lidar and radar remote sensing of the tropical atmosphere in a wide range from troposphere, stratosphere to mesosphere. His knowledge and expertise in this field has greatly contributed to enhancing the research activity of Kuze laboratory regarding the comprehensive analysis of tropospheric phenomena, from the viewpoint of the radiation transfer and climate change studies.
6. JSPS fellowship (2008.5 - 2009.2)
   • Y. Bhavani Kumar, M. Krishnaiah, H. Kuze, High altitude cloud observations using Dual polarization Raman lidar technique, The 14th CEReS International Symposium, November 13-14, 2008 (Chiba University).
   • Y. Bhavani Kumar, M. Krishnaiah, H. Kuze, Comparing water vapor mixing ratio profiles using Indo-Japanese lidar in Raman mode of operation with GPS radiosondes, The 14th CEReS International Symposium, November 13-14, 2008 (Chiba University).
   • Y. Bhavani Kumar, Bannu, M. Krishnaiah, H. Kuze, High altitude cloud observations using ground based lidar and simultaneous comparison with satellite lidar observations, The 14th CEReS International Symposium, November 13-14, 2008 (Chiba University).
   • Musali Krishnaiah, Y. Bhavani Kumar, H. Kuze, Portable lidar observations of aerosol layers over a tropical site Gadanki (13.5°N, 79.2°E), The 26th Laser Sensing Symposium, September 11-12, 2008 (Fukuoka).
   • Musali Krishnaiah, Padmavathikulkarni, Y. Bhavani Kumar, H. Kuze, Lidar and satellite observations of cirrus climatology over a tropical station Gadanki India, The 26th Laser Sensing Symposium, September 11-12, 2008 (Fukuoka).
8. None

1. Global / continental land cover mapping and monitoring by remote sensing
2. Center for Environmental Remote Sensing / Professor / Ryutaro Tateishi
3. Indonesia / Institute of Bundong Technology / Ketut Wikantika (with Agreement of Academic Cooperation)
   Hashemite Kingdom of Jordan / The University of Jordan / Hussam Al-Bilbisi (with Agreement of Academic Cooperation)
   China / Inner-Mongolia Normal University / Bayaer
4. From 2001 to date
5. The objective of this project is to map global land cover and tree cover of global area. For this objective the following research is being carried out.
   - development of global land cover ground truth data base
   - expedition for ground truth collection
   - preprocessing of global satellite data
classification and information extraction
validation of land cover product


Josaphat Tetuko Sri Sumantyo and Ryutaro Tateishi, A technique to analyse scattered waves from forest fire scars and its application to estimate its scars thickness in central Borneo using a SAR data, Journal of Japan Society of Photogrammetry and Remote Sensing, vol.43, no.6, pp.48-61, January 2005


8 The data products produced by this project are published from CEReS website as follows.

http://www.cr.chiba-u.jp/databaseGGL.htm
1.  Project for Biomass measurement on Mongolian grassland
2.  Center for Environmental Remote Sensing / Associate Professor / Yoshiaki Honda
3.  Mongolia / National Remote Sensing Center / Mr. S.Khudulmur
4.  2002-
5.  Establishment for the grassland biomass measurement method using satellite data. The results can be used for desertification monitoring and estimation of plant productivity.
6.  Japan Science and Technology Corporation(JST)/Solution Oriented Research for Science and Technology(SORST)
7.  None
8.  None

1.  Solar and terrestrial radiation monitoring on climate change in the East Asia
2.  Center for Environmental Remote Sensing / Professor / Tamio TAKAMURA
3.  China / Institute of Atmospheric Physics / Chinese Academy of Sciences / G-U Shi
4.  1996 -
5.  The object of this project is to make clear the effect of aerosol and cloud to the radiation environment in the East Asia, especially in China. In this program, there are two parts, one of which is to observe some radiative parameters at the ground and analyze them, and the other to estimate the global or regional surface radiation from the satellite images, such as GMS. The combined analysis for both data is useful for understanding the effect of aerosol and cloud to climate
   Zhen-zhu Wang, J. Zhou, Chao Li, T. Takamura, and N. Sugimoto, Studies on net long-wave radiation on clear days in Hefei


| 1. | A study on environment change on East Asia using satellite observation |
| 2. | Center for Environmental Remote Sensing / Associate Professor / Yoshiaki Honda |
| 3. | China / The Institute of Remote Sensing Application, Chinese Academy of Sciences (IRSA/CAS) / Prof. Liu Jiyuan |
| 4. | 1998- |
| 5. | • Establish the collaborative relationship on research activities that are useful for both countries.  
• Sharing the basic concept and the results of ground truth measurement set the joint research activities.  
• Develop the environmental change monitoring method by using satellite observation, especially for carbon dioxide circulation and land cover / land use change caused by the change of land vegetation. |
| 6. | Japan Science and Technology Corporation (JST)/ Cooperative research on the global mapping of carbon cycle and its advancement (trust study) |
| 7. | None |
| 8. | None |

| 1. | Study on Water Problems and Environment Problems in China |
| 2. | Center for Environmental Remote Sensing/Professor/KONDOH, Akihiko |
| 3. | China / Inst. Of Geographic Sciences and Natural Resources Research, CAS / Song, Xianfang |
| 4. | 1998- |
| 5. | Chinese economic development causes various water problems and environmental problems. This project was established in 1997 to deal with such problems. We got research funds after 1998, and carry over many research projects. |
Medical Mycology Research Center (MMRC)

1. The Project for New Diagnostic Approaches in the Management of Fungal Infections in AIDS and Other Immunocompromised Patients
2. Medical Mycology Research Center/ professor/Katsuhiko Kamei,
3. Brazil/School of Medicine, Sao Paulo State University of Campinus/Professor Maria Luiza Moretti
4. From2009-
5. Mycosis is a serious threat to immunocompromised or aged people, resulting in low Quality of Life (QOL) and sometimes in fatal outcome of the patients. The situation is even worse for the patients in Brazil, where highly virulent endemic mycoses are prevalent. This project covers a wide range of activities including studies on local epidemiology and the development of new diagnostic and identification methods such as newly designed DNA chip system and the genetic analysis of causative fungi. Based on these studies, this project aims at the control of mycosis among immunocompromised patients including AIDS patients not only in Brazil but also in Portuguese spoken African countries, Middle and South American countries, and Japan.
6. Funded research,JST-JICA,Science and Technology Research Partnership for Sustainable Development(SATREPS)
7. None
8. None

1. Research on highly a pathogenic fungi: Paracoccidioides brasiliensis and its related species.
2. Research Center for Pathogenic Fungi and Microbial Toxicoses / Associate Professor / Ayako Sano
3. Brazil / Department of Pathology Sciences, CCB, State University of Londrina, Londrina, Brazil / Eiko Nakagawa Itano
4. From 2003 to date.
5. Paracoccidioidomycosis is an endemic disease in Latin American countries and caused by biosafety level 3 pathogen: Paracoccidioides brasiliensis. We applied loop-mediated isothermal amplification (LAMP) method for detection of species specific gp43 from sputa of patient, found an antigenic similarity between Arthrographis kalrae and P. brasiliensis and isolated one strain from a patient lived in Londrina, Parana, Brazil identified as a new Paracoccidioides sp.: P. lutzii based on multiple gene analysis. We are under investigation the isolating ratio of P. lutti in Londrina’s areas and are seeking for the antigenic similarities of P. brasiliensis and P. lutzii to other related fungal species, such as Histoplasma capsulatum and dermatophytes related fungi.
6. The Association of Nikkei & Japanese Abroad. (JICA)
   1) May 2009-June: Dr. Itano Eiko Nakagawa visited our center by the special program supported by JICA, and presented the our cooperative research at ISHAM 2009 (Tokyo) supported by JICA.
   2) June 2010 –July: Dr. Belenise Tomoko Tatibana visited our center for the discussion and technical stabilization for detection of atypical P. brasiliensis in Londorina areas supported by JICA.
   3) Ms. Airy Nagashima will visit our center by the special program supported by JICA, and presented the our cooperative research at the Annual Meeting of the Japanese Society for Medical Mycology (Tokyo) supported by JICA.
   2) Tatibana BT, Sano A, Uno J, Mikami Y, Miyji M, Nishimura K, Itano EN. Humoral immune response in experimental ddY...


Institute of Media and Information Technology

1. PDE-based numerical image analysis

2. Institute of Media and Information Technology / Professor / Atsushi IMIYA

3. 1) Germany / Institute of Mathematics and Computer Science, Universitaet des Saarlands / Professor Dr. Joachim Weickert
   2) Kingdom of the Netherlands / Dept. of Biomedical Engineering, Techniches Universtaet Einthoven / Professor Dr. Ing Bart ter Haar Romeny
   3) Canada / Computer Science Department, University of Western Ontario / Professor John Barron

4. 1) 2000-
   2) 2003-
   3) 1998-

5. For the construction of temporal atrs of human being, design of the motion of normalized beating is a fundamental problem. In this research we are focusing on the detection and computation of motion form beating heart form gated MRI image sequence using PDE-based image analysis technique.

6. None

7. Some results will appear at Dagstuhl Seminar on June 2006

8. None

1. Digital and Discrete Geometry and their Applications

2. Institute of Media and Information Technology / Professor / Atsushi IMIYA

3. 1) USA / State University of New York / Professor Valentin Brimkov
   2) Kingdom of Sweden / CBA, University of Uppsala / Professor Gunilla Borgefords
   3) New Zealand / Dept. Computer Science, The University of Auckland / Professor Dr. Reinhard Klette
   4) France / ESIEE / Professor Gilles Bertrand

4. 1) 2005-
   2) 2003-
   3) 1997-
4) 2005-
5. In the project, we are focusing of the geometrical and topological treatment of voxels data in the higher-dimensional discrete space as a tool for topological analysis of MRI high-resolution brain imaging
6. None
8. None

Center for Frontier Science

1. Electronic structures of organic/metal interfaces studied by photoemission spectroscopy
2. Center for Frontier Science / Professor / Hisao Ishii
3. Taiwan/ National Tsing Hua University / Shu-Jung Tang
4. FY2010
5. The electronic structures of organic / metal interfaces of various system which attracts interest are investigated by photoemission spectroscopy. The target system are (i) model interface of organic bistable device, and (ii) interface between organic semiconductor film and quantum well where free electrons are confined in nano-scale ultra thin metal film
6. Global COE Program, KAKENHI (Grant-in-Aid for scientific reseach A)
8. "Fine Piece Award" in National Synchrotron Radiation Research Center 2010 Users Meeting (Che-Chia Hsu in national Tsing Hua Univ.(Oct 2010)

1. Properties of new interfaces built-up on ordered organic single crystal surfaces
2. Center for Frontier Science / Professor / Hisao Ishii
3. Germany/Humboldt University(Berlin)/Prof. N. Koch
4. FY2010
5. The ordered structure of organic layer on clean organic single crystal surface are prepared, and the properties of the heterointerfaces are investigated by scanning probe microscope.
6. Funding Program for World-Leading Innovative R&D on Science and Technology (FIRST)
7. A paper is in preparation.
8. None

1. Properties of charge accumulation at organic heterointerfaces and the device performance
2. Center for Frontier Science / Professor / Hisao Ishii
3. Germany/University of Augsburg/Wolfgang Bruetting
4. FY 2010
5. Functions of organic semiconductor devices often originate from heterointerfaces in the device. We investigated the relations
between charge accumulation mechanisms at the interfaces and the device performances using several experimental techniques, especially focusing on the role of orientation polarization. We have been conducting a good collaborating works including mutual people exchange.

6. JSPS "Institutional Program for Young Researcher Overseas Visits" (Frontier science international training program for young researchers leading in materials science and computational science (Graduate School of Advanced Integration Science)), Chiba University COE start-up Program

7. Paper
1) Displacement current measurement for exploring charge behaviors in organic semiconductor devices. Yutaka Noguchi, Yuya Tanaka, Yukimasa Miyazaki, Yasuo Nakayama, Hisao Ishii, in preparation (invited as a book chapter of "Physics of organic semiconductor devices II")

Conference
2) Yutaka Noguchi, Yukimasa Miyazaki, Yuya Tanaka, Yasuo Nakayama, Wolfgang Bruetting, Hisao Ishii, Carrier behaviors at organic heterointerfaces studied by displacement current measurement and impedance spectroscopy, 6th international conference on Molecular and Bioelectronics (M&BE6), (March 2011) "The conference itself was cancelled due to the earthquake, but the abstract book has been published.
4) Yukimasa Miyazaki, Yutaka Noguchi, Yasuo Nakayama, Wolfgang Bruetting, Hisao Ishii, Charge accumulation mechanisms at organic hetero interfaces: the effects of interface charges and orientation polarization, 9th International Conference on Nano-Molecular Electronics (ICNME 2010), Dec 15 2010, Kobe, Japan.

8. COE Start-up International Workshop "Organic Semiconductors Towards the Next", Nov 11 2010, was chaired, in which Prof. Bruetting was invited.

1. Elucidation of electronic properties based on direct observations of frontier density of states in organic semiconductors
2. Graduate School of Advanced Integration Science (Center for Frontier Science) / Professor / Hisao Ishii
3. Germany / University of Augsburg / Wolfgang Bruetting
4. FY 2009
6. KAKENHI (Grant-in-Aid for scientific research A)

7. Paper

Conference
1) Yuya Tanaka, Yutaka Noguchi, Hisao Ishii, Displacement Current Measurement as a Tool to Investigate the Channel Formation
Marine Biosystems Research Center

1. Evolution of reproductive strategies and the environmental conditions of habitats in marine green algae
2. Marine Biosystem Research Center / Professor Tatsuya Togashi Ph.D
3. US National Tropical Botanical Garden / Prof. Paul Alan Cox and Dr. John L. Bartelt
4. From 2002
5. We are studying the evolution of reproductive strategies and the environmental conditions of habitats in marine green algae based on laboratory observations and theoretical approaches.
6. JST Scientific research funds
8. We have received the Ecological Research Award 2005 and organized an international symposium at the International Botanical Congress 2005 in Vienna, Austria.

Research Center for Frontier Medical Engineering

1. Spectral Imaging and Its Application Prof. Arto KAARNA
2. Director of Research Center for Frontier Medical Engineering / Professor Yoichi MIYAKE
3. Finland / Lappeenranta University of Technology, Department of Information Technology
4. May 6, 2004 ~
5. Wavelet Transform and its Application to Color Medical Image Processing.
6. Finland, Academy of Finland · SA
7. Association of International Color Science Multispectral imaging
8. Workshop-Medical Imaging - May 14, 2004 at Chiba university

1. Spectral Imaging and Its Application Prof. Jussi Parkkinen
2. Director of Research Center for Frontier Medical Engineering / Professor Yoichi MIYAKE
3. Finland / Joensuu University, Department of Computer Science
1. **Neuropharmacological study on neurotoxic non-protein amino acids in some *Lathyrus* species**

   Center for Environment, Health and Field Sciences / Professor / Fumio Ikegami

   Belgium / Institute Plant Biotechnology for Developing Countries (IPBO), Ghent University / Professor Fernand Lambein

   From 1996 to date

   *Lathyrus sativus* is cultivated as a drought tolerant food crop in rainfed areas of India, Bangladesh and Ethiopia, but unfortunately the presence of high levels of the neuroactive amino acid can cause the crippling human disease neurolathyrism. This project is concerned with the mechanism of neurological action of these neurotoxins in *Lathyrus* species, and can open a possible though difficult path towards a solution to the problem of human neurolathyrism.

2. **Academic Expense**


3. **Phytochemical study for bioactive constituents in Asian medicinal plants and traditional medicine**

   Center for Environment, Health and Field Sciences / Professor / Fumio Ikegami

   Thailand / Faculty of Pharmaceutical Sciences, Chulalongkorn University / Associate Professor Nijsiri Ruangrungsi:

   Thailand / Faculty of Pharmacy, Chiang Mai University / Associate Professor Siriporn Okonogi

   From 1996 to date

   Our current interest in the chemical constituents of some Asian medicinal plants and crude drugs led to the isolation of several new bioactive compounds, such as gastrol (relaxant) from *Gastrodia elata* and ardisiphenols A-C (antioxidant) from *Ardisia colorata*. The results would tend to explain their uses as traditional medicines in Thailand or in China.

4. **Academic Expense**


5. **Effects of plant hormones on fruit set and growth in fruit tree**

   Faculty of Horticulture / Professor emeritus / Hiroyuki Matsui

   Center for Environment, Health and Field Sciences / Associate Professor / Hitoshi Ohara

   USA / Michigan State University / Martin J. Bukovac
4. The objectives of this project are to develop cultivation methods for steady fruit production and high-quality fruits production, through the following investigations, relationship between fruit set and growth, and plant hormones, and the factor that relates to the penetration of plant hormones from the fruit surface.

6. Michigan State University / Academic Expense

③ GA18 is a genuine precursor of GA3 in immature seed of Prunus cerasus L.. 1998. 16th Inter. Conference on Plant Growth Substances, Abstracts 146.

8. None

1. Physiological effects of nature therapy
2. Center for Environment, Health and Field Sciences/ Professor/ Yoshifumi Miyazaki
3. Korea/ Chungnam National University/ Joon Woo Lee (Professor)/ Bom-Jin Park (Associate Professor)
4. From 2009
5. The purpose of this study was conducted to clarify the physiological effect of nature therapy. It is widely believed that coming into contact with forest environments is somehow beneficial to human comfort. The subjects are male university students in
their twenties. For the clarify the physiological effect of nature therapy, we measure heart rate variability (HRV), heart rate, blood pressure and saliva cortisol concentration in this study.

6. Contract research (7212000443)


8. None