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EUK REWS LETTER

広島大学大学院国際協力研究科

「震災特集」 "A Special Edition for Disaster"

震災支援チャリティーイベント「つながり」 を開催!

The Charity Event "Tsunagari"!

教育開発コース博士前期 高橋 大海 IDEC「Operation つながり」代表

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東日本大震災以来、IDEC 学生の間で被災した東北の人々のために、何か出来ることをしたいという思いが強まり、各国の留学生と、IDEC 震災支援ボランティア「Operationつながり」が中心となり震災支援チャリティーイベントを開催した(5月21日)。このイベントの主旨は、学生、大学、地域の人々が国籍を問わず集まり、被災地を支援したいという思いを行動にし、集められたメッセージを被災地に伝えるというものである。さらにイベントの参加費と寄付金は被災地の復興に役立てられる。

イベントは、被災地を考えるワークショップ「私たちの災害」、被災地レポート、留学生による伝統舞踊・料理、被災地へのメッセージ発信、そして震災関連の展示という構成で行われた。ワークショップでは、ロールプレイングで原発に関する異なった役を演じた参加者から、「単に原発に反対・賛成では片付けられない問題を認識することができた。」等の声が聞かれた。留学生の伝統舞踊披露では、国の紹介と被災地へのメッセージが述べられた後、伝統的な踊りや音楽に200人の観衆は大いに盛り上がった。震災関連の展示では、東北の小学生が瓦礫の中から見つけ出して工作したオブジェが展示された。さらに来場者が一人ひとり色紙にメッセージを綴り、それが虹の模様にディスプレイされた。

このイベントに集まった人々は、留学生を含む学部生・大学院生、大学職員、地域の人々、団体、メディア関係者と多彩で、子供からお年寄りまでがそれぞれのスタイルでイベントに参加した。イベントのタイトルである人と人との「つながり」が、震災支援という形を通じてこの場所で生まれたといえる。このイベントを通しての成果は、震災支援・国際交流・地域貢献という3つの事が学生(大学)発信型で行われたことにある。また、企画段階から留学生を含む多くの学生が関わり意見をぶつけ合った。この過程は国際協力の現場さながらの交渉と協調が求められ、学生

にとって大きな学びの場となった。今後、震災支援の活動 を細く長く続けていくと共に、学生主体の支援の在り方を 模索していきたい。



留学生による伝統舞踊 Traditional Dance by International Students



イベントの参加者 Participants of the Event

After the Great East Japan Earthquake, the people including international students and IDEC voluntary group "Operation Tsunagari" have been expanding their sympathy and solidarity to the disaster-stricken area. The group took an initiative to hold the charity event for restoration assistance of the earthquake area (May 21). The main purpose of this event was to give the opportunity for native and international students, personnel of university and the people from community to come together and express their thoughts of supporting victims, and also to deliver the

messages to the disaster-stricken area. In addition, the fee of this event was contributed to the earthquake disaster restoration as a donation.

The event that was held, composed of different activities including; the workshop to think about stricken area, report of stricken area, traditional dance and dishes by international students, sending a message to Tohoku, and exhibition of earthquake. In the workshop, the opinions such as "I was able to recognize the issues which cannot be solely dealt with agree/disagree with the nuclear plant" were gathered from the participants who took different roles of people regarding nuclear power plant. After the introduction and message to Tohoku, more than 200 audiences were excited with the unique dance and music performed by international students. Moreover, in the exhibition of earthquake, variety of works which were made by elementary students in Tohoku by using materials picked in rubble were displayed. Besides, the audiences wrote messages to Tohoku on colored paper, and then those papers were decorated with the pattern of a rainbow.

The audiences of this event had a wide variation such as both under graduate and graduate students which included international students, university personnel, people and organizations in the community, mass media, and people of all ages participated in their own styles. Here it could be said that 'the connection' as a title of this event was created in this place based on the support for disaster victims. Through this student-initiation, three important outcomes such as; restoration assistance of earthquake disaster, international communication, community contribution were implemented. At the same time, many students including international students were involved in the process of designing this event, and exchanged their ideas. In this process, the students were required to negotiate and cooperate as what is needed in the field of international cooperation. The event therefore could be the precious learning opportunity for the students. In the long run, we would like to proceed with this restoration



地震関連展示ブース Exhibition Booth on the Earthquake

assistance of earthquake disaster, and to seek what the restoration assistance should be from the side of university students.

「大規模自然災害後の地域・都市の復興」を テーマとした国際協力プロジェクト演習

"Practical Seminar on International Cooperation Project with a theme of "Regional and urban restoration after large-scale natural disaster"

開発技術講座 藤原 章正

Development Technology
FUJIWARA, Akimasa

去る3月11日の東日本大震災では、多くの方々が地震、 津波の被害に遭われました。研究科を代表して、ここに謹 んでご冥福をお祈りいたします。

低炭素社会を設計する国際環境リーダー特別教育プログラムの国際協力プロジェクト演習では、M1およびD1学生を対象に、社会が直面している課題を取り上げ、グループワークを通じて課題解決のための提案書を作成しています。今春季セメスターでは、「大規模自然災害後の地域・都市の復興」を共通のテーマとして、高校生向けの教材を開発することを活動目標(アウトプット)として40名(6班)の学生が受講しました。

6つの班の学生たちが取り上げた課題は、省エネ生活様式、国際復旧・開発協力による津波災害からの復興、キャンパス内の省エネ供給システム、先進国と途上国の危機管理能力、アジア諸国の洪水対策など幅広く多様なものとなりました。なかでも(1)2004年アチェと2011年東北の津波被害後の復興過程を比較し、国際機関の果たすべき役割について解説したグループ、(2)危険箇所マップを作成し、災害発生後に生命を守るための住民避難、移住の過程について検討したグループ、(3)震災後の省エネ意識の変化に着目し、費用便益分析を通して研究科棟のエネルギーシステムの転換策などの提案は、大変ユニークで、実用性が高い内容でした。これらは高校生用の副教材としても十分に利用できる内容であり、近い将来、高校で留学生による発表会を開催すべく企画を検討中です。

学生達は、岩手・宮城・福島を中心とした被災地の津波による被害は予想以上に深刻であった一方で、復旧・復興が迅速にかつ着実に行われている事実を学びました。今後、都市復興を進めるに当たっては、過去にインドネシアや中国ほかで発生した災害と情報を共有しつつ、ソフト・ハード政策の両面で災害に対して強靱な都市づくり、将来の都市像を見据えたコンパクトで低炭素な都市づくりが必要であることを、グループ間で共通に認識しました。

最後に、世界中の多くのIDECの修了生や仲間から心配や励ましの暖かいメール等をいただきました。改めて、感謝申し上げます。

For all victims of "Tohoku Region Pacific Coast Earthquake" on March 11, 2011, on behalf of IDEC, I would like to pray their soul might rest in peace.

In Practical Seminar on International Cooperation Project Course of Global Environmental Leaders Education Program, M1 and D1 students choose urgent problems faced in society as themes and propose solutions through group works. In this spring term semester, forty students formed six groups and joined the course to share a common topic entitled "Regional and urban restoration after large-scale natural disaster". They attempted to develop teaching materials for high school students as an output of the course.

The topics they chose range from energy saving lifestyles, tsunami disaster recovery supported by international cooperation for restoration and development, eco-saving energy supply system in campus, risk management capacity in developed and developing countries, to flood management measures in Asian countries. Especially the following proposals from some groups were unique and useful in practice; (1) describing the responsibility of international agencies by comparing the restoration processes taken after tsunamis in Aceh, 2004 and in Tohoku, 2011, (2) exploring procedures of residents' evacuation and relocation after disaster to save their lives based on hazard map, and (3) suggesting an alternative energy system in IDEC building based on cost-benefit analysis focusing on changes in public attitudes toward energy saving after the Tohoku disaster. Because these proposals seem useful enough to be supplementary teaching materials, we are planning to have an opportunity for the students to present them for high school students in the near future.

Finally, I would like to express my sincere gratitude to IDEC alumni and colleagues all over the world for their warm-hearted e-mails filled with sympathies and encouragements.

低炭素社会を設計する国際環境リーダー育成プログラムー 地球環境の理解と地域環境の影響評価

— GELs Program —
Understanding the Global Environment and Regional
Environmental Impact Assessment

GELs プログラム環境影響評価グループ 山下 隆男

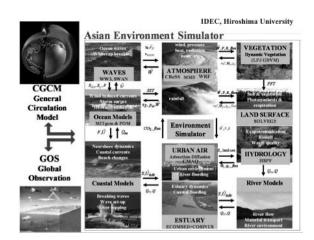
Environmental Impact Assessment Group , GELs Program YAMASHITA, Takao

国際環境リーダー育成プログラム(GELs)の環境影響評価(EIA)のグループは、他のグループとの共有部分として、地球環境、気候変動に関する教育研究を、独自の活動として、人材育成と教材開発を行っている。

人材育成:

先端的な環境影響評価技術を理解し、これを活用できる 技術者(大学教員、行政官)を育成する。そのための研究 テーマと人財育成目標は次の通り。

- ・地球システム科学(Earth System Science)の知識に基づいて地球規模で考え、地域環境シミュレーター(Regional Environment Simulator)に基づく環境影響評価技術を地域環境保全に活用できる技術者
- ・大循環モデル(General Circulation Model)とそれによる気候変動予測結果を正しく理解し、その結果を環境影響評価、再生可能エネルギー導入、低炭素社会構築の科学技術の導入に活用できる技術者
- ・イオンクロマトグラフィー等のLow Cost・High Precision (LCHP) 総合水質分析技術を習得し、これを環境モニタリング、環境保全に的確に活用できる技術者教材開発
- ・地域環境シミュレーター構築 (図1参照)
- ・気候変動予測解析結果の検索・表示システム
- ・イオンクロマトグラフィーを基盤とした総合水質技術の 確立
- ・気候変動と大気・水災害の変化予測
- ・熱帯ピート地保全技術と炭素循環・収支の数値解析
- ・再生可能エネルギー利用技術
- ・黄海における潮流発電の環境影響評価



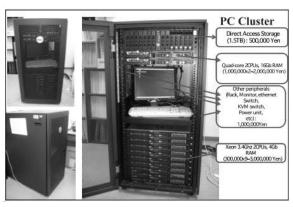


図1 地域環境シミュレーターの構成と PC クラスター Figure 1 Framework of Regional Environment Simulator and its PC Cluster

・気候変動を考慮した太陽光発電効率 Dynamic GIS 海底地震による津波や台風による高潮・高波の数値解析 は地域環境シミュレーターの守備範囲で、「環境シミュレー タープロジェクト研究センター」では環境影響評価の他に 災害外力の研究も行われている(図 2 参照)。

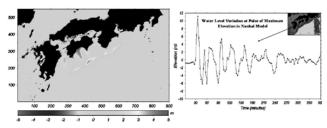


図 2 予想される南海地震の津波シミュレーション Figure 2 Tsunami simulation for the expected Nankai earthquake

Environmental Impact Assessment groups (EIA) of International Environmental Leaders Program (GELs) share the research and education on climate change, and the global environment with other GELs' groups together with our own activities of developing human resources and teaching materials listed below.

<u>Human resources development</u>:

The aim is to train engineers (faculty, administrative officer) who understand the advanced technology of environmental impact assessment and can make the most of it to environmental management. The research themes and the goals of human resources development are as follows.

- The engineers who think globally based on the knowledge of Earth System Science, and can protect the local environment by environmental impact assessment technology, such as Regional Environment Simulator (RES).
- The engineers who properly understand the General Circulation Models and the resulting climate change predictions to put them into practices of the design of a low carbon society, introduction of renewable energy, and environmental impact assessment.
- The engineers who learn the Low Cost, High Precision (LCHP) water quality analysis using an ion chromatography and can appropriately utilize it to the environmental assessment and environmental preservation.

Development of teaching materials

- · Regional Environment Simulator (see Figure 1)
- Display and Searching System of results the climate change prediction
- Comprehensive water quality analysis based on ion chromatography
- Prediction of atmosphere and hydrosphere disasters and climate changes
- Numerical analysis of the carbon cycle and budget in the tropical peat land

- · Renewable energy technologies
- Environmental impact assessment for tidal power generation in the Yellow Sea
- Dynamic GIS for photovoltaic efficiency considering climate change

Numerical analysis of tsunamis caused by submarine earthquake and storm surges, high waves caused by typhoon are in the scope of RES. In addition to environmental impact assessment, "Research Center for Environment Simulator Project" has conducted the studies on external forces of disasters. (see Figure 2)

一宮城からのメッセージー IDEC に感謝いたします!

Message from Miyagi — Appreciation to IDEC!

東北大学大学院環境科学研究科 日本学術振興会

特別研究員 藤井 秀道

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私は、2009年3月に国際協力研究科の博士課程後期を修了後、テキサス大学で客員研究員として一年間過ごした後、東北大学大学院環境科学研究科に赴任いたしました。震災時は、研究棟の一階でセミナーを行っている最中でした。私が所属する環境科学研究科は、宮城県仙台市の青葉山の頂上にあるため、周りに飲食店や小売店が少ない場所です。地震直後には、大雪に見舞われ交通機関も信号が使えないため、大渋滞で麻痺しており、私も含めて帰途につけない学生や大学関係者が多数いました。幸い、研究科で備蓄していた乾板や缶詰などが配給されましたので、初日は僕も含めて多くの学生や大学関係者が研究棟に宿泊し、空腹も紛らわすことが出来ました。震災後の生活環境にタイムスリップした気分でした。震災後の生活では、常に節水に心がけていました。電気やガスがないことは不便ですが、水



がないことは生死につながるため、私を含めて多くの人々 が水に対しては敏感でした。ちなみに震災の次の日の昼飯 は、一つのカップラーメンを三人で食べるというものでし た。物流が滞っており食料調達の先が見えない中では、消 費も慎重にならざるを得ませんでした。電気がない生活を 体験し、いかに電力に依存してきたのかを目の当たりにす ることで、途上国における電化の重要性を再認識するとと もに、安全で安定的な水資源へのアクセスやガス・熱供給 の恩恵などを強く知覚しました。震災から1週間後に電気 が復旧し、パソコンや携帯電話が利用可能になったときに、 広島大学で私の指導教員でした金子慎治先生から、「研究 を行う上でブランクを作ることは良くないため、広島大学 でしばらく研究を行ってはどうか」という連絡をいただき ました。当時も余震が続いており、食料などにも限りが あったため、研究環境が整っている広島大学にお世話にな ろうと決めました。広島大学には一か月間ほど滞在させて いただきました。その間、多くの先生方や IDEC の事務室 の皆さんには大変お世話になりました。最後になりますが、 ここに感謝の言葉を述べさせていただきます。ありがとう ございました。

After I graduated from the IDEC doctoral course in 2009, I had stayed in Texas, U.S. for one year as a visiting researcher at University of Texas. In 2011, I got a new post at the graduate school of environmental studies, Tohoku University. When earthquake occurred, we had a seminar at the first floor in the building. As the graduate school of environmental studies is located at the top of the mountain, there are a few restaurants and shops in the campus. After earthquake happened, the road was heavily congested because many people tried to go home under the situation which traffic lights were not worked, and food was sold out soon in shops and restaurant in the campus. Fortunately, we could stay a night in the building because the graduate school stocked a lot of emergency food and water. Under the circumstance which gas, electricity, and water supply was stopped I feel as if one had been transported through time to the Edo period. We tried to save water as much as possible. For example, instant noodles in a cup were shared by three people as a lunch in a next day. After I lived without electricity, I realized how we depend on the electricity in our life and the importance of infrastructure in developing countries as well as Japan. A week later after the earthquake occurred, Prof. Kaneko, who was my supervisor during my doctoral course, kindly offered me a temporary stay at IDEC to continue my research. As Sendai, Miyagi prefecture still had an aftershock and food was not enough, I decided to come to Hiroshima and stayed at IDEC for about a month. During that period, many professors and officers at IDEC helped me. I would like to express my sincere appreciation to IDEC professors and officers for their kindness and support.

福島での支援活動 ―福島県南相馬市での活動報告:福島第一原子力発電所事故後の様子

Relief Activities in Fukushima
 "Report of activities in Minami-Souma city,
 Fukushima Prefecture: After the accident
 of the Fukushima Daiichi Nuclear Power Plant"

山岸 良馬

(2011年3月平和共生博士前期課程修了)

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(Graduated from Peace and Coexistence Master Course in March, 2010)

南相馬市は、福島県の沿岸部に位置する街のひとつです。もともとは漁業の盛んな街だったそうですが、3月11日の地震とその後の津波によって、沿岸部は壊滅的な被害を受けました。海から距離がある道路の脇にも漁船が打ち上げられていて、そんな光景を日本で目にすることになるとは思いませんでした。その一方、もう少し内陸の市街地のあたりは地震や津波による被害は小さく、普通の街のような景色が続きます。ただし、福島第一原子力発電所の事故によって高い放射線量が検出される状況が続き、住民の方々は常に不安を感じながら生活を続けています。この中には、それでも自分の故郷で暮らしたいと思っている人もいれば、事情があって避難ができない方も含まれています。

この南相馬には、自分が所属していた特定非営利活動法人ピースビルダーズの活動の一環として震災後間もない4月上旬と5月上旬の2回、活動と調査のために伺いました。最初の訪問のときには、屋内退避の指示が出ていて、殆どの食料品店も営業していなかったので、自宅にいながら食べ物に困る方や体調が悪くなる方が多くいました。そのため、住民の方のお宅を訪問し、援助物資を渡したり、体調について聞き取ったりすることが必要でした。他の被災地と比べて見た目には被害がないように見える地域でも、実際にはいろいろな場面で生活の基盤が崩れ、それが大きな問題になる人がいることを知りました。

2回目の訪問では、復興に向けての活動の様子と、より 詳しい現状を調査することを目的としました。現地で復興 を目指して活動している人たちの話を聞くとともに、被災



福島県南相馬市での活動 Activities in Minami-Souma city, Fukushima Prefecture

識や情報の入手や、安全な場所の確保、防災等の努力をされていました。

今回感じたことは、日常の生活は様々な社会的要素が適切に組み合わせられバランスをとることで成り立っていて、その組み合わせが地震・津波や放射線被害によって形を変えると、そこに住む人達に対する広範囲に及ぶ影響が起こるものだということでした。そうした影響の予測は簡単なことではありませんが、その努力をし、助けを必要とする人達の手助けをすることが、社会科学に携わった人間として取るべき姿勢だと思いました。

Minami-Souma city is located in the coastal area of Fukushima prefecture. Originally the city was famous for fisheries, but the coastal area was severely damaged by the earthquake and following tsunami on 11 March. A fish boat was landed along the street away from the coastal line, which was a scene that I had never expected to see in Japan. On the other hand, inland residence area suffered far less destructions and I saw the area seems not different from the sight before the earthquake. However, people were living there with anxieties since the accident of the Fukushima Daiichi Nuclear Power Plant, which had spread comparatively higher level of radiation than usual. Some of them decided not to move there because it was still their home town despite the situation, and some of the others couldn't evacuate due to their reasons.

I visited Minami-Souma city twice at the beginning of April and May, to conduct relief activities and investigation, as a part of the activities of the Peacebuilders, an organisation I belonged to. During the earlier visit, indoor evacuation was ordered and few groceries were open, therefore there were many people who suffered from shortage of foods or worsened health conditions. Therefore, we needed to visit their homes, hand over relief goods, and interview about their conditions. Although appearance of the area was less damaged than other disaster-affected areas, I found various livelihoods had been destroyed and it was a severe problem for certain people.

The purpose of the second visit was to grasp on-going efforts for rehabilitation and to investigate detailed situations. I interviewed people taking actions for rehabilitation on the field and investigated needs of those who were affected by the disaster. Particularly concerning to issues of children, I visited some elementary schools and a nursery. While the administration was instructing that children should be out of the emergency evacuation preparation zone in principle, many children were staying inside the area for various reasons. Since supports from the administration was not enough for them, parents and teachers were working hard in finding safer place, preparing for another disaster, and gathering information about the radiations.

During the visits, I realised our daily livelihood is sustained with well-balanced networks of various social elements, and if such networks change their shapes by the earthquake, tsunami, or radiation hazard, the society members would suffer severe impact. Prediction of such impact must be a demanding task, but I felt it's our job as learners of the social science to make best effort on it and to support those people in need.

上海の国際会議での招待講演 ―「東日本大地震と震災復興」

- Invited Lecture at International Conference in Shanghai —

"Great East Japan Earthquake"

Earthquake & Tsunami and Disasters Prevention

開発技術講座 山下 隆男

Development Technology
Takao YAMASHITA

2011年 7 月に上海で開催された2011 IET International Conference on Smart and Sustainable City (ICSSC2011) で、「東日本大震災と震災復興」の招待講演を行った。

東日本大震、"The 2011 off the Pacific coast of Tohoku Earthquake" は、わが国では経験したことのない大地震であるが、予測不可能な巨大地震ではない。モーメントマグニチュード Mw 9.0以上の巨大地震は第二次世界大戦後、今回で6回目である。人類が計測した最大の地震である1960年のチリ地震(Mw9.5)は太平洋を伝播してわが国に遠地津波災害を発生させた。2004年の北スマトラ地震はチリ地震に次ぐ大地震(Mw9.2)でインド洋沿岸に甚大な災害を発生させた。巨大地震に対する防災対策を再検討すべき時である。

東北地方の災害復興に関して地域の果たす役割として は、構造物による防災と高所移転とを融合させた防災対策 が必須であり、限ここに界集落問題と社会の低炭素化を ミックスさせることが望まれる。

一方、中央政府の果たす役割としては、迅速な被災地域 救済に加え、災害予知技術、環境保全、エネルギー、農林 水産・食糧に対する中長期的な科学技術開発、政策への総 合化と合意形成が早急に行われるべきである。

特に、イノベーションが求められる国レベルの重要テーマとしては、原子力発電機構、トリウム溶融塩炉の導入、スマートグッリド導入、地震予知技術の促進、気象庁(+文科省)による原子炉等事故影響評価、サプライチェインの復元力強化、食糧自給率向上である。

さらに、復興時に考慮しなければならない事は、東北大 地震後のアウターライズ地震(大津波を発生させる)への 対応である。

At 2011 IET International Conference on Smart and Sustainable City (ICSSC2011) in Shanghai, China which is organized by Shanghai University from July 6 to 8, 2011, I delivered the lecture on "Great East Japan Earthquake"

Earthquake & Tsunami and Disasters Prevention as an Invited lecturer. The lecture is summarized below.

Earthquake: National Research Institute for Earth Science and Disaster Prevention (NIED) deploys the high sensitivity seismograph (Hi-net) and the digital strong-motion seismograph (KiK-net) across the all of Japan, as part of the activities of the Headquarters for Earthquake Research Promotion. The main fault model has been made clear using records of KiK-net. A huge fault of which area is 510km× 210km, strike:195° and dip:13° was estimated. This plate boundary fault can be divided into two faults, the north fault and the south fault. The Pacific Ocean bottom surface is very flat in the north fault, by contrast the south fault has many small seamounts that have made the plate boundary earthquake occurrence difficult. There are a lot of earthquake event data in the north fault, the south fault has no event records. In "the 2011 off the Pacific coast of Tohoku Earthquake" both fault slipped together resulting in huge earthquake of moment magnitude, Mw 9.0.

Tsunamis: Japan has a offshore wave and tsunami monitoring system that consists of 58 wave gauge station and 6 GPS gauge stations along the Japan Archipelago. GPS gauges measured offshore tsunami profile of this event. Pressure gauges located on the ocean bottom also measured offshore tsunami profile. These data showed the wave profile composed by two steps of increasing wave height. The first increase of sea level was a gradual rise to 0.0-2.0 m in 15:01-15:07 and the following second rise of sea level was very rapid 2.0-6.7 m within 5min (15:07-15:12).

Tide stations along the shore measured tsunami wave heights. The maximum wave height, 9.3m was observed at Soma, north Fukushima.

Tsunami run-up height survey was conducted by Tsuji and B.H Choi's group along Sanriku coast in Tohoku district. The maximum run-up was observed 37.9m above the mean sea level near Taro, Iwate prefecture.

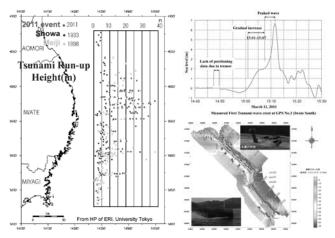
Disasters

- (1) Neither large scale seawalls nor evacuation drills could prevent disasters from such a huge tsunami, unexpected scale tsunami. Only a solution of town relocation to higher place showed its effectiveness to this unexpected event. Tsunami attack to evacuation shelter and square enhanced the damage further.
- (2) The world's deepest breakwater at the Kamaishi Bay, Tsunami Breakwater, reduced a tsunami intensity, however it was destroyed by tsunami.
- (3) There are so many damages to fishing port facilities.
- (4) Failure of the external power supply for cooling system in Fukushima Daiichi caused the serious nuclear power plant accident giving rise to widespread debate, such as power shortages, shut down of nuclear power plants in operation, 35 reactors in 54 may stop in Japan, leakage of radioactive material, and rumor damage for agricultural and fishery

products.

(5) Emergence of economic damage due to cut off supply chain.

Disaster Prevention: In the course of disaster recovery and reconstruction, new urban development should be done to construct the city that is "Safety (disaster reduction)", "Comfortable (caring for an aging society)", and "Environmentally friendly (toward a low-carbon society)". We have to consider the following themes to conduct the integrated disaster reconstruction, 1) Basic policy of disaster recovery, 2) Energy strategy (nuclear accident), 3) Critical village of aging society, 4) Compact city and Low-carbon society, 5) Regional disaster prevention (government structure), and 6) Agriculture and fisheries development (food self-sufficiency).



Tsunami run-up height (left)

Tsunami wave profile measured (right top)

Damages of the world's deepest breakwater at Kamaishi harbor (right bottom)

研究室訪問

Laboratory Series

上杉研究室

Laboratory of Uesugi

平和共生講座 上杉 勇司

Peace and Coexistence UESUGI, Yuji 上杉研究室には5名の博士課程の学生と8名の修士課程 の学生が在籍しています。博士課程の学生は、アフガニス

タンから来たシャムス・シャムスル・ハディ、スリランカから来たシャミニ・チャンドランに加えて、定光大燈、長谷川晋、中澤香世の3名の日本人学生がいます。他方、修士課程の学生には、パキスタンから来たアハマド・サジャド、東ティモールから来たニディア・リベイロ・セルパ、中国から来た李宜徽に加えて、西俣美奈子、樋口洋平、角田政司、高橋里枝、田中新悟の5名の日本人学生がいます。その他に、アメリカから日系人2世の酒井徳(既に帰国)、ロシアからウスコフ・エフゲニが研究生として所属してい

ます。

多くの学生が、紛争解決や平和構築に関連する問題を研究テーマに選んでいます。研究だけでなく学生生活においても日本人学生と外国人学生が互いに協力しあい、時に切磋琢磨しています。この研究室からは一人の卒業生も輩出していませんが、IDECを卒業した後に、それぞれが自分の選んだ紛争解決・平和構築の現場で、そして人生の仲間として、一生続くような関係づくりができるとよいと思っています。



Uesugi Laboratory has 5 Doctorial students and 8 Masters students. The doctoral students are SHAMS SHAMSUL HADI from Afghanistan, SHAMINI CHANDRAN from Sri Lanka, and Daito Sadamitsu, Susumu Hasegawa and Kayo Nakazawa from Japan. The master's students are AHMED SAJJAD from Pakistan, NIDIA RIBEIRO SERPA from Timor-Leste, Ellen Lee from China, Minako Nishimata, Yohei Higuchi, Masashi Tsunoda, Satoe Takahashi and Shingo Tanaka from Japan. In addition, Toku Sakai (2nd Generation Japanese American) joined the Laboratory as a research student last year, and this year Uskov Evgeny from Russia joins.

Many students in this Laboratory study topics related to conflict resolution and peacebuilding. Both Japanese students and international students help each other and sometimes compete each other not only in their research but also their student's life. Although no student has graduated from this Laboratory, I hope that they will nurture life-long professional relationship in the field of conflict resolution and peacebuilding and friendship after they graduate from IDEC.

IDEC アジアセミナー要旨 Report on IDEC Asia Seminars

The 209th IDEC Asia Seminar

講師 Speaker:

Munenobu Ikegami, Ph.D, (International Livestock Research Institute)

演題 Title:

Protecting Pastoralists from the Risk of Drought Related Livestock Mortality:

Piloting Index-Based Livestock Insurance (IBLI) in Northern Kenya

日時 Date:

December 20, 2010

Livestock is both the principal asset and source of income for the pastoralists in Northern Kenya. The pastoralists have been facing drought, risk and shock which are large in magnitude (20-40% of livestock mortality rate) and frequent (once every 4-5 years). International Livestock Research Institute (ILRI) and its research and implementation partners have launched Index Based Livestock Insurance (IBLI) in January 2010 in order to mitigate the negative consequences of the risk and shock and evaluate its effectiveness. In this seminar, Dr. Ikegami explained what the researchers had learned from designing and launching the insurance product and the challenges they were facing currently.

(Coordinator: Daisaku Goto)

The 210th IDEC Asia Seminar

講師 Speaker: Prof Jin Chen (Beijing Normal University) 演 題 Title: Urban Environment Monitoring: View from Remote Sensing

日時 Date: December 27, 2010

The 210th IDEC Asia Seminar was held on December 27, 2010 from 16:30 to 17:30 at IDEC room 201. Professor Chen Jin presented several research papers regarding urban form changes in Chinese cities using DMSP data, assessment of urban expansion impacts on arable land loss and quantification of cooling island effects of urban park. He focuses on the remote sensing technology to monitor urban areas and its impact on energy consumption and other conservation efforts. It was timely with current rapid development and urbanization process in China which makes a rapid change in urban transport sector, energy consumption and infrastructure construction. About 24 students attend his presentation and enthusiastic in discussion session.

(Coordinator: Akimasa Fujiwara)

The 211th IDEC Asia Seminar Special Seminar on" Vegetation Modelling and Forest Preservation"

講師・演題 Speakers and Titles

- 1) 1st talk: Prof. Nakagoshi (IDEC, HU): "Plants under Stress" (a part of normal class)
- 2) 2nd talk: Nur Maliki Arifiandi (IDEC, HU)
 "Implementation of HCVF and RIL in Indonesia's Forest Concession towards Sustainable Forest Management"
- 3) 3rd talk: Ade Wahyu (Ministry of Forestry, RI)
 "Causes and Impacts of Deforestation and Peat Land Degradation in Indonesia"

4) 4th talk: Arno Adi Kuntoro (ITB)

"Application of DGVM (Dynamic Global Vegetation Model) for Simulating Total Carbon Emission from Wild Fire in Kalimantan Island"

5) 5th talk: Takao Yamashita (IDEC, HU)

"Forest Modelling and Discussions"

日時 Date: 8:45-12:00, December 21, 2010

For the sake of Environmental Impact Assessment for forest management, we have constructed a system that can be implemented in Indonesia, that consists of the meso-scale meteorological model (for regional climate analysis area), the land-surface vegetation model (including the carbon budget analysis), and the model for hydrological runoff analysis. In particular, the tropical dynamic vegetation model was established for local environment assessment including carbon emissions from tropical peat land. This research paper was awarded "JGEE Award 2010" (Journal of Global Environment Engineering) by the Japan Society for Civil Engineers (JSCE). In addition, GELs Seminar "Vegetation Modelling and Forest Preservation" was held for results presentation and future development of forest research in GELs Program.

This Asia Seminar was held as a final meeting of GELs' fund research titled "Forest sustainability in Kalimantan Island, Indonesia" (October, 2009 ~ September 2010).

(Coordinator: Takao Yamashita)

The 212th IDEC Asia Seminar

講師 Speaker:

Indu Shekhar Thakur (Professor, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India. Invited Professor at IDEC Hiroshima University)

演題 Title:

Remediation of Carbon Dioxide in the Environment for Designing Low Carbon Society

日時 Date: January 21, 2011

Carbon dioxide (CO2) is a colorless, odorless non-flammable gas and is the most prominent Green House Gas (GHGs) in the earth's atmosphere together with methane, nitrous oxide, chlorofluorocarbons and ozone. Asian subcontinent is severely affected by thermal based fuel consumption, industrialization, globalization, population explosion, poverty and rapid development. Therefore, it is important to reduce CO₂ in the environment through designing low carbon society (LCS). Developing countries may adopt visible energy projects through innovations and technology sharing, utilizing effectively the co-benefits of LCS policies and neighboring policies, and accepting drastically transfiguring LCS and economy of Kyoto protocol. In addition, both artificial and natural sequestration processes may be adopted for remediation of CO2. Adaptation and sequestration of CO2 would be significant possibilities for LCS. Microbial communities, autotrophic and chemolithotrophic may be enriched and process parameters optimized for effective sequestration of CO₂ in the environment. Alternate energy sources like bioethanol, biodiesels, biohydrogen and microbial fuel cells may be produced after sequestration of CO₂ and production of biomass.

(Coordinator: Nobukazu Nakagoshi)

The 213th IDEC Asia Seminar

講師 Speaker: Prof Bambang Sugeng Subagyo (Institute of Technology Bandung, Republic of Indonesia)

演題 Title: Highway Engineering and Transportation Issues in Indonesia: Current Situation and Future Perspective

日時 Date: January 11, 2011

The 213th IDEC Asia Seminar was held on January 11, 2011 from 14:30 to 16:00 at IDEC room 405. Prof Bambang Sugeng Subagyo introduced his current research minimizing cost and time, and maximizing the recycle and re-use materials for road and highway maintenance in Indonesia. Due to the budget constraint for road maintenance, he has developed an approach adjusting the international standard. The approach could successfully reduce transportation time and cost of materials. About 20 students, includes intern students and special auditing student attend his presentation and especially students from developing countries are enthusiastic in his presentation and discussion, because closely related to their home country' situation.

(Coordinator: Akimasa Fujiwara)

The 214th IDEC Asia Seminar

講師 Speaker:

Professor Robert Hutchings (Dean, LBJ School of Public Affairs, The University of Texas at Austin)

演題 Title:

International Security in an Era of Globalization

日時 Date: January 11, 2011

The seminar was organized at the occasion of the first visit of Dean, Professor Robert Hutchings to IDEC for inaugural event on the International Degrees Program between IDEC and LBJ School of Public Affairs, The University of Texas at Austin. Dean Hutchings has combined career between academic and diplomatic and published number of books and articles on international politics. Among those, while chairing the National Intelligence Council, he directed the year-long "NIC 2020" project resulting in a report called Mapping the Global Future, examining the forces that will shape world affairs out to the year 2020. Based on such enormous experiences in academia and diplomat, the insightful lecture broadly illustrated major emerging issues in international security of current globalizing world.

(Coordinator: Shinji Kaneko)

The 215th IDEC Asia Seminar

講 師 Speaker: Dr. Hiroshi Shimamoto (Department of

Urban Management, Kyoto University)

演 題 Title: Public Transport Planning based on Transit Assignment Model

日時 Date: February 25, 2011

The 215th IDEC Asia Seminar was held on February 25th, 2011 from 16:30 to 17:30 at IDEC room 201. Dr. Shimamoto argued a newly developed transit assignment model for Bus system in Hiroshima. In this study, he evaluated the existing bus network from the perspectives of passengers, operators, and overall system efficiency using the model. He focused on the effects of reducing operation cost against passenger cost. He suggested that, regardless of origin and destination pattern fluctuation, reducing operator costs would induce passenger cost and increase inequity of service levels among passengers. About 25 students attended his presentation and enthusiastic in discussion session.

(Coordinator: Akimasa Fujiwara)

The 216th IDEC Asia Seminar

講師 Speaker:

Dr. Pacca Almeida Sergio (Visiting Professor of IDEC, Hiroshima University and Associate Professor, University of Sao Paulo)

演題 Title:

How much land is required to reduce CO2 emissions from cars in Japan and Brazil using biomass?

日時 Date: March 22, 2011

The presentation began with brief comparison of emission profiles of Japan and Brazil and focused on the unique features of the Brazilian energy characteristics. In particular, the carbon budget of the sugarcane program in Brazil has been assessed including various carbon flows and stocks. The result shows a potential surplus of the balance of up to 128 metric tons of CO₂ per ha when sugarcane is effectively used as both vehicle fuels and power generation source. With the findings, Dr. Sergio argued that bilateral trade between electric vehicles of Japan and surplus biofuel of Brazil would bring potential mutual benefits for both countries.

(Coordinator: Shinji Kaneko)

The 217th IDEC Asia Seminar

講師 Speaker: Prof. Kyung-Duck Suh (Department of Civil and Environmental Engineering, Seoul National University, South Korea)

演題 Title:

Performance-Based Design of Caisson Breakwater Considering Climate Change Impacts

日時 Date: April 14, 2011

概要 Abtract:

Prof. Suh is one of the leading scientists in coastal engineering and, in particular, coastal structure design field. In the seminar, he introduced us the results of his recent research activity regarding the performance-based design of

breakwater considering the climate change impacts. Vigorous discussions and questions were raised from the rather basis like what the climate change is to how to consider the possible interdecadal variation of climate in the design level. It was a good opportunity for the attendants to know and think about the practical aspects on how the climate change affects and is reflected in the planning and designing level.

(Coordinator: Han Soo Lee)

The 218th IDEC Asia Seminar

講師 Speaker:

- 1) Adi Prasetyo (Research Center for Water Resources, Ministry of Public Works (PU), Indonesia)
- 2) Takao Yamashita (IDEC, HU)

演題 Title:

- 1) Integrated flood management in the Citarum River Basin
- 2) Water management in the Citarum River and decadal variation of rainfall in Indonesian Archipelago

日時 Date: May 10, 2011

概要 Abtract:

The seminar was held as part of our collaborative research entitled "Integrated water resource management in the Citarum River basin, Indonesia, using the Regional Environment Simulator". Since the Citarum River basin in the west Java has many related problems such as the flooding in the upstream city, Bandung, the water quality problem in the Saguling Dam, the operational problem of two dams, Cirata and Jatirfur, and the water resource scarcity in the downstream industrial and agricultural areas, the recent issues and information were introduced by Mr. Prasetyo and Prof. Yamashita based on their research and field survey. Vigorous discussions were carried out regarding the possible countermeasures to the complicated problems in the basin among the participants, especially many Indonesian students.

(Coordinator: Han Soo Lee)

外部資金等受け入れ状況

List of Researches funded by External Institutions

【受託事業】

研究代表者	研究課題	契約期間	契約金額
川村健介	持続的な放牧管理システムの構築に向けた日本 -NZ 共同研究	平成23年4月1日~ 平成24年3月31日	2,500,000円
藤原 章正	持続可能なアジアをリードする若手研究者フォローアップ プログラム 4	平成23年7月1日~ 平成23年12月31日	9,087,000円

【受託研究】

研究代表者	研究課題	契約期間	契約金額	
中越 信和	ダム湖周辺の森林機能と景観生態学的研究	平成23年4月25日~ 平成24年2月28日	4,999,150円	

【共同研究】

研究代表者	研究課題	契約期間	契約金額
川村 健介	ハイパースペクトラルカメラを利用した米 1 粒中のタンパク含有量の予測に関する研究	平成23年3月1日~ 平成24年2月29日	600,000円

【奨学金寄付金】

研究者名	講座名	寄附金額	寄付者名
川村 健介	開発技術	500,000円	財団法人サタケ技術振興財団

客員教授・客員研究員の紹介

Visiting Professors & Researchers

[外国人研究員(客員教授)Visiting Professor]

氏名 Name: Dharma Raj Dangol

ダルマ ラーズ ダンゴル

出身 Nationality: Nepal ネパール

所属 Affiliation: Tribhuvan University トリブバン大学

滞在期間 Duration: 2011/4/1~2011/9/30

氏名 Name: Mohammed Elsayed Abou-Elhaggag

モハメド エルサイド アボウハガク

出身 Nationality: Egypt エジプト

所属 Affiliation: Cairo University カイロ大学

滞在期間 Duration: 2011/4/1~2011/6/30

[外国人研究員(客員准教授)Visiting Associate Professor]

氏名 Name: Lubang Alfredo Ferrariz

ルバン アルフレッド フェラリス

出身 Nationality: Philippine フィリピン

所属 Affiliation: Nonviolence International Southeast

Asia

非暴力インターナショナル 東南アジア

滞在期間 Duration: 2011/7/1~2011/9/30

[外国人客員研究員 Visiting Researcher]

氏名 Name: Kusumi Vasantha DHANAPALA

クスミ ワサンタ ダンナパーラ

出身 Nationality: Sri Lanka スリランカ

所属 Affiliation:

滞在期間 Duration: 2011/4/1~2013/3/31

氏名 Name: Mohammad Reza Taghi Zadeh Marvast

モハマド レザ タギ ザデ マーバスト

出身 Nationality: Iran イラン

所属 Affiliation: University of Tehran テヘラン大学

滞在期間 Duration: 2011/6/17~2011/8/31

氏名 Name: Chalat Tipakor nkiat

チャラット ティパコンキアット

出身 Nationality: Thailand タイ

所属 Affiliation: Asian Institute of Technology

アジア工科大学院

滞在期間 Duration: 2011/7/31~2011/10/27

氏名 Name: Sakda Panwai サクダパンワイ

出身 Nationality: Thailand タイ

所属 Affiliation: Express Authority of Thailand

タイ高速道路公社

滞在期間 Duration: 2011/7/31~2011/8/31

氏名 Name: Phou Sakal ポウサカル 出身 Nationality: Cambodia カンボジア 所属 Affiliation: Build Bright University

ビルドブライト大学

滯在期間 Duration: 2011/7/31~2011/8/31

氏名 Name: Mokhamad Syaom Barliana

モクハマッド シャオム バリアナ

出身 Nationality: Indonesia インドネシア

所属 Affiliation: Indonesia University of Education

インドネシア教育大学

滯在期間 Duration: 2011/7/10~2011/8/10

氏名 Name: Le Thu Huyen レッフエン

出身 Nationality: Vietnam ベトナム

所属 Affiliation: University of Transport and

Communication

ベトナム交通運輸大学

滞在期間 Duration: 2011/7/15~2011/8/15

氏名 Name: Achmad Yasir Baeda

アクマッド ヤサ バエダ

出身 Nationality: Indonesia インドネシア

所属 Affiliation: Hasanuddin University

ハサヌディン大学

滯在期間 Duration: 2011/7/31~2011/9/30

氏名 Name: Cong Mai Van コンマイバン

出身 Nationality: Vietnam ベトナム

所属 Affiliation: Water Resource University

ベトナム水資源大学

滯在期間 Duration: 2011/7/19~2011/8/16

氏名 Name: Ha Dinh Hieu ハディーンヒュウ

出身 Nationality: Vietnam ベトナム

所属 Affiliation: Ho Chi Minh City University of

Technical Education

ホーチミン市技術教育大学

滯在期間 Duration: 2011/7/10~2011/8/20

氏名 Name: Manoj Kumar Meher

マノジ クマール メハル

出身 Nationality: India インド

所属 Affiliation: HydroSult Inc. ハイドロサルト社

滯在期間 Duration: 2011/7/30~2011/9/15

氏名 Name: Binu Sundas ビヌサンダス

出身 Nationality: India インド

所属 Affiliation: Sikkim University シッキム大学

滯在期間 Duration: 2011/7/30~2011/9/30

採 用 等

New IDEC Staff/Members etc

[教員 Academic Staff]

H23.4.1付け

採用 伊藤 高弘 准教授

ITO, Takahiro Associate Professor

開発政策講座 Department of Development

Policy

採用 別所 裕介 助教

BESSYO, Yusuke Assistant Professor 平和共生講座 Department of Peace and

Coexistence

採用 アンドレイ カルギン 特任助教

Andrey KALUGIN

Assistant Professor(Special appointment)

開発政策講座 Department of Development

Policy

[事務職員 Administrative Staff]

H23.4.1付け

採用 水口 由以 学生支援グループ員

MINAKUCHI, Yui

Student Support Group Staff

配置換 住田 生美 運営支援グループ主任

SUMIDA, Ikumi

General Affairs Group Staff

(生物圏科学研究科運営支援グループから)



転 出 等

Retirement & Transfers etc

[教員 Academic Staff] H23.6.30付け

任期満了 山根 達郎 助教 (Resigned) YAMANE Tatsuo

平和共生講座 Department of Peace and Coexistence

[事務職員 Administrative Staff]

H23.3.31付け

定年退職 加藤 和司 総括主査

(Retired) KATO, Kazushi

定年退職 空 誠宗 運営支援グループ 主査 (総務主

担当)

(Retired) SORA, Seiso

Chief, General Affairs Group

H23.3.31付け

転出 吉永 幸恵 運営支援グループ員 (Transferred) YOSHINAGA, Sachie Staff, General Affairs Group 日本学術振興会へ

H23.4.1付け

配置換 宮 秀貴 運営支援グループ主査 (総務主担当) (Transferred) MIYA, Hidetaka General Affairs Group Staff (IDEC 運営支援グループ主査 (学術主担当) から)

入学試験のスケジュール

Entrance Examination Schedule

(平成 23年 10月及び 24年4月入学)

(For October 2011 and April 2012 Enrollment)

7月15日~7月22日 事前審査受付期間(対象者のみ)

8月 1日~8月 5日 願書受付期間 9月 7日~9月 8日 入学試験 9月 15日 合格発表

Jul. 15-22 Application period for preliminary evaluation

Aug. 1-5 Submission of application form

Sep. 7-8 Entrance examination
Sep. 15 Announcement of admission

修了生の進路

Career Paths after Graduation

★2011年3月 博士課程後期修了者

Doctoral Program completed in Mar. 2011

開発科学専攻 Division of Development Science 3名(内留学生 2名)3(including 2 foreign students) 教育文化専攻 Division of Educational Development and Cultural and Regional Studies

4名(内留学生 1名) 4(including 1 foreign students) 教育・研究・公務 Education, Research, Government 4 民間企業 Private Company 0 各種団体 / 財団 Auxiliary Organization 0 帰国・現職復帰他 Return to home country, etc. 3

★2011年3月 博士課程前期修了者

Master's Program completed in Mar. 2011

各種団体/財団 Auxiliary Organization

開発科学専攻 Division of Development Science

24名(内留学生 12名)24 (including 12 foreign students) 教育文化専攻 Division of Educational Development and Cultural and Regional Studies

15名(内留学生 10名)15 (including 10 foreign students) 教員 School Teaching 1

民間企業 Private Company 11

進学 Proceed to Doctoral Program 5 帰国・現職復帰他 Return to home country, etc. 19 公務 Public Administration 0

その他の IDEC の動き (2011年1月~2011年6月)

Other Activities and Events at IDEC

- ■広島大学日米複数学位(修士号)プログラム創設説明会
 を IDEC にて開催 (2011/1/11)
- ☐ The explanatory meeting for International Master's Degrees Program was held at IDEC. (2011/1/11)

■ユネスコ・アペイドセミナー開催

第24回ユネスコ・アペイド広島セミナー「Innovation and Reform in Teacher Education in Asia-Pacific Region: Promoting Professional Development through Lesson Study」を IDEC にて開催。(2011/2/9-11)

☐ The 24th UNESCO-APEID Hiroshima Seminar which is titled "Innovation and Reform in Teacher Education in Asia-Pacific Region: Promoting Professional Development through Lesson Study" was held at IDEC. (2011/2/9-11)

■ガジャマダ大学一行が IDEC を訪問

インドネシア・ガジャマダ大学一行が IDEC を訪問。 (2011/6/9)

☐ IDEC visited by delegation from Universitas Gadjah Mada, Indonesia.(2011/6/9)

■ 学会賞等 - おめでとうございます

Phoumanyvong Phetkeo (博士課程後期3年)が第6回日本貿易会賞優秀賞を受賞 (2011.1.11)

神田佑亮(博士課程後期3年)と藤原章正教授が都市計画 学会2010年年間優秀論文賞を受賞 (2011.5.27)

Yu Biying(博士課程後期2年)がアジア交通学会優秀発表 賞を受賞(2011.6.22)

阪口恵理(博士課程前期1年)が第62回中国地方整備局管 内技術研究会論文優秀賞を受賞(2011.7.15)

3

IDEC 構成員による最近の著書 (2011年1月~6月)

Books Published by IDEC Faculty (from Jan. to Jun. 2011)

(伊藤高弘准教授)

鶴光太郎他(編)『非正規雇用改革 日本の働き方をいか に変えるか』日本評論社、2011年(分担執筆)

(金子慎治教授)

金原達夫 / 金子慎治 / 藤井秀道 / 川原博満『環境経営の日 米比較』中央経済社 2011年(共著)

(金子慎治教授)

谷口真人・吉越昭久・金子慎治 編著『アジアの都市と水 環境』古今書院 2011年(共著)

(金子慎治教授)

Makoto Taniguchi Editor 『Groundwater and Subsurface Environments -Human Impacts in Asian Coastal Cities-』 Springer 2011年 (分担執筆)

(佐藤暢治 准教授)

佐藤暢治『保安語積石山方言のテキスト』白帝社、2011 年(単著)

(中越信和教授)

石川 統ほか(編)『生物学辞典』東京化学同人、2010 年12月(分担執筆)

(中越信和教授)

S-K. Hong et al. eds. Landscape Ecology in Asian Cultures Springer, 2011年1月 (編著)

(馬場卓也教授)

高等学校数学教育研究会(編)『高等学校数学教育の展開』 聖文新社 2011年(共著)

(馬場卓也教授)

Baba, T., Teragaito, M. et.al. translated Fun with MATH 1 for Elementary School, Keirinkan (分担執筆)

IDEC 広報委員会(2011年度)

◇ IDEC Public Relations Committee 2011-2012; 中越信和(委員長)NAKAGOSHI, Masakazu(Chairperson),石原伸一(副委員長、ニューズレター編集企画)ISHIHARA, Shinichi(Vice-Chair , Editorial Planning),上杉勇 UESUGI, Yuji,伊藤高弘 ITO, Takahiro(ニューズレター編集担当,Editor),小松悟 , KOMATSU, Satoru

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http://www.hiroshima-u.ac.jp/idec/index.html