

## ACLS NEWS

- Honorary Professor Yoshinori Ohsumi of Tokyo Tech's Frontier Research Center has received 2015 Canada Gairdner International Award, 2015 International Prize for Biology, the 20<sup>th</sup> Keio Medical Science Prize, and 2015 Cultural Contributor. Professor Ohsumi has made great contribution to cell biology especially in the research of autophagy.
- Professor Akihiko Konagaya of Interdisciplinary Graduate School of Science and Engineering has received this year's Best Author Prize from the Japan Society for Industrial and Applied Mathematics. The article title is "Cluster Newton Method for Underdetermined Inverse Problems and its Application to Pharmacokinetics Model".
- Tomoya Hasegawa, Doctoral student (D2), Graduate School of Bioscience and Biotechnology, received Poster Award at the 48<sup>th</sup> annual meeting of the Japanese Society of Developmental Biologists, held at Tsukuba from the 2<sup>nd</sup> to the 5<sup>th</sup> of June. The poster title is "Chronic inflammation induces the blastema apoptosis during zebrafish fin fold regeneration".
- Keisuke Yanagisawa, Master's student (M2), Graduate School of Information Science and Engineering, received 2014 SIGBIO Best Student Presentation Award from Bioinformatics and Genomics group, Information Processing Society of Japan. The presentation title is "Drug clearance pathway prediction based on semi-supervised learning".
- Nobuaki Yasuo, Master's student (M2), Graduate School of Information Science and Engineering, and his team received Schrödinger Award and Student Award at the 2<sup>nd</sup> IPAB Contest held at Ookayama Campus on the 17<sup>th</sup> of July. Shogo Suzuki, Master's student (M1), Graduate School of Information Science and Engineering, and his team including Keisuke Yanagisawa, Master's student (M2), Graduate School of Information Science and Engineering, also received Student Award.
- Naoki Wakui, Doctoral student (D3), Graduate School of Bioscience and Biotechnology, received Best Poster Award at the 3<sup>rd</sup> IIT Madras - Tokyo Tech Joint Symposium on "Algorithms and Application of Bioinformatics" held at Chennai India on the 5<sup>th</sup> and 6<sup>th</sup> of November. The poster title is "Role of atom-atom potential for detecting target structure of c-Yes kinase in structure based drug design".
- Program for Leading Graduate Schools Forum 2015 was held at Shinjuku on the 24<sup>th</sup> and 25<sup>th</sup> of October. Staff and students from 62 Leading Graduate Schools gathered at the forum and discussed various issues. The report of the forum will be featured in the next newsletter.

## Personnel Changes

### Newcomer

2015.10.1 ACLS office staff Emi Nogami  
2015.11.1 ACLS office staff Emi Kumagai

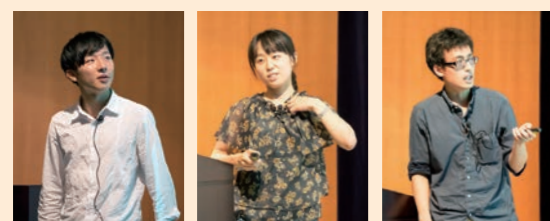
### Resignation

2015.10.16 ACLS office staff Fumiko Tanigawa

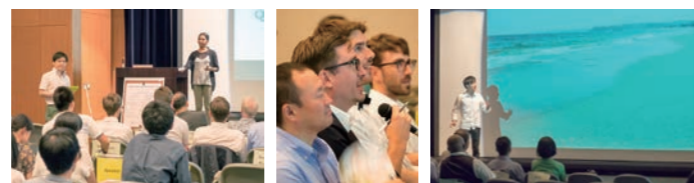
## Global Communication Contest 2015

The 3<sup>rd</sup> Global Communication Contest was held at Suzukakedai Campus on the 5<sup>th</sup> of August. There were 15 contestants and each of them tried hard to communicate a

technical topic to the audience. Speech, presentation and interactive skills were judged and here are the 3 winners.



**Winners**  
The 1<sup>st</sup> Prize and Audience Award Toshihiro Hayashi Graduate School of Bioscience and Biotechnology, M1 (left)  
The 2<sup>nd</sup> Prize Megumi Inaba Graduate School of Bioscience and Biotechnology, M1 (middle)  
The 3<sup>rd</sup> Prize Hokuto Kato Graduate School of Bioscience and Biotechnology, M1 (right)



Judges and contestants at Suzukake Hall

### From Editor

It is the 4<sup>th</sup> ACLS International Summer School this year. The 1<sup>st</sup> International Summer School was held at Shonan Village Center in Kanagawa and at that time most of the students were very nervous about communication in English. Three years have passed. There are overseas students in students committee and all discussions are done in English. It looks students made a big progress during these years. (YK)



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Tokyo Institute of Technology Education Academy of Computational Life Sciences (ACLS)  
The Ministry of Education, Culture, Sports & Technology in Japan Program for Leading Graduate Schools  
**Suzukakedai Office**  
J3-141 (building J3, room 407) 4259 Nagatsuta-cho, Midori-ku, Yokohama, Kanagawa, 226-8501 JAPAN  
Tel: +81-(0)45-924-5827 Fax: +81-(0)45-924-5930  
office@acsl.titech.ac.jp http://www.acsl.titech.ac.jp/  
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# ACLS Newsletter

Tokyo Institute of Technology  
**Education Academy of Computational Life Sciences (ACLS)**  
The Ministry of Education, Culture, Sports & Technology in Japan  
Program for Leading Graduate Schools

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## Opening Essay International Summer School and its educational framework



### Yasunori Aizawa

Associate Professor  
Center for Biological Resources and Informatics  
Chairperson of International Summer School WG

ACLS holds an International Summer School every year and invites outstanding global lecturers and overseas students from our global university network. In the program planning stages, ACLS students take initiative in setting up activities that reflect the character of the venue which hosts the ACLS summer school. Last year our ACLS summer school was held at Purdue University (USA) and this year (2015) at the University of Oxford (UK).

I have been acting the chairperson of the faculty member's working group (WG) for these past 2 years. Before I joined the working group, however, a noticeable educational framework in the ACLS summer school was already in place.

A major event in the ACLS summer school is collaborative student group works. Students are divided into about 8 groups with each group having 5-6 students and a good mix of Japanese and overseas students in each of the groups. In addition to nationality, students' fields of study vary from life-science to computer science. For 3 days, each group worked on a theme such as "the world 10 years later" or "research for social benefit". Students then wrote up a 4-6 page report and gave a 10-minute group presentation.

In group work, several rules applied to students. Rule 1: information was gathered from poster sessions and invited lecturers and incorporated them into a final report. Student posters were presented in poster sessions. Not only did the posters represent each student's own research but also worked

as a direct presentation of themselves. Lecture sessions were held over a two-day period and featured a series of lectures by invited lecturers. Rule 2: use English in reporting, discussion and presentation.

Each of the participating students is required to complete this program in an intensive 4-day period which is the main focus of the ACLS summer school. Students have no time for relaxation throughout the tight event schedule.

My past 2-year experience has given me strong confidence that our ACLS summer school has a powerful educational impact which should enable participating students to be mature professionals when they complete their graduate careers. Students from a variety of academic backgrounds that meet in an international forum must find common ground in communicating with each other and be innovative in coming up with solutions to complex problems. In this summer school, these activities and a need to do them in a limited time is a challenging experience for many students.

Many students encounter challenges in the preparation stages nearly 6 months before the summer school starts. An ACLS summer school organizing committee of nearly 20 members is appointed which is comprised of 10 student members and 10 faculty members from a working group as well as a committee chairperson that is selected amongst the students. All discussions are conducted in English. As in many cases, the discussions in English do not run as smoothly as planned. In the beginning, students experience stress but soon accept that making forward progress no matter how bumpy the road is fine. Many faculty members are pleased to watch students mature through their experiences in the summer school preparation.

In conclusion, I would like to express my sincere gratitude to Professor Peter Cook at the University of Oxford and Professor Hiroshi Kimura from the Department of Biological Sciences at Tokyo Institute of Technology for coordinating their efforts and making significant contributions to making this past summer school in Oxford a huge success.

# Report of ACLS International Summer School 2015 in Oxford

The ACLS International Summer School 2015 was held at the University of Oxford and Imperial College London from the 30<sup>th</sup> of August to the 6<sup>th</sup> of September. This year was the 4<sup>th</sup> Annual International Summer School and 53 participants attended which were comprised of 24 ACLS students, 11 overseas students, 6 invited lecturers and faculty members, and 12 ACLS faculty and administrative members.

The International Summer School is one of the main programs of the ACLS global leader education. Students are expected to work in a collaborative environment with students from different cultural and academic backgrounds to address difficult issues and provide solutions in a group presentation format. In addition to the group work, students also present posters, visit laboratories, attend lectures given by invited speakers, one of which was given by Professor Peter Cook from the University of Oxford, and give flash talks.

## Nobuaki Yasuo Chairperson (Graduate School of Information Science and Engineering, Master's student (M2))



2015 Students Committee Members (9 students) ※ The academic year is as of Summer School

Nobuaki Yasuo	Graduate School of Information Science and Engineering, M2	Chairperson
Tomohiro Ban	Graduate School of Information Science and Engineering, D1	Vice-chairperson
Kengo Tejima	Graduate School of Bioscience and Biotechnology, M2	Group Work Session
Maierdan Palihati	Graduate School of Bioscience and Biotechnology, M2	Poster Session
Keisuke Yanagisawa	Graduate School of Information Science and Engineering, M2	Booklet
Aleksandar Zdravković	Graduate School of Bioscience and Biotechnology, M2	Lecture Session
Tomoyuki Ohno	Graduate School of Bioscience and Biotechnology, D1	Overseas Communication
Wenxing Li	Interdisciplinary Graduate School of Science and Engineering, M2	Facility Tour and Intercultural Study
Yoshinori Mizuguchi	Graduate School of Bioscience and Biotechnology, D1	Cultural Exchange

I am convinced that students this year were more enthusiastic about summer school than previous years perhaps because it was held at the University of Oxford. Not only was I impressed with the historical setting and the buildings on the university campus but also with the high-level discussions that took place in the group work. With a higher number of overseas participants

than previous years, discussions were inevitably done in English which made this Summer School more international. I would like to express my sincere gratitude to Professor Peter R. Cook from the University of Oxford, all invited lecturers, ACLS faculty and administrative staff for their contributions. Thank you so much.

	Day 1 Sun., Aug. 30	Day 2 Mon., Aug. 31	Day 3 Tue., Sep. 1	Day 4 Wed., Sep. 2	Day 5 Thu., Sep. 3	Day 6 Fri., Sep. 4	Day 7 Sat., Sep. 5
8:00 am	Narita Ketsudan-ceremony ①	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00 am		Briefing about Summer School ⑦	Lecture Session ⑪	Lecture Session	Group Work Session	Facility Tour (Oxford)	
10:00 am		Flash Talk ⑧	Lecture 1 Dr Peter R Cook	Lecture 4 Dr Fumiko Esashi			Bus to Heathrow Airport
11:00 am			Lecture 2 Dr Hironori Funabiki	Lecture 5 Dr Hiroshi Kimura		Bus to ICL, London	
12:00 pm	Departure	Lunch	Lecture 3 Dr David Sherratt	Lecture 6 Dr Jane Mellor	Lunch	Arrival at ICL	
1:00 pm		Flash Talk	Lunch	Group Work Session		Lunch	
2:00 pm			Poster Session ⑫	Lunch ⑬	Presentation & Evaluation ⑮ ⑯	Facility Tour (ICL & Francis Crick Inst.) ⑰ ⑱	
3:00 pm	Arriving at Heathrow	Intercultural Study ⑨ ⑩			Award Ceremony ⑰	Intercultural Study	Departure
4:00 pm			Group Work Session				
5:00 pm	Bus to Oxford			Dinner	Dinner & Cultural Exchange ⑱	Dinner	Sun., Sep. 6
6:00 pm	Arrival at Oxford ② ③	Dinner		Group Work Session			Arriving at Narita
7:00 pm	Dinner ④ ⑤ ⑥			Submission Deadline ⑭			
8:00 pm							
9:00 pm							

**Theme of group work** In the research field of Chromosome & Genome Dynamics, based on current research status, consider what will be possible and what will be a problem after 10 years. Then write up an essay to contribute to a fictitious magazine "Future".

- Group 1: Chromatin structure prediction for engineering dynamic nanomaterials
- Group 2: Dynamic Three-Dimensional Visualization of RNA Transcription
- Group 3: Science vs Science: Single Cell Sequencing as a Method to Battle Gene Doping
- Group 4: Personalized Medicine: Next-generation cancer treatments
- Group 5: Next Generation Healthcare: Molecular profiling of diseases in human
- Group 6: Yes or No: Making clinical decisions using machine learning models from genome and chromosome data
- Group 7: Effective cancer treatment using biological and advanced computational techniques: from data extraction to drug screening

All contributed essays will be bundled as "Future" magazine. Here are each group's essay titles.

# International Summer School 2015 Photos

## Day 1



1 Before departure at Narita



2 Just arrived in Oxford



3 It's so British



4 The chairperson made a speech

## Day 2



5 An international table



6 Can't wait tomorrow



7 Summer School starts!



8 Every student does Flash Talk

## Day 3



9 Oxford campus tour in groups



10 We are the best group!

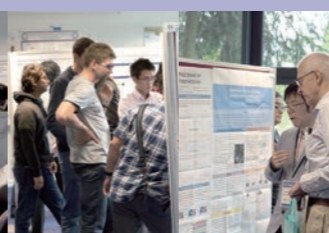


11 Inspiring lectures by famous scientists

## Day 4 and 5



12 Here comes the Poster Session!



13 Working in groups



14 It's done at last!



15 Presentation of each group's achievement



16 Open review session



17 Group 1 wins the first place!



18 Cultural exchange dinner and lovable Japanese dress "yukata".

## Day 6



19 Spacious lab at ICL impresses students



20 Visiting Francis Crick Institute and its world-class lab in genome science



**Group Photo**  
Medical Science Teaching Centre at University of Oxford