

# NAIST Bio International Student Workshop 2012 Program

**Place:** I&I Land, Osaka  
NAIST campus, Nara

**Participating Institutions:**

- Graduate School of Biological Sciences, Nara Institute of Science and Technology [NAIST-BS]
- College of Biological Sciences, University of California, Davis [UCD-CBS]
- Institute of Genetics and Developmental Biology, Chinese Academy of Sciences [CAS-IGDB]

**Sponsorship:**

- Graduate School of Biological Sciences, NAIST
- Ministry of Education, Culture, Sports, Science & Technology of Japan (MEXT)  
Global Initiatives Program: Promoting overseas collaborative research toward graduate education in biological sciences, nano science, and information technology
- Japan Student Services Organization (JASSO) Student Exchange Support Program:  
Scholarship for short-term study in Japan

## November 11 (Sunday)

**11:50 UCD group arrives at Kansai International Airport (KIX)**

**12:40 CAS group arrives at KIX**

**15:00 Move to I&I Land by chartered bus from KIX**

**17:00 Check-in**

**17:30 - 18:30 Meeting - Self-introductions**

**18:30 - 19:00 Overview of the program**

**19:00 - 19:30 Administrative procedures**

**19:30 - 20:30 Dinner**

**After dinner Preparation for the lecture and sessions**

## November 12 (Monday)

**07:30 - 08:30 Breakfast**

**09:00 - 09:30 Opening remarks**

**Main Hall**

**09:30 - 12:30 Ice-breaking activity**

**Room 1, 2**

**12:30 - 12:40 Group photos**

**13:00 - 14:00 Lunch**

**14:00 - 15:00 Special Lecture**

**Main Hall**

**Ted POWERS (UCD)**

Integration of cell growth and stress signals by the TOR (Target of Rapamycin) signaling network.

**15:20 - 18:10 Sessions I**

**Group 1**

**Room 1**

**Discussion leaders:**

Ariadne VLAHAKIS, Shangming TANG, Nancy VILLA

15:20 - 15:50 (G1-01) **Ariadne VLAHAKIS (UCD)**

A novel regulation of autophagy via Rapamycin-insensitive TORC2 signaling network

15:50 - 16:20 (G1-02) **Tomoyuki HATANO** (NAIST)  
Molecular organization of insulin and growth factor responsive protein complex, TOR complex 2

Break

16:40 - 17:10 (G1-03) **Nancy VILLA** (UCD)  
The roles of eIF4G and eIF3 in mRNA recruitment to the human ribosome

17:10 - 17:40 (G1-04) **Thanh Sy Le NGUYEN** (NAIST)  
Direct regulation of a zinc-ion transporter Zrg17 by Ire1 under ER stress condition

17:40 - 18:10 (G1-05) **Shangming TANG** (UCD)  
Mechanism and regulation of joint molecule resolution mediated by Sgs1, Exo1 and MutLy

**Group 2** **Room 2**

**Discussion leaders:**

Mallorie TAYLOR-TEEPLES, Hitoshi ENDO

15:20 - 15:50 (G2-01) **Mallorie TAYLOR-TEEPLES** (UCD)  
Mapping the Arabidopsis root xylem specification and differentiation gene regulatory network

15:50 - 16:20 (G2-02) **Hitoshi ENDO** (NAIST)  
Elucidation of expression mechanism of master gene for xylem vessel formation

Break

16:40 - 17:10 (G2-03) **Norihito SAKAMOTO** (NAIST)  
*MAB4* family genes regulate various auxin-dependent processes through the control of PIN localization.

17:10 - 17:40 (G2-04) **Ryo YONEHARA** (NAIST)  
MAB2/AtMED13 is a novel factor involved in bract suppression in *Arabidopsis thaliana*

17:40 - 18:10 (G2-05) **Qianhua DONG** (CAS)  
Histone phosphorylation and chromosome orientation in plant meiosis

**Group 3** **Room 3**

**Discussion leaders:**

Samuel FAILOR, Yuan LIU

15:20 - 15:50 (G3-01) **Samuel FAILOR** (UCD)  
Spontaneous retinal activity is critical for establishing the anatomical and functional organization of the lateral geniculate nucleus in the absence of eye-specific segregation

15:50 - 16:20 (G3-02) **Jie BAI** (NAIST)  
Random insertional mutagenesis of transcriptionally silent genes in mouse embryonic stem cells

Break

16:40 - 17:10 (G3-03) **Yuan LIU** (CAS)  
*CdsA* coordinates *Drosophila* lipid homeostasis with ecdysone biosynthesis

17:10 - 17:40 (G3-04) <b>Tomomi KOTOKU</b> (NAIST)	Analysis of the BTB-zinc finger protein CIBZ in embryonic stem cell differentiation
17:40 - 18:10 (G3-05) <b>MD. Zobaer HASAN</b> (NAIST)	Roles of HtrA1 and HtrA3 in the development of mouse placenta

**18:20 - 18:50 Guidance for cultural visits on November 16**

**Main Hall**

**19:00 - 20:30 Welcome party**

## November 13 (Tuesday)

**07:30 - 08:30 Breakfast**

**09:00 - 12:20 Sessions II**

Group 1	Room 1
<b>Discussion leaders:</b>	
Shangming TANG, Ariadne VLAHAKIS, Nancy VILLA	
09:00 - 09:30 (G1-06) <b>Takeshi NAKATANI</b> (NAIST)	Thiosulfate-selective utilization for L-cysteine biosynthesis in <i>Escherichia coli</i> : thiosulfate repression (TSR)
09:30 - 10:00 (G1-07) <b>Wataru NOMURA</b> (NAIST)	Construction and systematic analysis of comprehensive small RNA deletion libraries in <i>E. coli</i>
10:00 - 10:30 (G1-08) <b>Indah WIJAYANTI</b> (NAIST)	Engineering of the yeast ubiquitin ligase Rsp5 for improvement of the enzymatic functions
Break	
10:50 - 11:20 (G1-09) <b>Han Tek YONG</b> (NAIST)	Establishment of genetic interaction analysis involving essential genes in <i>E. coli</i> K-12
11:20 - 11:50 (G1-10) <b>Haixi SUN</b> (CAS)	Evolution and functional analysis of a conserved microRNA cluster in animals
11:50 - 12:20 (G1-11) <b>Kenji MANABE</b> (NAIST)	High production of industrial enzymes using <i>Bacillus subtilis</i> reduced-genome strain

Group 2	Room 2
<b>Discussion leaders:</b>	
Marta BJORNSON, Mai TSUKAHARA	
09:00 - 09:30 (G2-06) <b>Marta BJORNSON</b> (UCD)	Dissection of primary stress response pathways in plants
09:30 - 10:00 (G2-07) <b>Kiyotaka UEDA</b> (NAIST)	Translational regulation in response to abiotic stress
10:00 - 10:30 (G2-08) <b>Po-Yu CHEN</b> (NAIST)	Functional analysis of R1R2R3-Myb proteins in genotoxic stress response
Break	

10:50 - 11:20	(G2-09) <b>Jiyan QI</b> (CAS)	The dorsiventrality of leaf primordia
11:20 - 11:50	(G2-10) <b>Thu Thi DANG</b> (NAIST)	Characterization of constitutively active OsRac1 (CA-gOsRac1) transgenic rice plants generated by gene targeting
11:50 - 12:20	(G2-11) <b>Lei LI</b> (CAS)	Cleavage of BAK1 by a <i>Pseudomonas syringae</i> effector

<b>Group 3</b>		<b>Room 3</b>
<b>Discussion leaders:</b>		
Yuan LIU, Samuel FAILOR		
09:00 - 09:30	(G3-06) <b>Taito MATSUDA</b> (NAIST)	TLR9-mediated regulation of neurogenesis in the adult mouse hippocampus
09:30 - 10:00	(G3-07) <b>Hiroko KATSUNO</b> (NAIST)	Slow axonal transport driven by directional actin polymerization
10:00 - 10:30	(G3-08) <b>Hiromi FUJIOKA</b> (NAIST)	DCLK1 phosphorylates the microtubule-associated protein MAP7D1 to promote axonal elongation
Break		
10:50 - 11:20	(G3-09) <b>Yanan YU</b> (CAS)	Nezha anchors the non-centrosomal microtubules in cytoplasm
11:20 - 11:50	(G3-10) <b>Muh Chyi CHAI</b> (NAIST)	Identification of HDAC-mediated mechanisms for neurogenesis during cortical development
11:50 - 12:20	(G3-11) <b>Nunung YUNIARTI</b> (NAIST)	Antenatal exposure to an HDAC inhibitor SAHA promotes neurogenesis but disturbs corticogenesis in the developing brain

**12:30 - 13:30 Lunch**

**13:30 - 15:30 Free time**

**15:30 - 17:50 Sessions III**

<b>Group 1</b>		<b>Room 1</b>
<b>Discussion leaders:</b>		
Shannamar DEWEY, Marissa HIRST		
15:30 - 16:00	(G1-12) <b>Shannamar DEWEY</b> (UCD)	Dynamic perturbations within the ubiquitin proteasome system in diabetic cardiomyopathy associated with type 1 diabetes mellitus
16:00 - 16:30	(G1-13) <b>Yuichi HAYASHI</b> (NAIST)	Unveiling a stochastic basis of human disease
Break		
16:50 - 17:20	(G1-14) <b>Motoaki MURAKOSHI</b> (NAIST)	Metabolic reprogramming in fibroblast serves as a novel therapeutic target for myocardial infarction
17:20 - 17:50	(G1-15) <b>Yoichi SATO</b> (NAIST)	Synthetic approach to cell biology: Searching for the essential physical parameters for controlling the cell division

Group 2	Room 2
<b>Discussion leaders:</b>	
Mai TSUKAHARA, Marta BJORNSON	
15:30 - 16:00 (G2-12)	<b>Mai TSUKAHARA</b> (NAIST) Molecular mechanism for S-RNase-based self-incompatibility in <i>Petunia</i>
16:00 - 16:30 (G2-13)	<b>Asami TSURU</b> (NAIST) Studies on epigenetic regulations in plant reproductive cells
Break	
16:50 - 17:20 (G2-14)	<b>Li-Yu CHEN</b> (CAS) The <i>Arabidopsis in vivo</i> <i>POLLEN TUBE DEFFECT 1</i> gene encodes an alkaline ceramidase that is important for pollen tube growth in pistil
17:20 - 17:50 (G2-15)	<b>Xiangbin CHEN</b> (CAS) HY5 protein acts as mobile signal shining light on root underground

Group 3	Room 3
<b>Discussion leaders:</b>	
Stephanie PULFORD, Yoong Wearn LIM	
15:30 - 16:00 (G3-12)	<b>Stephanie PULFORD</b> (UCD) Modeling the migrating cell
16:00 - 16:30 (G3-13)	<b>Tatsuro MATTA</b> (NAIST) Cell clustering required for proper organogenesis
Break	
16:50 - 17:20 (G3-14)	<b>Shoichiro TSUGE</b> (NAIST) Quantitative analysis of PSM cell migration during somite boundary formation
17:20 - 17:50 (G3-15)	<b>Kenta TAKAMI</b> (NAIST) Analysis of Ric-8 which is involved in <i>Drosophila</i> gastrulation

**18:20 - 19:20 Dinner**

## November 14 (Wednesday)

**07:30 - 08:30 Breakfast**

**08:30 - 08:45 Check-out**

**09:00 - 09:30 Sessions IV**

Group 1	Room 1
<b>Discussion leaders:</b>	
Marissa HIRST, Shannamar DEWEY	
09:00 - 09:30 (G1-16)	<b>Takanori YANO</b> (NAIST) Biochemical analysis of CO <sub>2</sub> fixation reactions in the extremely oligotrophic bacterium, <i>Rhodococcus erythropolis</i> N9T-4
09:30 - 10:00 (G1-17)	<b>Marissa HIRST</b> (UCD) Ecology and evolution of endosymbiotic methanogens associated with anaerobic rumen ciliates
Break	

10:20 - 10:50 (G1-18) **Yawen WANG** (CAS)  
The magnitude of the effect of air pollution on sunshine hours in China

**Group 2** **Room 2**

**Discussion leaders:**

Hitoshi ENDO, Mallorie TAYLOR-TEEPLS

09:00 - 09:30 (G2-16) **Takunari KONO** (NAIST)

Analysis of the pre-Calvin cycle in methanogenic archaeon  
*Methanospirillum hungatei*.

09:30 - 10:00 (G2-17) **Haiyang XU** (CAS)

Branched short-chain fatty acid: CoA ligase, a critical missing link  
between branched chain amino acid degradation and bitter acid  
biosynthesis in hop (*Humulus lupulus*)

Break

10:20 - 10:50 (G2-18) **Naoya NAKAMURA** (NAIST)

Promotion of cyclic electron transport around photosystem I during the  
evolution of NADP-malic enzyme type C4 photosynthesis in the genus  
*Flaveria*

10:50 - 11:20 (G2-19) **Seddon TEOH** (NAIST)

Reconstitution of putative nicotine biosynthesis enzymes in yeast

**Group 3** **Room 3**

**Discussion leaders:**

Yoong Wearn LIM, Stephanie PULFORD

09:00 - 09:30 (G3-16) **Yoong Wearn LIM** (UCD)

Excessive R-loop formation triggers genetic and epigenetic deregulation  
in autoimmune disorder Aicardi-Goutieres syndrome

09:30 - 10:00 (G3-17) **Akane KAWAGUCHI** (NAIST)

The H3K27 demethylase, JMJD3, is essential for *Xenopus* eye  
development

Break

10:20 - 10:50 (G3-18) **Yasuhide NITANDA** (NAIST)

Robust mechanism in mouse somite genesis

10:50 - 11:20 (G3-19) **Shigeki KITAGAMI** (NAIST)

New mechanism for somite formation by posttranscriptional regulation

**11:30 - 12:00 Selection of speakers and chairpersons for Final Session**

**12:00 - 13:00 Lunch**

Break

**13:50 - 17:40 Final Session**

**Main Hall**

14:00 - 14:20 Speaker 1

14:20 - 14:40 Speaker 2

14:40 - 15:00 Speaker 3

Break

15:10 - 15:30 Speaker 4

15:30 - 15:50 Speaker 5

15:50 - 16:10 Speaker 6

Break

16:20 - 17:00 Speaker 7

17:00 - 17:20 Speaker 8

17:20 - 17:40 Speaker 9

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**18:00 - 18:30 Concluding remarks**

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**18:40 - 19:40 Dinner**

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**20:00 Departure to NAIST**

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**20:30 Arrival at NAIST**

**UCD & CAS participants check in at the Guesthouse Sentan**

### November 15 (Thursday)

**- 12:00 Lab visits**

**Bio building**

**Interdisciplinary Frontier Research Complex No.2  
Kenshu Hall (研修ホール)**

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**12:00 - 13:00 Posters should be put up**

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**13:00 - 14:00 Poster Session (odd numbers)**

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Break

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**14:30 - 15:30 Poster Session (even numbers)**

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**15:30 Posters should be taken down**

**Carry poster panels from the hall to storage**

### November 16 (Friday)

**All day Cultural visits**

### November 17 (Saturday)

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**08:45 Participants from UCD and CAS leave NAIST on a chartered bus to KIX**

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**11:00 Arrival at KIX**

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**12:55 UCD group departure KIX**

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**13:50 CAS group departure KIX**