

3月20日(日) 9:30 ~ 12:05 X会場

Control of cadmium accumulation in crops

Organizer Jian Feng Ma (IPSR, Okayama Univ.)

09:30 Opening address Jian Feng Ma

● Chairperson: Toru Fujiwara

09:35 S01-1 Dealing with cadmium in soils and crops
Steve McGrath (Rothamsted Research)

10:05 S01-2 Toxicological effects of cadmium and dietary exposure management
Fujio Kayama, Hyogo Horiguchi (Div. of Environ. Toxicology, Jichi Med. Univ.)

10:35 S01-3 Gene limiting Cd accumulation in rice
Jian Feng Ma¹, Daisei Ueno¹, Naoki Yamaji¹, Masahiro Yano² (¹IPSR, Okayama Univ.,
²NIAS)

● Chairperson: Jian Feng Ma

11:05 S01-4 A rice transporter involved in Cd accumulation in rice grains
S. Uruguchi¹, T. Kamiya¹, T. Sakamoto¹, K. Kasai¹, A. Saito¹, Y. Sato², Y. Nagamura¹,
S. Ishikawa³, T. Fujiwara¹ (¹Grad. Sch. Agric. Life Sci., Univ. Tokyo, ²Genome Resource
Ctr. NIAS, ³Soil Env. Div. NIAES)

11:35 S01-5 Transporters involved in Cd uptake in rice
Ryuichi Takahashi¹, Yasuhiro Ishimaru¹, Takeshi Senoura¹, Hugo M. Shimo¹,
Satoru Ishikawa², Tomohito Arao², Hiromi Nakanishi¹, Naoko K. Nishizawa^{1,3}
(¹Graduate School of Agricultural and Life Sciences, The University of Tokyo,
²National Institute for Agro-Environmental Sciences, ³Research Institute for
Bioresources and Biotechnology, Ishikawa Prefectural University)

3月20日(日) 9:30 ~ 11:45 Y会場

Basis, application and future of the blue-native PAGE in plant sciences

Organizers Ayumi Tanaka (Inst. Low Temp. Sci., Hokkaido Univ.)
Masahiko Ikeuchi (Dept. of Life Sci., Univ. of Tokyo)

09:30 Opening remarks Ayumi Tanaka

● Chairperson: Ayumi Tanaka

09:45 S02-1 Supercomplex organization of thylakoid proteins probed by blue-native PAGE
Mai Watanabe, Masahiko Ikeuchi (The University of Tokyo, Department of Life Sciences)

10:15 S02-2 Dissection of the structure and biogenesis of the chloroplast NDH by BN/CN-PAGE combined with proteomics and genetics
Lianwei Peng¹, Yoichiro Fukao², Masayuki Fujiwara², Toshiharu Shikanai¹ (¹Grad. Sch. of Sci., Kyoto Univ., ²Grad. Sch. of Biol. Sci., NAIST)

● Chairperson: Masahiko Ikeuchi

10:45 S02-3 The application of BN-PAGE for comprehensive detection of the protein complexes in the chloroplast
Atsushi Takabayashi (Inst. Low Temp. Sci., Hokkaido Univ.)

11:15 S02-4 Recent surprises deriving from large-scale proteomics studies targeted to the chloroplast and its subfractions
Norbert Rolland¹, Daniel Salvi¹, Sabine Brugiere², Daphne Seigneurin-Berny¹, Lucas Moyet¹, Christophe Masselon², Jerome Garin², Myriam Ferro², Jacques Joyard¹
(¹Laboratoire de Physiologie Cellulaire Vegetale, CNRS (UMR5168); CEA, ²Laboratoire d'Etude de la Dynamique des Proteomes; CEA)

3月20日(日) 9:30 ~ 12:15 Z会場

Frontier of epigenetics: Regulation and function of chromatin modifications

Organizers Yosuke Tamada (NIBB)
Hidetoshi Saze (NIG)

09:30		Celebrating the first PCP/OUP sponsored symposium	Miki Matoba
09:35		Opening remarks	Yosuke Tamada
● Chairperson: Yosuke Tamada			
09:40	S03-1	Molecular mechanism of RNA-directed DNA methylation in <i>Arabidopsis</i> <u>Tatsuo Kanno</u> (Dept. of Botany and Plant Sci., National Univ. of Ireland, Galway)	
10:05	S03-2	Dynamic regulation of heterochromatic epigenetic modifications in genic regions <u>Hidetoshi Saze</u> ^{1,2} , Kazuya Takashima ¹ , Junko Kitayama ¹ , Akie Kobayashi ¹ , Tetsuji Kakutani ¹ (¹ National Institute of Genetics, ² JST PRESTO)	
10:30	S03-3	ROS3 is an RNA-binding protein required for DNA demethylation in <i>Arabidopsis</i> Xianwu Zheng ¹ , Olga Pontes ² , Jianhua Zhu ¹ , <u>Daisuke Miki</u> ¹ , Fei Zhang ¹ , Wen-Xue Li ¹ , Kei Iida ¹ , Avnish Kapoor ¹ , Craig S. Pikaard ² , Jian-Kang Zhu ¹ (¹ UC Riverside, ² Washington University)	
● Chairperson: Hidetoshi Saze			
10:55	S03-4	The epigenetic factors acting downstream of DNA methylation in <i>Arabidopsis</i> <u>Taisuke Nishimura</u> ¹ , Guillaume Molinard ¹ , Larissa Broger ¹ , Stephane Thore ¹ , Tom Petty ¹ , Katsushi Yamaguchi ² , Shuji Shigenobu ² , Jerzy Paszkowski ¹ (¹ University of Geneva, ² National Institute of Basic Biology)	
11:20	S03-5	Epigenome of <i>Physcomitrella</i> differentiated cells and pluripotent stem cells <u>Tetsuya Kurata</u> ¹ , Tomoaki Nishiyama ^{2,5} , Chaoyang Cheng ² , Kaori Miyawaki ² , Masumi Ohshima ² , Kari Thompson ² , Naoko Onodera ² , Mineko Iwata ² , Mitsuyasu Hasebe ^{2,3,4} (¹ Graduate School of Biological Science, Nara Institute of Science and Technology, ² ERATO, JST, ³ Division of Evolutionary Biology, National Institute for Basic Biology, ⁴ School of Life Science, The Graduate University for Advanced Studies, ⁵ Advanced Science Research Center, Kanazawa University)	
11:45	S03-6	Chromatin regulation in the <i>Arabidopsis</i> environmental stress response <u>Jong-Myong Kim</u> ¹ , Taiko Kim To ^{1,2} , Motoaki Seki ^{1,3} (¹ Plant Genomic Network Res.Team, RIKEN PSC, ² Grad. Sch. of Biol., Univ. of Tokyo, ³ Kihara Inst. Biol. Res., Yokohama City Univ.)	
12:10		Closing remarks	Hidetoshi Saze

3月20日(日) 14:00～17:00 X会場

植物バイオマス生産のための遺伝子組換え戦略

オーガナイザー 西谷 和彦(東北大・生命)

14:00		はじめに	西谷和彦
●座長：石井 忠			
14:10	S04-1	植物細胞壁の機能と多様性 横山隆亮, 澤杏弥, 木戸奈都美, 桑島美香, 西谷和彦(東北大・院・生命科学)	
14:35	S04-2	リグニンの量と構造の制御 梅澤俊明(京大・生存研)	
●座長：梅澤俊明			
15:00	S04-3	イネ細胞壁多糖の改変 石井忠(森林総研)	
15:25	S04-4	木質バイオマスの効率的な生産方法について 河岡明義(日本製紙 アグリ・バイオ研)	
●座長：佐藤 忍			
15:50	S04-5	オイル産生藻類による低炭素社会実現への挑戦 渡邊信(筑波大学・生命環境)	
16:15	S04-6	糖化され易い熱帯早生樹 林隆久, 海田るみ(東京農大・バイオ)	
16:40		総合討論	佐藤 忍

3月20日(日) 14:00 ~ 17:20 Y会場

Seed dormancy and germination: Molecular mechanisms and environmental regulations

Organizers Tsukaho Hattori (Nagoya Univ.)
Naoto Kawakami (Meiji Univ.)

14:00 Introduction Tsukaho Hattori

● Chairperson: Naoto Kawakami

14:10 S05-1 Regulation of seed dormancy by a member of PP2C
Giltsu Choi (Dept. of Biol. Sci., KAIST)

● Chairperson: Tsukaho Hattori

14:40 S05-2 How determined is the season of seed germination? Molecular mechanism of germination suppression by high temperature
Naoto Kawakami, Shigeo Toh, Takuma Shigeyama (Dept. of Life Sci., Meiji Univ.)

15:10 S05-3 Studies on the regulation of seed dormancy and endogenous ABA levels using Arabidopsis natural variation
Ryoichi Yano, Yusuke Jikumaru, Yuji Kamiya, Mitsunori Seo (RIKEN PSC)

15:40 Break

● Chairperson: Kazuhiko Sugimoto

15:45 S05-4 Seed germination in cereals; a major QTL controlling low-temperature germinability in rice
Kenji Fujino (Natl. Agr. Res. Ctr. Hokkaido)

● Chairperson: Mitsunori Seo

16:15 S05-5 Toward the understanding of genetic control of seed dormancy in rice using naturally occurring variations
Kazuhiko Sugimoto¹, Salem Marzougui^{1,2}, Yoshinobu Takeuchi³, Kiyosumi Hori¹, Hideyuki Hirabayashi³, Tsukaho Hattori⁴, Masahiro Yano^{1,2} (¹Natl. Inst. of Agrobiol. Sci., ²Lab. of Plant Genomics, Tsukuba Univ., ³Natl. Inst. of Crop Sci., ⁴Biosci. Biotech. Center)

16:45 S05-6 Seed dormancy and germination: a view from gene expression program switching
Tsukaho Hattori¹, Akiko Yamamoto¹, Shoko Murase¹, Shin Takeda¹, Yasuaki Kagaya² (¹Boisc. Biotech. Ctr., Nagoya Univ., ²Life Sci. Res. Ctr., Mie Univ.)

17:15 Concluding remarks

3月20日(日) 14:00 ~ 16:30 Z会場

Application of high technology to frontier research of plant adaptation to environment

Organizers Satoru Tokutomi (Grad. Sch. Sci., Osaka Pref. Univ.)
Yoichiro Hosokawa (Grad. Sch. Mat. Sci., NAIST)

14:00 Introduction Satoru Tokutomi

● Chairperson: Yoichiro Hosokawa

14:10 S06-1 Development of single-cell analysis technology intended for plant cells
Tomoharu Kajiyama, Hideki Kambara (Hitachi, Ltd., Central Research Laboratory)

14:30 S06-2 Imaging mass spectrometry for identifying and locating unknown molecular species in tissue slices
Katsutoshi Takahashi (RIIF, AIST)

14:50 S06-3 Coherent X-ray diffraction microscopy for structural studies of biological particles
Masayoshi Nakasako (Fac. Sci. and Tech., Keio University)

● Chairperson: Tetsuro Mimura

15:10 S06-4 Development of manipulation and stimulation methods for single plant cells utilizing femtosecond laser
Yoichiro Hosokawa (Grad. Sch. Mat. Sci., NAIST)

15:30 S06-5 Single-cell gene induction method using infrared laser
Hiroko Urawa, Kiyotaka Okada, Yasuhiro Kamei (NIBB)

15:50 S06-6 Dissecting membrane trafficking pathways in plants by electron tomography
Marisa S. Otegui (Dept. Botany, Univ. Wisconsin-Madison)

16:20 General Discussion Satoru Tokutomi

3月22日(火) 9:00 ~ 12:00 X会場

Functional role of the negative regulators in plants

Organizers Toshihiro Ito (Temasek Life Sci. Lab., Singapore)
Masaru Takagi (AIST)

09:00 S07-1 Functional role of the negative regulators in plants
Masaru Ohme-Takagi (Bio. Pro., AIST)

● Chairperson: Masaru Takagi

09:10 S07-2 Negative regulation on salt stress tolerance
Tomomi Mito¹, Masaru Takagi², Kyoko Matsui^{1,2} (¹GreenSogna, Inc, ²AIST)

09:25 S07-3 Regulation of shoot organ development by TCP transcription factors
Tomotsugu Koyama (Grad. Sch. Biostudies, Kyoto Univ.)

09:50 S07-4 WUSCHEL acts as a transcriptional repressor in the regulation of plant stem cell development
Miho Ikeda (AIST)

10:15 S07-5 Negative feedback loop in floral stem cell regulation
Toshiro Ito^{1,2,3} (¹Temasek Life Sci. Lab., ²Natl. Univ. of Singapore, ³PRESTO, JST)

● Chairperson: Toshihiro Ito

10:40 S07-6 Repressors for Arabidopsis circadian rhythm
Norihito Nakamichi¹, Takatoshi Kiba¹, Rossana Henriques², Takeshi Mizuno³,
Nam-Hai Chua², Hitoshi Sakakibara¹ (¹RIKEN PSC, ²The Rockefeller Univ.,
³School of Agr., Nagoya Univ.)

11:05 S07-7 Analysis of transcriptional regulation by GAF1 complex in GA signaling
Jutarou Fukazawa^{1,2,3}, Satoru Murakoshi², Hiroshi Teramura², Kei Nasuno²,
Naotaka Nishida², Michiteru Yoshida², Yuji Kamiya¹, Yohsuke Takahashi³,
Shinjiro Yamaguchi¹ (¹RIKEN PSC, ²Fac. of Ind. Sci. and Tec., Tokyo Univ. of Sci.,
³Dept. of Biol. Sci., Hiroshima Univ.)

11:30 S07-8 Regulation of floral patterning by flowering time genes
Hao Yu^{1,2} (¹Dept. of Biol. Sci., Natl. Univ. of Singapore, ²Temasek Life Sci. Lab.)

11:55 Conclusion and future prospects

Toshihiro Ito

3月22日(火) 9:00 ~ 12:00 Y会場

真核藻類の光合成研究の低炭素社会への貢献を考える

オーガナイザー 高橋 裕一郎 (岡山大・院・自然科学)

09:00 はじめに 高橋裕一郎

●座長：高橋裕一郎

09:05 S08-1 クラミドモナスのステート遷移と電子伝達
皆川純 (基生研・環境光生物)

●座長：皆川 純

09:35 S08-2 光強度変化に対する珪藻類の馴化機構
菓子野康浩 (兵庫県立大・院・生命)

●座長：菓子野康浩

10:05 S08-3 緑藻におけるCO₂輸送機構とゲノム応答
福澤秀哉, 大西紀和, 山野孝志 (京大・生命)

●座長：福澤秀哉

10:35 S08-4 真核光合成生物がもつ多様な炭素代謝：二次共生藻類を中心として
白岩善博 (筑波大・院・生命環境)

●座長：白岩善博

11:05 S08-5 近縁種間比較ゲノム解析に基づくトリグリセリド高生産海洋珪藻の脂肪酸代謝経路の解析
田中剛^{1,2} (¹東京農工大・工・生命工, ²戦略的創造研究推進事業)

11:35 総合討論 高橋裕一郎

3月22日(火) 9:00 ~ 12:00 Z会場

Phytochemical genomics: Genome-wide understanding of metabolic diversity in plants

Organizers Toshiya Muranaka (Osaka Univ.)
Kazuki Saito (Chiba Univ., RIKEN PSC)

● Chairperson: Toshiya Muranaka

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- 09:00 S09-1 Phytochemical genomics — Introduction: Beyond Arabidopsis
Kazuki Saito^{1,2} (¹Grad. Sch. Pharm. Sci., Chiba Univ., ²RIKEN PSC)
-
- 09:15 S09-2 Diversity of secondary metabolites throughout gene duplication
Kousuke Hanada (RIKEN PSC)
-
- 09:40 S09-3 IKP: an international consortium sequencing the transcriptomes of 1000 phylogenetically diverse plants from angiosperms to green algae
Gane Ka-Shu Wong^{1,2} (¹Dept. of Biol. Sci., Univ. of Alberta, ²BGI-Shenzhen)
-
- 10:10 S09-4 DB construction towards systematization of diversity of plant metabolites
Shigehiko Kanaya (Graduate School of Information Sci., NAIST)

● Chairperson: Kazuki Saito

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- 10:35 S09-5 Advancing drug development from medicinal plants using transcriptomics and metabolomics
Cornelius Barry¹, Robin C Buell¹, Joe Chappell², Dean DellaPenna¹, Natalia Dudareva³,
Mahmoud A ElSohly⁴, Daniel A Jones¹, Ikhlas A Khan⁴, Tom McKnight⁵, Basil J Nikolau⁶,
Sarah E O'Connor⁷, Troy Smillie⁴, Eve Syrkin Wurtele⁶ (¹Michigan State Univ.,
²Univ. Kentucky, ³Purdue Univ., ⁴Univ. Mississippi, ⁵Texas A&M Univ., ⁶Iowa State Univ.,
⁷Massachusetts Institute of Technology)
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- 11:05 S09-6 Molecular basis for structural diversity of legume triterpenoids
Hikaru Seki, Toshiya Muranaka (Grad. Sch. Eng., Osaka Univ.)
-
- 11:30 S09-7 Synthetic biosystems for the production of high-value plant metabolites
Peter Facchini (Univ. Calgary, Dept. Biol. Sci.)

共催

生物系特定産業技術研究支援センター イノベーション創出基礎的研究推進事業
「作物における有用サポニン産生制御技術の開発」
文部科学省科学研究費補助金 新学術領域研究
「生合成マシナリー：生物活性物質構造多様性創出システムの解明と制御」

3月22日(火) 14:00～17:00 X会場

ベールを脱ぎ始めた植物オートファジー

オーガナイザー 吉本 光希 (理研・植物科学研究センター)
石田 宏幸 (東北大院・農)

14:00 はじめに 吉本光希

●座長：石田宏幸

14:05 S10-1 酵母に学ぶ選択的オートファジーのメカニズム
新谷尚弘 (東北大・院農)

14:35 S10-2 植物オートファジーによる細胞死の制御
吉本光希¹, 大隅良典², 白須賢¹ (¹理研・植物科学研究センター, ²東京工業大学・
統合研究院・先進研究機構)

15:05 S10-3 植物の感染防御応答とオートファジー
朽津和幸^{1,2}, 花俣繁¹, 来須孝光² (¹東京理科大・院・理工・応用生物科学, ²東京
理科大・総合研究機構)

●座長：吉本光希

15:30 S10-4 栄養欠乏に応答した植物細胞内の分解系の解析
松岡健 (九大・農)

15:55 S10-5 オートファジーによる葉緑体タンパク質の分解
石田宏幸 (東北大院・農・植物栄養)

16:20 S10-6 タバコ培養細胞, シロイヌナズナ, ヒメツリガネゴケを用いたオートファジーの生理機
能の解析
森安裕二 (埼玉大・理・生体制御)

16:45 総合討論

3月22日(火) 14:00 ~ 16:30 Y会場

Plant innate immunity

Organizers Ko Shimamoto (NAIST)
Ken Shirasu (RIKEN PSC)

● Chairperson: Ko Shimamoto

14:00 S11-1 Structure-based functional analysis of plant immunity-related proteins
Ken Shirasu (RIKEN PSC)

14:30 S11-2 Analyzing signal transduction pathways of plant immunity by suppressor screens
Yuelin Zhang (NIBS, China)

15:00 S11-3 Cytokinins in plant immunity: Old foes or new friends
Jaemyung Choi, Ildoo Hwang (Department of Life Sciences, Pohang University of Science and Technology, Korea)

● Chairperson: Ken Shirasu

15:30 S11-4 Chitin recognition in plant immunity
Naoto Shibuya, Hanae Kaku (Department of Life Sciences, School of Agriculture, Meiji University)

16:00 S11-5 Defensome-regulated immunity in rice
Akira Akamatsu, Satoshi Hamada, Letian Chen, Yoji Kawano, Ko Shimamoto (Plant. Mol. Genet., NAIST)

3月22日(火) 14:00 ~ 16:40 Z会場

New insights into auxin research

Organizers Hiroyuki Kasahara (RIKEN PSC)
Keiko Sugimoto (RIKEN PSC)

14:00 Opening Remarks Keiko Sugimoto

● Chairperson: Keiko Sugimoto

14:05 S12-1 Auxin signaling in moss and *Arabidopsis*
Mark Estelle (University of California, San Diego)

14:35 S12-2 A genetic pathway for auxin-regulated organogenesis in *Arabidopsis*
Yunde Zhao (University of California, San Diego)

15:05 S12-3 Biosynthesis and metabolism of two auxins in plants
Hiroyuki Kasahara (RIKEN PSC)

● Chairperson: Hiroyuki Kasahara

15:35 S12-4 The transcription factor WIND1 controls cell dedifferentiation in *Arabidopsis*
Akira Iwase¹, Keiko Sugimoto¹, Masaru Ohme-Takagi² (¹RIKEN PSC, ²AIST Bioproduct.
Res. Inst.)

16:05 S12-5 Secreted peptide signals required for maintenance of root stem cell niche in *Arabidopsis*
Yoshikatsu Matsubayashi (Natl. Inst. Basic Biol.)

16:35 Closing Remarks Hiroyuki Kasahara

共催

(独)理化学研究所

3月21日(月) 14:40～16:30 川内萩ホール

日本植物生理学会授賞式
学会賞・功績賞・奨励賞・PCP論文賞・フェローシップ

14:40	選考経過報告	各選考委員会委員長
15:00	賞状授与	会長
15:07	日本植物生理学会若手海外共同研究フェローシップ 賞状授与 第9回 「緑藻 <i>Chlamydomonas reinhardtii</i> 由来[FeFe]ヒドロゲナーゼの構造研究」 村木則文(大阪大学・蛋白質研究所)	会長

日本植物生理学会賞・受賞講演

15:10	日本植物生理学会功績賞 柴岡弘郎(大阪大学名誉教授) 杉山達夫(名古屋大学名誉教授) 宮地重遠(東京大学名誉教授)	
15:30	A01 日本植物生理学会賞 「維管束形成機構の解明」 福田裕穂(東京大学大学院・理学研究科)	
15:50	A02 日本植物生理学会奨励賞 「シロイヌナズナの茎頂分裂組織における CLV3 ペプチドの役割」 澤進一郎(熊本大学大学院・理学研究科)	
16:10	A03 PCP論文賞 川口正代司(東京大学大学院・理学研究科) Satoru Okamoto, Erika Ohnishi, Shusei Sato, Hirokazu Takahashi, Mikio Nakazono, Satoshi Tabata, and Masayoshi Kawaguchi (2009) Nod Factor/Nitrate-Induced CLE Genes That Drive HAR1-Mediated Systemic Regulation of Nodulation. (<i>Plant Cell Physiol.</i> 50(1): 67-77.)	

3月21日(月) 12:00～13:00 X会場

男女共同参画キャリアパスセミナー(ランチョンセミナー)
「なぜ女性科学者が少ないのか?～現状と展望～」

12:00 男女共同参画学協会連絡会における日本植物生理学会の活動報告
本橋令子(静岡大学・農学部)

12:15 なぜ女性科学者が少ないのか?～現状と展望～
大隅典子(東北大学)

12:50 総合討論

*本セミナーはランチョンセミナーです。ランチボックスとお茶をご用意いたします。