



ISRFG 2021



HYBRID FORMAT

**18th International Symposium
on Rice Functional Genomics.
Barcelona 3rd to 5th November, 2021**

**3rd to 5th November
Barcelona. Axa Auditorium**

isrfg2021.org



crag^R

CENTRE FOR RESEARCH
IN AGRICULTURAL GENOMICS

International committee

Qifa Zhang. Huazhong Agricultural University, China

Yue-le Hsing. Academia Sinica, Taiwan

Emmanuel Guiderdoni. Centre for International Cooperation in Research for Development (CIRAD), France

Takeshi Izawa. The University of Tokyo, Japan

Takeshi Itoh. National Taiwan University, Taiwan

Rod Wing. The University of Arizona, USA

Blake Meyers. Donald Danforth Plant Science Center, USA

Bin Han. National Center for Gene Research, China

Gynheung An. Kyung Hee University, Korea

Jong-Seong Jeon. Kyung Hee University, Korea

Olivier Panaud. The University of Perpignan, France

Mathias Lorieux. French National Institute for Sustainable Development (IRD), France

Kenneth McNally. International Rice Research Institute (IRRI), Philippines

Apichart Vanavichit. Kasetsart University, Thailand

Antonio Costa de Oliveira. Federal University of Pelotas, Brazil

Blanca San Segundo. Center for Research in Agricultural Genomics (CRAG), Spain

Pao-Yang Chen. Academia Sinica, Taiwan

Martin Kater. University of Milan, Italy

Ari Sadanandom. Durham University, UK

Local committee

Blanca San Segundo. Centre for Research in Agricultural Genomics (CRAG), Barcelona

Josep Maria Casacuberta. Centre for Research in Agricultural Genomics (CRAG), Barcelona

Sonia Campo. Fundació Miquel Agustí (FMA), Barcelona

José Manuel Pardo. Institute of Plant Biochemistry and Photosynthesis, Spanish National Research Council (CSIC), Sevilla

Francisco Javier Quintero. Institute of Plant Biochemistry and Photosynthesis, Spanish National Research Council (CSIC), Sevilla

Concha Domingo. Centre of Genomics, Department of Rice, Valencian Institute for Agricultural Research (IVIA), Valencia

Luis Marqués. Cooperative of rice seeds. Sueca, Valencia

M^a del Mar Catalá. Institut of Agrifood Research and Technology (IRTA), Ebro Experimental Station, Tarragona

Maite Martinez Eixart. Institut of Agrifood Research and Technology (IRTA)-Sant Carles de la Ràpita, Tarragona

Juan Manuel Ruiz Lozano. Zaidin Experimental Station, Spanish Research Council (CSIC), Granada

Charlotte Poschenrieder. Department of Animal Biology, Plant Biology and Ecology. Autonomous University of Barcelona, Barcelona

Paul Christou. University of Lleida-Agrotecnic Center, Lleida

Teresa Capell. University of Lleida-Agrotecnic Center, Lleida

CRAG researcher Maria Coca was also part of this Local Committee until her death in March 2021. She is fondly remembered



18th International Symposium on Rice Functional Genomics November 3th - 5th, 2021

Venue: Auditorium AXA, Barcelona, Spain

Scientific Program

Day 1

WEDNESDAY, NOV 3

08:00 - 09:00 Registration

09:00 - 09:15 Opening Session

SESSION 1

Chair: Josep Maria Casacuberta

09:15 - 09:45 Construction and analysis of a platinum standard reference genome panel for all species of the genus *Oryza*.

> **Rod Wing** (King Abdullah University of Science and Technology, Center for Desert Agriculture, Kingdom of Saudi Arabia - Arizona Genomics Institute, University of Arizona, USA)

09:45 - 10:15 Meiotic recombination in rice is modified by structural genomic variation.

> **Mathias Lorieux** (DIADE, IRD, University of Montpellier, CIRAD, Montpellier, France)

10:15 - 10:45 Coffee Break

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SESSION 2

Chair: Mathias Lorieux

10:45 - 11:15 Impact of Transposable Element dynamics on rice trait variation.

- > **Josep Maria Casacuberta** (Centre for Research in Agricultural Genomics, CRAG (CSIC-IRTA-UAB-UB), Barcelona, Spain)

11:15 - 11:45 Functional characterization of rice transcription factors regulating C4 PEPC promoters.

- > **Nelson Saibo** (Instituto de Tecnologia Química e Biológica Antonio Xavier, Universidade Nova de Lisboa, Oeiras, Portugal)

11:45 - 12:15 Identification and characterization of genes controlling rice inflorescence

- > **Martin Kater** (Università degli Studi di Milano, Italy)

12:15 - 13:15 Lunch

13:15-15:00 POSTER Session

ORAL PRESENTATIONS I. Rice Genome Research and Evolution

Chair: Concha Domingo

15:00 - 15:20 Pan-genome study reveals evolutionary insights into the subpopulation structure of 16 Asian rice (*Oryza sativa*).

- > **Yong Zhou** (King Abdullah University of Science and Technology, Center for Desert Agriculture, Kingdom of Saudi Arabia - Arizona Genomics Institute, University of Arizona, USA)

15:20 - 15:40 PanOryza: Globally coordinated genomes, proteomes and pathways for rice.

- > **Andrew R. Jones** (Institute of Systems, Molecular and Integrative Biology, University of Liverpool, UK)

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ORAL PRESENTATIONS II. Rice development and Phenomics

Chair: Martin Kater

- 15:40 - 16:00** An ankyrin gene cluster is associated with panicle branching diversity in rice.
> Stefan Jouannic (IRD, France)
- 16:00 - 16:20** A triple florigen system is essential for flowering and panicle architecture in rice.
> Francesca Giaume (University of Milan, Italy)
- 16:20 - 16:40** Functional study of PINE1 as a link between flowering and stem elongation.
> Giulio Vincentini (University of Milan, Italy)

16:40 - 17:10 Coffee Break

SESSION 3

Chair: Olivier Panaud

- 17:10 - 17:40** Climate smart at the molecular level: WRKY Transcription Factors and chilling stress regulation in rice.
> Antonio Costa de Oliveira (Federal University of Pelotas, Plant Genomics and Breeding Center, RS, Brazil)
- 17:40 - 18:10** Rice gene discovery utilizing the genetic resources in T-DNA insertion mutant populations.
> Tun-hua David Ho (Academia Sinica, Taipei, Taiwan)

ORAL PRESENTATIONS III. Resources for systems biology in rice

Chair: Olivier Panaud

- 18:10 - 18:30** KitBase: a whole-genome sequenced fast-neutron-induced mutant population in the model rice cultivar KitaakeX.
> Rashmi Jain (Joint BioEnergy Institute-University of California, Davis, USA)

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Day 2

THURSDAY, NOV 4

SESSION 4

Chair: Ari Sadanandom

09:00 - 09:30 Genome-wide association study for salt tolerance in japonica rice accessions: from germination to flowering.

> Gian Attilio Sachi (DiSAA, Università degli Studi di Milano, Italy)

09:30 - 10:00 Insight into jasmonate-dependent cold signalling of rice.

> Michael Riemann (Karlsruhe Institute of Technology (KIT), Botanical Institute, Germany)

10:00 - 10:30 *Xanthomonas oryzae*-triggered production of Atypical Rice Small RNAs during infection.

> Sebastien Cunnac (PIHM, Plant Health Institute, Univ. Montpellier, IRD, CIRAD, INRAE, Institut Agro, Montpellier, France)

10:30 - 11:00 **Coffee break**

SESSION 5

Chair: Gian Attilio Sacchi

11:00 - 11:30 Dissecting the dynamic changes of methylome during rice transformation.

> Pao-Yang Chen (Academia Sinica, Taiwan)

11:30 - 12:00 Search for potassium transport systems involved in arbuscular mycorrhiza-rice symbiotic interactions.

> Doan Trung Luu (BPMP, Univ. Montpellier, CNRS, INRAE, Institut Ago, Montpellier, France)

12:00 - 12:30 SUMO code in rice: Deciphering the language of an emerging protein modification system in crops.

> Ari Sadanandom (University of Durham, UK)

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

13:30 - 15:00 POSTER Session

15:00 - 15:30 Glasgow Climate Change Conference-United Nations (COP26). Adam Price.

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ORAL PRESENTATIONS IV. Plant-Environment Interactions: Abiotic Stress

Chair: José Manuel Pardo

15:30 - 15:50 Tuning of H₂O₂ accumulation and redox regulatory mechanisms is central for a specific intra-species tolerance in different rice cultivars under salt stress.

> Sara Cimini (Unit of Food Science and Human Nutrition, University Campus Biomedico, Italy)

15:50 - 16:10 Filtering the jasmonates-dependent component from the rice salt stress response through a comparative transcriptomic approach.

> Simon Decky (Institute de Biologie Moleculaire des Plantes, CNRS, Université de Strasbourg, France)

ORAL PRESENTATIONS V. Plant-Environment Interactions: Biotic Stress

Chair: Charlotte Poschenrieder

16:10 - 16:30 Rice microRNAs coordinate yield traits and immunity against *Magnaporthe oryzae*.

> Wen-Ming Wang (Sichuan Agricultural University, China)

16:30 - 16:50 The role of iron in rice innate immunity.

> Ferran Sánchez (Centre for Research in Agricultural Genomics, CRAG (CSIC-IRTA-UAB-UB), Barcelona, Spain)

16:50 - 17:20 **Coffee break**

17:20 - 17:50 Induced resistance through CINNAMIC ACID-4-HYDROXYLASE inhibition in rice involves diterpenoid phytoalexins.

> Willem Desmedt (PIHM, Plant Health Institute, Univ. Montpellier, IRD, CIRAD, INRAE, Institut Agro, Montpellier, France)

17:50 - 18:10 Impacts of bioactive terpenoids of rice on living companions in phyto-biomes.

> Kazunori Okada (Agro-biotechnology Research Center, Graduate School of Agricultural and Live Sciences, The University of Tokyo, Japan)

18:10 - 18:30 Rice immune signal pathways activated by the NLR Xa1-mediated perception of *X. oryzae* TAL effectors.

> Ayaka Yoshihisa (Graduate School of Agriculture, Kindai University, Nara, Japan)

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Day 3

FRIDAY, NOV 5

SESSION 6

Chair: Emmanuel Guiderdoni

09:00 - 09:30 Dissecting starch metabolism in rice and generation of specialty rices through genome editing.

> Paul Christou (University of Lleida-Agrotecnio Center, Lleida, Spain)

09:30 - 10:00 Molecular breeding temperate japonica rice.

> Concha Domingo (Instituto Valenciano de Investigaciones Agrarias-IVIA, Spain)

10:00 - 10:30 High frequency synthetic apomixis in rice.

> Emmanuel Guiderdoni (CIRAD, Montpellier, France)

10:30 - 11:00 **Coffee Break**

SESSION 7

Chair: Elisabetta Lupotto

11:00 - 11:30 Agronomic and epigenetic implications of purine metabolism in rice.

> Ajai Kholi (IRRI, The Philippines)

11:30 - 12:00 Promoting food security and human health: making black rice staple food.

> Qifa Zhang (National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, China)

12:00 - 12:30 Emerging Rainbow Rice.

> Apichart Vanavichit (Kasetsart University, Thailand)

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

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ORAL PRESENTATIONS VI. Molecular breeding under a changing climate

Chair: Paul Christou

13:30 - 13:50 Marker-assisted introgression of the salinity tolerance locus *Saltol* in temperate japonica rice.

> Giampiero Valé (University of Piemonte Orientale, Vercelli, Italy)

ORAL PRESENTATIONS VII. Avances in Rice Biotechnology and Future prospects: Food security and nutrient enhancement

Chair: Paul Christou

13:50 - 14:10 Identification and characterization of *OsTH1*, a gene putatively involved in thiamin biosynthesis in rice.

> M.V. Faustino (Instituto de Tecnologia Quimica e Biológica Antonio Xavier, Universidade Nova de Lisboa, Oeiras, Portugal)

14:10 - 14:30 Neutralization of SARS-CoV-2 by heterologous cyanovirin-N produced in rice endosperm is enhanced by globulins.

> V. Armario-Nájera (University of Lleida-Agrotecnio Center, Spain)

14:30 - 14:50 Novel hybrid CRISPR/Cas9 and Cpf1 genome editing yields bacterial and leaf blight-resistant rice for Africa.

> V.T. Luu (Heinrich-Heine University of Düsseldorf, Germany)

15:00 - 15:30 Concluding Remarks and Poster Award

ROUND TABLE. "Additional Event"

Organizadoras: Maria del Mar Catalá (IRTA), Blanca San Segundo (CRAG)

15:30 - 17:30 Efecto del cambio climático en el cultivo del arroz/*Efecte del canvi climàtic en el cultiu de l'arròs.*

Posters

Advances in green biotechnology and genome editing

Carotenoid profile in rice endosperm using early endogenous pathway biosynthetic genes

Derry Alvarez (1); Pedro Cerda-Bennasser (1); Guillermo Sobrino-Mengual (1); Victoria Armario-Najera (1); Teresa Capell (1); Paul Christou (1,2)

(1) Department of Plant Production and Forestry Science, University of Lleida-Agrotecnio Center, Lleida, Spain

(2) ICREA, Catalan Institute for Research and Advanced Studies, Barcelona, Spain

An ectopic cytosolic MEP pathway in rice endosperm induces profound metabolite and transcriptome changes

Guillermo Sobrino (1); Pedro Cerdá (1); Teresa Capell (1); Paul Christou (1,2); Victoria Armario (1); Wenshu He (1); Derry Alvarez (1)

(1) Department of Plant Production and Forestry Science, University of Lleida-Agrotecnio Center, Lleida, Spain

(2) ICREA, Catalan Institute for Research and Advanced Studies, Barcelona, Spain

Functional characterization of the nitrogenase cofactor maturase NifB from engineered rice

Wenshu He (1); Can Baysal (1); Stefan Burén (2); Xi Jiang (2); Teresa Capell (1); Paul Christou (1,3); Luis M. Rubio (2,4)

(1) Department of Plant Production and Forestry Science, University of Lleida-Agrotecnio Center, 25198 Lleida, Spain

(2) Centro de Biotecnología y Genómica de Plantas, Universidad Politécnica de Madrid (UPM) - Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA), 28223 Pozuelo de Alarcón, Madrid, Spain

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(4) Departamento de Biotecnología-Biología Vegetal, Escuela Técnica Superior de Ingeniería Agronómica, Alimentaria y de Biosistemas, Universidad Politécnica de Madrid, Spain

CRISPR/Cas9-Mediated Knock Out of OsSBE1b - Transcriptional and Metabolome Reprogramming in Rice Endosperm

Wenshu He (1); Can Baysal (1); Margit Drapal (2); Gemma Villorborna (3); Vicente Medina (1); Andrea Saba Mayoral (1); Teresa Capell (1); Gurdev S. Khush (4); Changfu Zhu (1); Paul D. Fraser (2); Paul Christou (1,5)

(1) Department of Plant Production and Forestry Science, University of Lleida-Agrotecnio Center, Lleida, Spain

(2) Department of Biological Sciences, Royal Holloway University of London, United Kingdom

(3) Department of Chemistry, University of Lleida-Agrotecnio Center, Lleida, Spain

(4) Department of Plant Sciences, University of California, United States

(5) Catalan Institute for Research and Advanced Studies (ICREA), Barcelona, Spain

Engineering rice plants with SARS-CoV-2 receptor binding domain (RBD) proteins for candidate vaccines

Andrea Saba-Mayoral (1); Xin Huang (1); Guillermo Sobrino-Mengual (1); Derry Álvarez (1); Wenshu He (1); Can Baysal (1); Pedro Cerda-Bennasser (1); Ashwin Vargheese (1); Carla Morea (1); Teresa Capell (1); Paul Christou (1,2); Victoria Armario-Najera (1)

(1) University of Lleida-Agrotecnio CERCA Center and ICREA

(2) Catalan Institute for Research and Advanced Studies

Interactomics for Rice Flowering: a Proximity Labelling Approach

Daniele Chirivi (1); Camilla Betti (1); Fabio Fornara (1)

(1) Università degli Studi di Milano, Department of Biosciences, Milan, Italy

Enhancing photosynthetic efficiency of rice by incorporating an algal Carbon Concentrating Mechanism

Ashwin Vargheese (1); Wenshu He (1); Victoria Armario-Najera (1); Greta Nölke (2); Stefan Schillberg (2); Teresa Capell (1); Paul Christou (1,3)

(1) University of Lleida-Agrotecnio CERCA Center

(2) Fraunhofer Institute for Molecular Biology and Applied Ecology IME

(3) ICREA, Catalan Institute for Research and Advanced Studies

Epigenomics

Parental variation in CHG methylation is associated with allelic-specific expression in elite hybrid rice

Xuan Ma (1); Feng Xing (2); Qingxiao Jia (1); Qinglu Zhang (1); Tong Hu (1); Baoguo Wu (1); Lin Shao (1); Yu Zhao (1); Qifa Zhang (1); Dao-Xiu Zhou (3)

(1) National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, China

(2) College of Life Science, Xinyang Normal University, Xinyang, China

(3) Institute of Plant Science Paris-Saclay (IPS2), CNRS, INRAE, University Paris-Saclay, Orsay, France

Future prospects: Food security and nutrient enhancement

Creating a DNA Fingerprint Panel for Southern US Rice Varieties

Will de la Bretonne (1,2); Adam Famoso (1,2); Angira Brijesh (1,2)

(1) Louisiana State University, USA

(2) H Rouse Caffey Rice Research Station, USA

Physiological investigation of nitrogen use efficiency in Bengal and Assam Aus Panel of rice populations

Yehia Hazzazi (1)

(1) University of Aberdeen, United Kingdom

Integrative physiology and functional genomics

PyRice: a Python package to facilitate post-GWAS and gene functional analyses

Quan DO (1); Pierre LARMANDE (1)

(1) DIADE, IRD, FRANCE

Molecular breeding under a changing climate

TOWARD THE FUNCTIONAL CHARACTERIZATION OF ARF8 and 18 IN FEMALE GAMETOPHYTE DEVELOPMENT IN ORYZA SATIVA

Gregorio Orozco-Arroyo (1); Andrea Guazzotti (1); Lucia Colombo (1); Silvana C. Pessino (2); Martin M. Kater (1); Marta A. M. Mendes

(1) Università degli Studi di Milano, Department of Biosciences, Milan, Italy

(2) Instituto de Investigaciones en Ciencias Agrarias

Integrative approach for precise genotyping and transcriptomics of a salt tolerant introgression line in rice

Mireia Bundó (1); Héctor Martín-Cardoso (1); Michele Pesenti (2); Jorge Gómez-Ariza (1); Laia Castillo (1); Julien Frouin (3,4); Xavier Serrat (5); Salvador Nogués (5); Brigitte Courtois (3,4); Cécile Grenier (3,4); Gian Attilio Sacchi (2); Blanca San Segundo (1)

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(2) Department of Agricultural and Environmental Sciences - Production, Landscape, Agroenergy - DISAA - University of Milan, Milano, Italy

(3) CIRAD, UMR AGAP, Montpellier, France

(4) AGAP, University of Montpellier, CIRAD, INRAE, Institut Agro, Montpellier, France

(5) Departament de Biologia Evolutiva, Ecologia i Ciències Ambientals, Secció de Fisiologia Vegetal, Universitat de Barcelona, Barcelona, Spain

Plant-environment interactions: Abiotic stress

Salt and alkaline tolerant cyanobacteria from Ebro Delta paddies for biofertilization of salt-stressed rice

Nadia Bahavar (1); Benet Gunsé (1); Shadman Shokravi (2); Charlotte Poschenrieder (1)

(1) Plant Physiology Lab., Bioscience Faculty, Universidad Autònoma de Barcelona, Bellaterra, Spain

(2) Department of Biology, Faculty of Science, Islamic Azad University, Iran

UAV phenotyping of dynamic drought response in rice

Zhao Jiang (1); Haifu Tu (2); Baowei Bai (2); Chenghai Yang (3); Biqian Zhao (4,5); Ziyue Guo (1); Qian Liu (2); Hu Zhao (2); Wanneng Yang (2); Lizhong Xiong (2); Jian Zhang (1)

(1) Macro Agriculture Research Institute, College of Resource and Environment, Huazhong Agricultural University

(2) National Key Laboratory of Crop Genetic Improvement and National Center of Plant Gene Research (Wuhan), Hubei Hongshan Laboratory, Huazhong Agricultural University

(3) Aerial Application Technology Research Unit, USDA-Agricultural Research Service, College Station, TX

(4) School of Natural Resources, University of Nebraska-Lincoln, Lincoln, NE

(5) Department of Biological Systems Engineering, University of Nebraska-Lincoln, Lincoln, NE

OsRIP1, a cytoplasmic ribosome-inactivating protein, is involved in the jasmonate signaling pathway?

Simin Chen (1); Anikó Meijer (1); Isabel Verbeke (1); Pieter Wytynck (1); Kondeti Subramanyam (1); Tim De Meyer (1); Els Van Damme (1)

(1) Ghent University

Genotypic Variation in Heat Tolerance in Rice During the Vegetative Stage

Dalal Alonazy (1); Martin Barker (1); Gareth J. Norton (1); Adam H. Price (1)

(1) University of Aberdeen

Putative Role of Jasmonic Acid Signalling Pathway in Coleoptile Elongation Under Submergence

M. Beatriz Vieira (1); Tiago F. Lourenço (1); M. Margarida Oliveira (1)

(1) Universidade Nova de Lisboa, ITQB NOVA, Portugal

Plant-environment interactions: Biotic stress

Transcriptional response during immune cell death in rice

Fernando Navarrete (1); Jane Parker (2); Thomas Kroj (3); Marc Valls (1); Núria Sánchez Coll (1)

(1) Centre for Research in Agricultural Genomics (CRAG), Barcelona, Spain

(2) Department of Plant–Microbe Interactions, Max Planck Institute for Plant Breeding Research, Cologne, Germany

(3) PHIM Plant Health Institute, Univ. Montpellier, INRAE, CIRAD, Institut Agro, IRD, Montpellier, France

Mechanism underlying phosphate-induced susceptibility to the rice blast fungus *Magnaporthe oryzae*

Héctor Martín-Cardoso (1); Beatriz Val-Torregrosa (1); Mireia Bundó (1); Blanca San Segundo (1)

(1) Center for Research in Agricultural Genomics (CRAG) CSIC-IRTA-UAB-UB. Campus Autonomous University of Barcelona (UAB), Barcelona, Spain

Resources for systems biology in rice

The Rice Genome Hub, a portal for multi scale analysis of rice genomic resources

Alexandre Soriano (1,2,3); Christine Tranchant (1,4); Alexis Dereeper (4,5); Maira Barca (1,2,3); Chloé Antoine (2,3); Manuel Ruiz (2,3,4); Alain Ghesquière (1); Antony Champion (1); Gaëtan Droc (2,3,4)

(1) Unité Mixte de Recherche (UMR) Diversité, Adaptation, et Développement des Plantes (DIADÉ), Institut de Recherche pour le Développement (IRD), Université de Montpellier, Montpellier, France

(2) CIRAD, UMR AGAP Institut, Montpellier, France

(3) UMR AGAP Institut, Univ Montpellier, CIRAD, INRAE, Institut Agro, Montpellier, France

(4) South Green Bioinformatics Platform, Bioversity, CIRAD, INRAE, IRD, Montpellier, France

(5) PHIM Plant Health Institute, Univ Montpellier, CIRAD, INRAE, Institut Agro, IRD, Montpellier, France

Identification of SUMOylation machinery in rice (*Oryza sativa*)

Kawinnat Sue-ob (1); Ari Sadanandom (2); Andrew R Jones (1)

(1) Institute of Systems, Molecular and Integrative Biology, Department of Biochemistry and System Biology, University of Liverpool, United Kingdom

(2) Department of BioSciences, Durham University, United Kingdom

Rice development and phenomics

Effects of *O. glaberrima* introgression on panicle branching in *O. sativa* x *O. glaberrima* CSSLs

Helene Adam (1); Andres Guitierrez (2); Stefan Jouannic (1); Mathias Lorieux (1,2)

(1) UMR DIADE, University of Montpellier, IRD, Montpellier, France

(2) Rice Genetics & genomics Lab, Alliance Bioversity-CIAT, Colombia

Natural allelic variants associated with panicle architecture variation in *Oryza glaberrima*

Fabrice Ntakirutimana (1); Helene Adam (1); Christine Tranchant-Dubreuil (1); Mathias Lorieux (1); Stefan Jouannic (1)

(1) IRD, France

The ALOG family members OsG1L1 and OsG1L2 regulate inflorescence branching in rice

Veronica Maria Beretta (1); Emanuela Franchini (1); Israr Ud Din (1,2); Elia Lacchini (1,3); Lisa Van den Broeck (4); Rosangela Sozzani (4); Gregorio Orozco-Arroyo (1); Hélène Adam (5); Stefan Jouannic (5); Veronica Gregis (1); Martin Kater (1)

(1) Dipartimento di Bioscienze, Università degli Studi di Milano, Milano, Italy

(2) Institute of Biotechnology and Genetic Engineering (IBGE), University of Agriculture, Pakistan

(3) VIB Center for Plant Systems Biology, Ghent, Belgium

(4) Plant and Microbial Biology Department, North Carolina State University

(5) DIADE, University of Montpellier, IRD, CIRAD, Montpellier, France

Genetic control of inflorescence architecture in rice by a specific inflorescence meristematic gene

Antonietta Saccomanno (1); Sara Belcapo (1); Gregorio Orozco Arroyo (1); Andrea Guazzotti (1); Veronica Gregis (1); Martin Kater (1)

(1) Università Statale Di Milano (Italy)

Opposite polarity programs regulate asymmetric subsidiary cell division in grasses

Dan Zhang (1); Emily Abrash (2); Tiago Daniel Gomes Nunes (1); Ines Hidalgo Prados (1); M Ximena Anleu Gil (2); Le Cai (2); Barbara Jesenofsky (1); Heike Lindner (1); Dominique Bergmann (2); Michael Raissig (1)

(1) Centre for Organismal Studies Heidelberg

(2) Department of Biology & Howard Hughes Medical Institute

OspIL15 and OspIL16 are key regulators of the etiolated coleoptile growth

Catarina Monteiro (1); André Cordeiro (1); Sofia Neves (1); Guilherme Leitão (1); João Costa (1); Tiago Lourenço (1); Nelson Saibo (1)

(1) Instituto de Tecnologia Química e Biológica António Xavier - Universidade Nova de Lisboa, Portugal

CLIMBER - Confronting CLIMate change impacts in BarLEy and Rice

Veronica Gregis (1); Carlotta Ferrario (2); Letizia Cornaro (2); Veronica M. Beretta (1); Vittorio Zanzani (1); Raffaella Battaglia (3); Maria von Korff (4); David S. Horner (1); Laura Rossini (2)

(1) University of Milan – Department of Biosciences, Milan, Italy

(2) University of Milan – Department of Agricultural and Environmental Sciences, Milan, Italy

(3) CREA-GB, Fiorenzuola d'Arda (PC), Italy,

(4) University of Dusseldorf, Germany

Rice genome research and evolution

Platinum Standard de novo assembly of the CCDD rice wild relatives *Oryza grandiglumis* and *Oryza latifolia*

Aseel Alsantely (1); Nahed Mohammed (1); Dave Kudrna (2); Seunghee Lee (2); Kenneth McNally (3); Victor Liaca (4); Yong Zhou (1); Andrea Zuccolo (1); Rod Wing (1,2)

(1) Center for Desert Agriculture, Biological and Environmental Sciences Division, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia

(2) Arizona Genomics Institute, School of Plant Sciences, University of Arizona, Tucson, Arizona, USA

(3) International Rice Research Institute (IRRI), Strategic Innovation, Laguna, Philippines

(4) Genomics Technologies, Applied Science and Technology, Corteva Agriscience, USA

PlantDeepSEA, a deep learning-based web service to predict the regulatory effects of genomic variant in plants

Hu Zhao (1); Zhuo Tu (1); Weibo Xie (1)

(1) Huazhong Agricultural University

A preliminary survey of Transposable Elements and Structural Variant content in two *Oryza alta* accessions

Andrea Zuccolo (1); Dave Kudrna (2); Seunghee Lee (2); Rod Wing (1,2)

(1) Center for Desert Agriculture, Biological and Environmental Sciences Division, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia

(2) Arizona Genomics Institute, School of Plant Sciences, University of Arizona, Tucson, Arizona, USA

The Genomics of Three Underutilized Wild Rice Species

Noor AlBader (1); Saule Mussurova (1); Nahed Mohammed (1); Vicotor Llaca (2); Yong Zhou (1); Andrea Zuccolo (1,3); Jianwei Zhang (4,5); Rod Wing (1,4)

(1) Center for Desert Agriculture, Biological and Environmental Sciences & Engineering Division (BESE), King Abdullah University of Science and Technology (KAUST), Saudi Arabia

(2) Genomics Technologies, Applied Science and Technology, Corteva Agriscience™, Iowa, USA

(3) Institute of Life Sciences, Scuola Superiore Sant'Anna, Pisa, Italy

(4) Arizona Genomics Institute, School of Plant Sciences, University of Arizona, Tucson, Arizona, USA

(5) National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, China

Genetic structure and demographic history of the halophyte wild relative of rice *Oryza coarctata*

Alice Fornasiero (1); Joao Santos (1); Tomalika Azim (2); David Kudrna (3); Zeba Seraj (2); Rod Wing (1,3)

(1) Center for Desert Agriculture, Biological and Environmental Sciences & Engineering King Abdullah University of Science and Technology, Saudi Arabia

(2) Plant Biotechnology Laboratory, Department of Biochemistry and Molecular Biology, University of Dhaka, Bangladesh

(3) Arizona Genomics Institute, University of Arizona, Tucson, USA

Platinum Standard de novo assembly of rice wild relative *Oryza ridleyi* Hook

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