

SOLANACEAE CONFERENCE 2016 DAVIS, CALIFORNIA USA

SESSION SPEAKERS

TUESDAY 13 SEPTEMBER 2016

SESSION I • DIVERSITY-TAXONOMY/CROP GERMPLASM DIVERSITY

CHAIRPERSON: ELLEN DEAN (UC DAVIS, USA)

CO-CHAIRPERSON: IRMA ORTIZ (UC RIVERSIDE, USA)

DIVERSITY AND DISTRIBUTION IN THE SOLANACEAE - NOT QUITE WHAT IT MIGHT SEEM!

Knapp S.¹, Echeverria-Londoño S.^{1,2}, Sarkinen T.³, Purvis A.¹

¹Department of Life Sciences, Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom; ²Imperial College London, London SW7 2AZ, United Kingdom; ³Royal Botanic Garden Edinburgh, 20A Inverleith Way, Edinburgh EH3 5LR, United Kingdom

DIVERSE AND NOVEL PHENOTYPES IN *NICOTIANA* ALLOPOLYPOIDS: THE GENETIC BASIS OF FLORAL PIGMENTS

McCarthy E.W.¹, Berardi A.E.²⁺, Smith S.D.², and Litt A.¹

¹Department of Botany and Plant Sciences, University of California, Riverside, Riverside, CA, USA;

²Department of Ecology and Evolutionary Biology, University of Colorado-Boulder, Boulder, CO, USA;

⁺Current address: Institute of Plant Sciences, University of Bern, Bern, Switzerland.

RECENT INSIGHTS INTO SPECIES DIVERSITY AND RELATIONSHIPS IN *CAPSICUM* L.

Carrizo García C.¹, Ehrendorfer F.², **Barboza G.E.**^{1,3}

¹IMBIV, CONICET-UNC, Córdoba, Argentina; ²Dept. of Botany and Biodiversity Research, Vienna University, Vienna, Austria; ³ Faculty of Chemical Sciences, Córdoba University, Córdoba, Argentina.

TRADITOM: DIGGING IN THE TRADITIONAL VARIABILITY POOL OF EUROPEAN TOMATO FOR FRUIT QUALITY AND RESILIENCE

The TRADITOM partners as in traditom.eu

Granel A.

IBMCP (CSIC-UPV), Valencia, Spain

SESSION II • BARRIERS TO BREEDING

CHAIRPERSON: ROGER CHETELAT (UC DAVIS, USA)

CO-CHAIRPERSON: BENNY ORDONEZ (UC DAVIS, USA)

ELUCIDATING MECHANISMS AND DYNAMICS OF REPRODUCTIVE ISOLATION IN WILD TOMATO SPECIES

Bedinger P.A.¹, Baek Y.S.¹, Broz A.K.¹, Randle A.M.², Royer S.M.¹, Chetelat R.T.³, Tovar-Méndez A.⁴, McClure B.⁴

¹Biology Department, Colorado State University, Fort Collins, CO, USA; ²Department of Environmental Science, University of San Francisco, San Francisco CA, USA; ³Plant Sciences Department, University of California, Davis, CA, USA; ⁴Department of Biochemistry, University of Missouri-Columbia, Columbia MO, USA

WILD TOMATO: POPULATION STRUCTURE AND EVIDENCE OF NATURAL S. CHILENSE X S. PERUVIANUM HYBRID POPULATIONS

Beddows I., Kloesges T., Rose L.E.

Institute of Population Genetics, Heinrich-Heine University Düsseldorf, D-40225 Düsseldorf, Germany

THE GAMETE ELIMINATOR AS A MECHANISM OF ISOLATION IN WILD POPULATIONS AND A REMNANT OF INTROGRESSION IN CULTIVATED TOMATO

Francis D.M.¹, Barrantes W.^{2,3}, Fakhet D.², Pons C.², Blanca J.⁴, Granell A.², Monforte A.J.²

¹The Ohio State University, Wooster, OH, USA; ²IBMCP; ³COMAV, Universidad Politécnica de Valencia, Spain; ⁴Universidad de Costa Rica, La Garita-Alajuela, Costa Rica

LIFTING BARRIERS IN DIPLOID HYBRID POTATO BREEDING

Lindhout P., Viquez-Zamora M., Ying S. ter Maat, M., de Vries M., van Heusden A.W.

Solynta, Wageningen, The Netherlands

SESSION III • GENOMES AND GENOME TECHNOLOGIES

CHAIRPERSON: MASSIMO DELLEDONNE (UNIV. OF VERONA, ITALY)

CO-CHAIRPERSON: ARSENIO NDEVE (UC RIVERSIDE, USA)

DEMOCRATIZATION OF REFERENCE QUALITY SEQUENCING FOR NON-MODEL ORGANISMS

Cantu, D.

Department of Viticulture and Enology, University of California, Davis, Davis, CA USA

YOU SAY TOMATO, I SAY POTATO: HIGH-QUALITY GENOME ASSEMBLY OF THE SISTER-GROUP SPECIES SOLANUM ETUBEROSUM PROVIDES INSIGHTS INTO GENOME AND TRAIT EVOLUTION

Berke L.¹, Grandont L.¹, Aflitos S.A.², Bachem C.W.B.³, Becker F.^{1,4}, Bouwmeester K.⁵, van de Geest H.², Govers F.⁵, de Jong J.H.⁴, Peters S.A.^{1,2}, Sanchez-Perez G.F.^{2,6}, Schijlen E.², van den Berg R. G.¹, Schranz M.E.¹

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UTILIZING LONG-RANGE SHORT-READ TECHNOLOGY FOR A BETTER PEPPER GENOME

Hulse-Kemp A.M.¹, Maheshwari S.¹, Stoffel K.¹, Hill T.A.¹, Jaffe D.², Weisenfeld N.², Kumar V.², Shah P.², Schatz M.C.³, Church D.M.², and Van Deynze A.¹

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NICOTIANA GENOMES: BEYOND TOBACCO

Sierro N., Battey J., Ouadi S., Thomas J., Liedschulte V., Bovet L., Broye H., Laparra H., Vuarnoz A., Lang G., Goepfert S., Peitsch M.C., Ivanov N.V.

Philip Morris International R&D, Philip Morris Products S.A., Neuchatel, Switzerland (part of Philip Morris International group of companies)

SESSION IV • HIGH-THROUGHPUT PHENOTYPING

CHAIRPERSON: ALLEN VAN DEYNZE (UC DAVIS, USA)

CO-CHAIRPERSON: LAV KUMAR YADAV (WEST VIRGINIA STATE UNIV., USA)

IN-FIELD HIGH-THROUGHPUT PHENOTYPING FOR PLANT ARCHITECTURE AND INTERNAL FRUIT QUALITY IN TOMATO

Slaughter D.C.¹, Nguyen T.T.¹, Maloof J.², Sinha N.², Max N.³

Departments of ¹Biological and Ag. Engineering, ²Plant Biology, and ³Computer Science, University of California, Davis, USA

PERSISTENT HOMOLOGY: A TOOL TO UNIVERSALLY MEASURE PLANT MORPHOLOGIES ACROSS ORGANS AND SCALES

Li M.¹, Frank M.H.¹, Coneva V.¹, Mio W.², Topp C.N.¹, Chitwood D.H.¹

¹Donald Danforth Plant Science Center, St. Louis, MO USA; ²Department of Mathematics, Florida State University, Tallahassee, FL USA

FIELD PLATFORMS FOR HIGH-THROUGHPUT PHENOTYPING IN ARIZONA

Andrade-Sanchez P.

Agricultural and Biosystems Department, University of Arizona, Maricopa, AZ, USA

SESSION V • GENE-EDITING AND NEW BREEDING TECHNOLOGIES

CHAIRPERSON: ANNE BRITT (UC DAVIS, USA)

CO-CHAIRPERSON: JULIE PEDRAZA (CSU, FRESNO, USA)

GENETIC ENGINEERING AND GENOME EDITING IN THE SOLANACEAE

Van Eck J.¹, Wang W.¹, Brooks C.², Nekrasov V.³, Xu C.², Du C.¹, Lippman Z.²

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SUSCEPTIBILITY GENES FOR RESISTANCE AGAINST *PHYTOPHTHORA INFESTANS*

Chaparro-Garcia A., Nekrasov V., Dagdas Y., Kamoun S.

The Sainsbury Laboratory, Norwich Research Park, Norwich, United Kingdom

CREATING TOMATO HAPLOID INDUCER THROUGH SINGLE AMINO ACID SUBSTITUTIONS IN CENH3 HISTONE FOLD DOMAIN

Kuppu S., Li G., Rodgers A., Terry J., Britt A.B.

Dept. Plant Biology, University of California, Davis, CA 95694, USA

ASSESSING THE IMPACT OF GENE REPLACEMENT AND GENE MODIFICATION METHODS IN A CROP SPECIES AT THE WHOLE GENOME LEVEL

Starker C.G.¹, Nadakuduti S.S.², Crisovan E.³, Konecna E.¹, Butler N.M.², Buell C.R.³, Voytas D.F.¹, Douches D.S.²

¹*Department of Genetics, Cell Biology and Development and Center for Genome Engineering, University of Minnesota, USA;* ²*Department of Plant, Soil and Microbial Sciences, Michigan State University, USA;* ³*Department of Plant Biology, Michigan State University, USA*

SESSION VI • EPIGENOMICS AND METHYLATION

CHAIRPERSON: LUCA COMAI (UC DAVIS, USA)

CO-CHAIRPERSON: BRITTANY DAVENPORT (WEST VIRGINIA STATE UNIV., USA)

THE FUNCTIONS OF DNA METHYLATION IN FLESHY FRUITS

Gallusci P.

Laboratory of Grape Ecophysiology and Functional Biology, Bordeaux University, INRA, Bordeaux Science Agro, 33882, Villenave d'Ornon, France

MIR160 IS A KEY REGULATOR OF AUXIN MEDIATED DEVELOPMENTAL PROCESSES IN TOMATO

Damodharan S., Arazi T.

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AN ERF TRANSCRIPTION FACTOR ACTS AS A POSITIVE REGULATOR IN THE ANTIVIRAL RNA SILENCING IN PETUNIA

Jiang C.-Z.^{1,2}, Sun D.^{2,3}, Zhang Y.³, Niu L.³, Reid R.²

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WEDNESDAY 14 September 2016

SESSION VII • GENOMICS-ASSISTED BREEDING

CHAIRPERSON: JEANNE JACOBS (NEW ZEALAND INSTITUTE FOR PLANT AND FOOD RESEARCH)

CO-CHAIRPERSON: KIEU-NGA T. TRAN (LOUISIANA STATE UNIV., USA)

GENOMICS ASSISTED BREEDING IN POTATO

Douches D.S.¹, Massa A.¹, Manrique N.¹, Coombs J.¹, de Los Campos G.², Islam S.¹, Alsahlany M.¹, Enciso F.¹

¹Plant Soil and Microbial Sciences Department, ²Department of Statistics, Michigan State University, East Lansing, MI, USA

EMPIRICAL EVALUATION OF GENOMIC SELECTION FOR RESISTANCE TO BACTERIAL SPOT OF TOMATO.

Liabeuf D.¹, Sim S.-C.², Francis D.M.¹

¹Department of Horticulture and Crop Science, The Ohio State University, Ohio Agricultural Research and Development Center; ²Department of Bioresources Engineering, Sejong University, Korea

GBS-ASSISTED RECOVERY OF “LOST” INTROGRESSIONS IN ADVANCED BACKCROSSES OF SOLANUM INCANUM TO CULTIVATED EGGPLANT (S. MELONGENA)

Gramazio P.¹, Prohens J.¹, Plazas, M.¹, Herraiz F.J.¹, Ziarsolo P.¹, Cañizares J.¹, Vilanova S.¹

¹Instituto de Conservación y Mejora de la Agrodiversidad Valenciana, Universitat Politècnica de València, Valencia, Spain

ANALYZING AND EVALUATING THE USEFULNESS OF EXISTING MOLECULAR MARKERS FOR BREEDING OF ELITE TETRAPLOID POTATO

Sundmark E.H.R.¹, Sønderkær M.¹, Kirk H.G.², Nielsen K.L.¹

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GENOMICS-ASSISTED QTL MAPPING FOR AGRONOMICAL TRAITS IN PEPPER

Han K.¹, Jeong H.-J.¹, Yang H.-B.¹, Kang S.-M.², Kim S.¹, Choi D.¹, Kang B.-C.¹

¹Department of Plant Science, Seoul National University, Seoul, Republic of Korea; ²Department of Computer Science, College of Information Science and Technology, KAIST, Daejeon, Republic of Korea

SESSION VIII • SYSTEMS BIOLOGY AND NETWORKS

CHAIRPERSON: SIOBHAN BRADY (UC DAVIS, USA)

CO-CHAIRPERSON: SOPHIA JINATA (CSU SACRAMENTO, USA)

THE TIP OF THE TRICHOME: SPECIALIZED METABOLIC DIVERSITY IN THE SOLANACEAE

Last R.L.^{1,2}, Fan P.¹, Moghe G.¹, Miller A.¹, Leong B.¹, Lybrand D.¹, Hurney S.³, Jones A.D.^{1,3}

¹Department of Biochemistry and Molecular Biology, ²Department of Plant Biology, ³Department of Chemistry, Michigan State University, USA

A HIGH-RESOLUTION SPATIOTEMPORAL ATLAS OF THE TOMATO FRUIT TRANSCRIPTOME

Shinozaki Y.¹, Fernandez-Pozo N.², Nicolas P.J.², Martin L.B.B.¹, Snyder S.I.¹, Ma Q.², Xu Y.^{2,3}, Zheng Y.^{2,3}, Catalá C.^{1,2}, Fei Z.^{2,3}, Mueller L.A.², Giovannoni J.J.^{2,3}, Rose J.K.C.¹

¹*Plant Biology Section, School of Integrative Plant Science, Cornell University, Ithaca, NY, USA;* ²*Boyce Thompson Institute, Ithaca, NY, USA;* ³*U.S. Department of Agriculture/Agriculture Research Service, Robert W. Holley Centre for Agriculture and Health, Ithaca, NY, USA*

A SYSTEMS-LEVEL STUDY ON THE EFFECTS OF ELEVATED ATMOSPHERIC CO₂ ON *SOLANUM LYCOPERSICUM* AND *SOLANUM PENNELLII*)

Gray S.B.¹, Toal T.W.², Kajala K.¹, Brady S.M.^{1,2}

¹*Department of Plant Biology,* ²*Genome Center, University of California, Davis, CA, USA*

NETWORK ANALYSIS UNRAVELS CROSSTALK BETWEEN ETHYLENE AND SALICYLIC ACID SIGNALLING PATHWAYS IN VIRUS-INFECTED POTATO

Baebler S.¹, Ramšak Ž.¹, Stare T.¹, Coll A.¹, Tzfadia O.^{2,3}, Gruden K.¹

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²*Department of Plant Systems Biology, VIB, 9052 Ghent, Belgium;* ³*Department of Plant Biotechnology and Bioinformatics, Ghent University, 9052 Ghent, Belgium*

SESSION IX • ABIOTIC STRESSES

CHAIRPERSON: JULIN MALOOF (UC DAVIS, USA)

CO-CHAIRPERSON: LUMARIZ HERNANDEZ (UNIV. OF PUERTO RICO)

NEW TOMATO MUTANT COLLECTIONS FOR THE IDENTIFICATION OF KEY GENES INVOLVED IN TOLERANCE TO SALINITY AND DROUGHT

Flores F.B.¹, Angosto T.², Moreno V.³, Lozano R.², Bolarín M.C.¹

¹*Department of Stress Biology and Plant Pathology, CEBAS-CSIC, Espinardo-Murcia, Spain;* ²*Agro-Food Biotechnology Research Centre (BITAL), University of Almería (UAL), Almería, Spain;* ³*Department of Plant Biotechnology and In Vitro Culture, IBMCP-UPV/CSIC, Valencia, Spain*

GALAPAGOS TOMATOES AS A GENETIC SOURCE FOR SALINITY TOLERANCE

Pailles Y.¹, Ho S.¹, Lightfoot D.¹, Pires I.², Mitchell C.³, Negrão S.¹, Schmoeckel S.¹, Tester M.¹

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GENETICS AND GENOMICS OF TRAITS ASSOCIATED WITH WATER STRESS TOLERANCE IN WILD TOMATO (*SOLANUM HABROCHAITES*)

St. Clair D.A.

Plant Sciences Department, University of California, Davis, CA 95616 USA

DISSECTING THE GENETIC BASIS OF POLLEN THERMOTOLERANCE IN TOMATO

Driedonks N.¹, Wolters-Arts M.¹, de Boer G.J.², Vriezen W.³, Mariani C.¹, Rieu I.¹

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SESSION X • RESISTANCE, PATHOGENS, PESTS AND MICROBIOMES

CHAIRPERSON: GITTA COAKER (UC DAVIS, USA)

CO-CHAIRPERSON: KEVIN BABILONIA (TEXAS A&M, USA)

PHYTOPHTHORA BLIGHT IN POTATO: TIPPING THE BALANCE BETWEEN RESISTANCE AND SUSCEPTIBILITY

Govers F., Wang Y., Du Y., Yang S., Bouwmeester K.

¹Laboratory of Phytopathology, Wageningen University, Wageningen, The Netherlands

TOMATO RECEPTOR FLAGELLIN-SENSING 3 BINDS FLGII-28 AND ACTIVATES THE PLANT IMMUNE SYSTEM

Hind S.¹, Strickler S.¹, Boyle P.¹, Dunham D.¹, Bao Z.¹, O'Doherty I.^{1,2}, Baccile J.^{1,2}, Hoki J.^{1,2}, Viox E.¹, Clarke C.³, Vinatzer B.³, Schroeder F.^{1,2}, Martin G.^{1,4}

¹Boyce Thompson Institute for Plant Research, Ithaca, NY 14853, USA; ²Department of Chemistry and Chemical Biology, Cornell University, Ithaca, NY 14853, USA; ³Department of Plant Pathology, Physiology and Weed Sciences, Virginia Tech, Blacksburg, VA 24061, USA; ⁴Section of Plant Pathology and Plant-Microbe Biology, School of Integrative Plant Science, Cornell University, Ithaca, NY 14853, USA

LOCAL SMRT RENSEQ ENABLES RAPID CLONING OF RPI-SMIRA1 AND R10 FROM POTATO CULTIVAR SARPO MIRA.

Witek K.¹, Xing L.^{1,2}, Jupe F.^{1,4}, Bryan G.³, Hein I.³, Jones J.D.G.¹

¹The Sainsbury Laboratory, Norwich Research Park, Norwich, United Kingdom; ²Nanjing Agricultural University, Nanjing, Jiangsu, China; ³Cell and Molecular Sciences, James Hutton Institute, Dundee, UK;

⁴Current address: Plant Biology Laboratory, Salk Institute for Biological Studies, La Jolla, CA, USA

OPPORTUNITIES TO IMPROVE TOMATO FRUIT BY TARGETING EARLY DEVELOPMENT AND RIPENING PROCESSES CO-OPTED BY PATHOGENS

Powell A.L.T.¹, Tang Y.^{1,2}, Yang S.^{1,2}, An Y.^{1,3}, Blanco-Ulate B.^{1,4}, Cantu D.^{1,4}, Vincenti-Martinez E.¹, Yu Q.², Bennett A.¹, Labavitch J.¹

¹Plant Sci. Dept., Univ. Calif. Davis; ²Xinjiang Acad. of Ag. Sci., Urumqi, China; ³Beijing Forestry Univ., China, ⁴Dept. of Vit. and Enol., Univ. Calif. Davis CA 95616, USA

THURSDAY 15 SEPTEMBER 2016

SESSION XI • TUBERS AND ROOT SYSTEMS

CHAIRPERSON: GLENN BRYAN (THE JAMES HUTTON INSTITUTE, UK)

CO-CHAIRPERSON: JUSTIN MEDINA (CAL POLY POMONA, USA)

CONTROL OF POTATO TUBERIZATION BY THE CONSTANS-FT MODULE

Cruz-Oró E., Abelenda J.A., Sanz R., Prat S.

Plant Molecular Genetics Department, Centro Nacional de Biotecnología-CSIC, Madrid, Spain

CHARACTERISATION OF ACQUIRED THERMOTOLERANCE IN POTATO

Bitá C.E., Ducreux L., Hancock R., Hedley P., Morris J., Morris W., Trapero-Mozos A., Wiese C., Taylor M.

Cell and Molecular Sciences Group, James Hutton Institute, Dundee, United Kingdom

LOCAL SMRT BIOLOGICAL PREDICTORS FOR TUBER SWEETENING DURING LONG TERM COLD STORAGE

Neilson J.¹, Lagüe M.¹, Thompson S.³, Aurousseau F.², Murphy A.¹, Bizimungu B.¹, Deveaux V.², Begue Y.², Jacobs J.³, Tai H.¹

¹Agriculture and Agri-Food Canada Potato Research Centre, P. O. Box 20280, 850 Lincoln Rd., Fredericton, N. B., Canada E3B 4Z7; ²Sipre-Responsable Scientifique Creation Varietale, Station de Recherche du Comite Nord, 76110 Brettevukke du Grand Caux, France; ³The New Zealand Institute for Plant and Food Research Limited, Private Bag 4704, Christchurch, New Zealand

TRANSCRIPTION ACTIVATOR-LIKE EFFECTOR NUCLEASES (TALEN)-MEDIATED TARGETED DNA INSERTION IN POTATO PLANTS FOR ENGINEERING TUBER TRAITS

Duan H., Forsyth A., Richael C., and Weeks T.

Simplot Plant Sciences, JR Simplot Company, Boise ID 83706, USA

SESSION XII • FLOWERS, SEEDS, AND FRUIT

CHAIRPERSON: JIM GIOVANNONI (USDA/BOYCE THOMPSON INSTITUTE, USA)

CO-CHAIRPERSON: KIMBERLY RODRIGUEZ (NEW MEXICO STATE UNIV., USA)

THE REGULATORY NETWORK CONTROLLING FRUIT RIPENING: A COMPLEX INTERACTION BETWEEN MULTI-HORMONAL SIGNALING AND DEVELOPMENTAL FACTORS

Bouzayen M.

University of Toulouse, INPT, INRA, Genomics and Biotechnology of Fruits, France

ACCELERATION OF RIPENING-RELATED HOST CELL WALL DISASSEMBLY DURING *BOTRYTIS CINEREA* INFECTIONS OF UNRIPE TOMATO FRUIT

Blanco-Ulate B.^{1,2}, Cantu D.², Vincenti E.¹, van Kan J.A.L.⁴, Hahn M.G.³, Labavitch J.M.¹ and Powell A.L.T.¹

¹Department of Plant Sciences, University of California, Davis, CA, USA; ²Department of Viticulture and Enology, University of California, Davis, CA, USA; ³Complex Carbohydrate Research Center, University of Georgia, Athens, GA, USA; ⁴Laboratory of Phytopathology, Wageningen University, Wageningen, The Netherlands

GENETICS AND MACROEVOLUTION OF FLOWER COLOR IN SOLANACEAE

Smith S.D.

Department of Ecology and Evolutionary Biology, University of Colorado, Boulder, CO

REGULATORY VARIATION IN TOMATO: HARNESSING GENETIC DIVERSITY TO UNDERSTAND THE REGULATION OF FRUIT DEVELOPMENT

Elrouby N.¹, Pattison R.J.¹, Zheng Y.¹, Fei Z.^{1,2}, Giovannoni J.^{1,2}, and Catalá C.^{1,3}

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GENOME-WIDE ANALYSIS REVEALS THE ROLES OF TRANSPOSABLE ELEMENTS IN THE ORIGIN OF NOVEL LNCRNAs AND THEIR FRUIT RIPENING IN TOMATO

Ye Z.¹, Wang X.¹, Zhang J.¹, Li H.², Cui L.², Wang J.²

¹Key Laboratory of Horticultural Plant Biology, MOE; ²Key Laboratory of Horticultural Crop Biology and Genetic Improvement (Central Region), MOA, Huazhong Agricultural University, Wuhan, Hubei 430070, China

LEVERAGING GENETICS AND GENOMICS TO DEFINE MECHANISMS UNDERLYING FRUIT SIZE VARIATION IN PEPPER

Hill T.A., Weir A., Visser J., Chunthawodtiporn J., Stoffel K., Van Deynze A.

Plant Sciences Department, University of California, Davis, CA

FRIDAY 16 SEPTEMBER 2016

SESSION XIII • PLANT DEVELOPMENT AND REGULATION

CHAIRPERSON: NEELIMA SINHA (UC DAVIS, USA)

CO-CHAIRPERSON: TIM BATZ (CAL POLY POMONA, USA)

DOMESTICATION DELAYED CIRCADIAN RHYTHMS IN TOMATO

Müller N. A.¹, Wijnen C.L.¹, Srinivasan A.¹, Ryngajillo M.¹, Ofner I.², Lin T.^{3,4}, Ranjan A.⁵, West D.⁵, Maloof J.N.⁵, Sinha N.R.⁵, Huang S.^{3,4}, Zamir D.², Jiménez-Gómez J.M.^{1,6}

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EXAMINING THE MOLECULAR BASIS OF SPECIATION IN PETUNIA THROUGH FLAVONOID-TINTED GLASSES

Sheehan H.¹, Moser M.², Klahre U.², Esfeld K.², Amrad A.², Dell'Olivo A.², Mandel T.², Metzger S.³, Vandebussche M.⁴, Freitas L.⁵ and Kuhlemeier C.²

¹*Department of Plant Sciences, University of Cambridge;* ²*Institute of Plant Sciences, University of Bern;* ³*Cologne Biocenter, University of Cologne;* ⁴*ENS de Lyon, CNRS, INRA, UCBL;* ⁵*Department of Genetics, Universidade Federal do Rio Grande do Sul*

REGULATION OF TOMATO MERISTEMS IN RESPONSE TO SUBMERGENCE

Kajala K.^{1,2}, West D.A.¹, Zumstein K.¹, Sinha N.R.¹, Brady S.M.^{1,2}

¹*Department of Plant Biology, University of California Davis, CA, USA;* ²*Genome Center, University of California Davis, CA, USA*

THE EVOLUTION OF INFLORESCENCE DIVERSITY IN THE NIGHTSHADES AND HETEROCHRONY DURING MERISTEM MATURATION

Lemmon Z.H.¹, Park S.J.^{1,3}, Jiang K.^{1,3}, Van Eck J.², Schatz M.C.^{1,3}, Lippman Z.B.¹

¹*Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA;* ²*The Boyce Thompson Institute, Ithaca, NY, USA;* ³*Present address: Division of Biological Sciences, Wonkwang University, Republic of Korea (SJP), Dow AgroSciences LLC, Indianapolis, Indiana, USA (KJ); Departments of Computer Science and Biology, Johns Hopkins University, Baltimore, MD, USA (MCS)*

ROOT OF POWER: LONG DISTANCE RNA MOVEMENT ASSOCIATED WITH GRAFTING-INDUCED VIGOR

Frank M.H.¹, Chitwood D.H.¹

¹*Donald Danforth Plant Science Center, St. Louis, MO 63132*

SESSION XIV • METABOLITES, FLAVOR AND QUALITY

CHAIRPERSON: CATHIE MARTIN (JOHN INNES CENTRE, UK)

CO-CHAIRPERSON: SASSOUM LO (UC RIVERSIDE, USA)

THE GENETIC BLUEPRINT FOR DEVELOPING A BETTER TASTING TOMATO

Klee, H. and Tieman D.

University of Florida, Horticultural Sciences and Plant Innovation Center, Gainesville FL 32611

COMPARATIVE BIOCHEMICAL GENOMICS OF SOLANACEAE ACYLSUGARS ILLUSTRATES THE MECHANISMS OF EVOLUTIONARY DIVERSIFICATION IN PLANT SPECIALIZED METABOLISM

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TYPE VI GLANDULAR TRICHOMES OF TOMATO SPECIES: FROM DEVELOPMENT TO BIOSYNTHESIS OF SPECIALIZED SESQUITERPENOID

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COMBINED METABOLIC QUANTITATIVE TRAITS LOCI (mQTL) AND EXPRESSION QTL (eQTL) ANALYSIS IN A RECOMBINANT INBRED LINE POPULATION

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