

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Vitamin D Workshop (EK4)

October 13-14, 2021 • Virtual at your computer

Scientific Organizers: JoEllen Welsh and James C. Fleet

Sponsorship in Collaboration with: Vitamin D Workshop

WEDNESDAY, OCTOBER 13

Welcoming Remarks (7am Denver/Mountain Time Start)

*JoEllen Welsh, State University of New York at Albany, USA

*James C. Fleet, University of Texas at Austin, USA

Calcium and Bone (7:05am Denver/Mountain Time Start)

*Sylvia Christakos, Rutgers New Jersey Medical School, USA

*JoEllen Welsh, State University of New York at Albany, USA

Philip R. Fischer, Mayo Clinic, USA

Vitamin D and Calcium Deficiencies – Advancing Science and Society

Megan Beggs, University of Alberta, Canada

Developmental Regulation of Vitamin D Sensitive Intestinal Ca Absorption

James C. Fleet, University of Texas at Austin, USA

Short Talk: Spatial Differences Exist in the Regulation of Genes by 1,25 Dihydroxyvitamin D Across the Mouse Intestine

Harneet Bhullar, University of Alberta, Canada

Short Talk: Cldn2-Trpv6 Double Knockout Mice have Evidence of Compensatory Increased Vitamin D Mediated Colonic Calcium Absorption

Immunity and Infectious Disease (COVID) (8:40am Denver/Mountain Time Start)

*Martin Hewison, University of Birmingham, UK

*John H. White, McGill University, Canada

Margherita T. Cantorna, Pennsylvania State University, USA

Vitamin D and Lung Immunity to a Viral Infection

Adrian R. Martineau, Queen Mary University of London, UK

Clinical Aspects of COVID-19 and Vitamin D

Bonnie Patchen, Cornell University, USA

Short Talk: Genetically Predicted Serum Vitamin D and COVID-19: A Mendelian Randomisation Study

Jianzhu Chen, Massachusetts Institute of Technology, USA

Short Talk: Vitamin D3-Vitamin D Receptor Axis Suppresses Pulmonary Emphysema by Maintaining Alveolar Macrophage Homeostasis and Function

Career Roundtable (10:30am Denver/Mountain Time Start)

Stephanie R. Sisley, Baylor College of Medicine, USA

Sylvia Christakos†, Rutgers New Jersey Medical School, USA

Norman Award Winners (12pm Denver/Mountain Time Start)

*JoEllen Welsh, State University of New York at Albany, USA

*James C. Fleet, University of Texas at Austin, USA

Hsu-Chang Wu, Ohio State University, USA

Short Talk: Disrupted Vitamin D Receptor Signaling in Prostate Cancer Progression

Heng Jiang, University of Texas at Austin, USA

Short Talk: Intestinal Vitamin D Receptor in Adult Mice is Essential to Maintain Bone Mass when Calcium Intake is Low but Dispensable when Calcium Intake is Adequate

Thomas Lisse, University of Miami, USA

Short Talk: Vitamin D Modulation of Mitochondrial Oxidative Metabolism and mTOR Enforces Stress Tolerance and Anti-Cancer Responses

Horst Award Winners - Flash Talks (12:45pm Denver/Mountain Time Start)

*JoEllen Welsh, State University of New York at Albany, USA

*James C. Fleet, University of Texas at Austin, USA

Antonio Berlanga-Taylor, Imperial College London, UK
Inflammation Associated Genetic Loci Modulate Vitamin D Pathways and Point to Disease Mechanisms

Ayse Kilic, Brigham and Women's Hospital and Harvard Medical School, USA

Vitamin D Alleviates Allergic Airway Inflammation by Regulating the IL-2/STAT5 Pathway in Th2 Cells

Shariq Qayyum, University of Alabama at Birmingham, USA

Vitamin D3 and its Hydroxyderivatives as Promising Drugs against COVID-19

Pieter-Jan Martens, KU Leuven, Belgium

Dietary Vitamin D Supplementation Restores the Immune Balance in Type 1 Diabetes and is Accompanied by a Lachnospiraceae-dominated Intestinal Microbiome Signature in NOD Mice

Man Tamang, University of Queensland, Australia

Early-Life Vitamin D Deficiency Alters Maternal and Offspring Behaviour and Gut Microbiome

Niels Asmussen, Virginia Commonwealth University, USA

MicroRNA Packaging and Release Regulated by 1 α ,25-Dihydroxyvitamin D3

Reagan M. Mogire, KEMRI-Wellcome Trust Programme, Kenya
Genome-wide Association Study for Vitamin D Levels in Africans

Metabolic Diseases (1:30pm Denver/Mountain Time Start)

*Moray J. Campbell, Ohio State University, USA

*Eva Liu, Brigham and Womens Hospital, USA

Seth W. Kullman, North Carolina State University, USA

Vitamin D Deficiency and Adiposity using Zebrafish

Carlos Bernal-Mizrachi, Washington University, USA

Vitamin D Effect on Macrophages and Hypertension

Kevin T. Bauerle, Washington University, USA

Short Talk: Monocyte Activation by Vitamin D Deficiency Stimulates Juxtglomerular Cell Renin Production via ER Stress-dependent miR106b-5p Secretion in Diabetic-Hypertensive Individuals

Zong Wei, Mayo Clinic, USA

Short Talk: Vitamin D Receptor and Chromatin Remodeling Complexes in Regulating Pancreatic Beta Cell Function

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Meet the Editors (3pm Denver/Mountain Time Start)

THURSDAY, OCTOBER 14

Cancer Biology (7am Denver/Mountain Time Start)

***JoEllen Welsh**, State University of New York at Albany, USA

***Enikő Kállay**, Medical University of Vienna, Austria

Mukund Seshadri, Roswell Park Comprehensive Cancer Center, USA
Vitamin D as an Immunomodulator in Oral Cancer

Moray J. Campbell, Ohio State University, USA
VDR Genomic Signaling and Prostate Cancer Health Disparities

Tatiana Shaurova, Roswell Park Comprehensive Cancer Center, USA
Short Talk: Evaluation of a Vitamin D-Based Nanomedicine for the Treatment of EGFR-TKI Resistant Lung Tumors

Arup K. Indra, Oregon Health & Science University
Short Talk: Vitamin D Receptor Signaling in Melanoma and Solar UV-Radiation Induced Melanocyte Homeostasis

Non-Classical Effects (8:40am Denver/Mountain Time Start)

***Daniel D. Bikle**, University of California, San Francisco, USA

***James C. Fleet**, University of Texas at Austin, USA

Stephanie R. Sisley, Baylor College of Medicine, USA
VDR Action in the Brain – The Need for a Novel Mouse

Erica Mandell, Children's Hospital Colorado Anschutz Medical Campus, USA
Maternal Vitamin D Deficiency on Fetal Lung Development

Yuko Oda, San Francisco VA Medical Center, USA
Short Talk: Dynamic Transcriptional and Epigenetic Regulation through Vitamin D Receptor and p63/p53 Signaling in Epidermal Keratinocytes

Jennifer Mulligan, University of Florida, USA
Short Talk: Intranasal Calcitriol Relieves Sinonasal Inflammation and Restores Olfactory Impairment in Mice with Chronic Cigarette-Smoke Induced Sinusitis

Poster Session (10am Denver/Mountain Time Start)

Vitamin D Metabolism and Methods (12pm Denver/Mountain Time Start)

***Mark B. Meyer**, University of Wisconsin, Madison, USA

***Jennifer Mulligan**, University of Florida, USA

Daniel Metzger, Institut de Génétique et de Biologie Moléculaire et Cellulaire, France
Normalization of Calcium Levels Induced by Calcitriol Intoxication with a Vitamin D Analog

Diego Cobice, Ulster University, UK
Spatial Localization of Vitamin D Metabolites in Mouse Kidney

Martin Kaufmann, Queen's University, Canada
Short Talk: Measurement of the Serum Vitamin D Metabolome by LC-MS/MS: Could Today's Research Tool become Tomorrow's Diagnostic Test?

Lina Zgaga, Trinity College Dublin, Ireland

Short Talk: Power Determination in Vitamin D Randomised Controlled Trials and Factors that Affect It: A Tool for Exploration through Simulation

Development and Life Course (1:40pm Denver/Mountain Time Start)

***Erica Mandell**, Children's Hospital Colorado Anschutz Medical Campus, USA

***Jane Cleal**, University of Southampton, UK

Folami Y. Ideraabdullah, University of North Carolina at Chapel Hill, USA

Modeling Interindividual Effects of Vitamin D Deficiency during Pregnancy

Laurie J. Goodyear, Joslin Diabetes Center, Harvard Medical School, USA
VDR Regulation of SOD3 Mediates Benefits of Maternal Exercise of Offspring Health

Marilena Christodoulou, University of East Anglia, UK
Short Talk: Total and Free 25-hydroxyvitamin D Associations with Markers of Bone Turnover and Wnt Signalling in Older People Supplemented with Vitamin D

Folasade Adebayo, University of Helsinki, Finland
Short Talk: Safety of Vitamin D Food Fortification and Supplementation – Evidence from Randomized Controlled Trials and Observational Studies

Closing Remarks (3pm Denver/Mountain Time Start)

***JoEllen Welsh**, State University of New York at Albany, USA

***James C. Fleet**, University of Texas at Austin, USA

Networking Lounge (3:05pm Denver/Mountain Time Start)