

PROGRAM BOOK
2017
VITAMIN D WORKSHOP



www.vitaminDworkshop.org

NEXT MEETING

21st Workshop on Vitamin D – Barcelona, Spain

May 16 – 19, 2018

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20th Workshop on Vitamin D

Time Table

Tuesday, March 28, 2017

1:00 - 8:00PM Registration Executive Ballroom Pre-Function Area

5:00 - 8:00PM Welcome Reception and Plenary Poster Session Signature 1

Wednesday, March 29, 2017

8:00 - 6:00PM Registration Executive Ballroom Pre-Function Area

8:00 - 5:20PM General Session Executive Ballroom I

Session I: Opening Keynote

Session II: Vitamin D, Immunity and the Microbiome

Session III: Vitamin D and Suppression of Malignancy

Session IV: Structure/Function and Vitamin D Analogues

Session V: Vitamin D, UV Light and Skin Biology

Session VI: Vitamin D Metabolism

10:20 - 10:40AM Coffee Break Executive Ballroom Pre-Function Area

12:00 - 2:00PM Lunch and Poster Session I Viewing Executive Ballroom H

3:50 - 4:10PM Coffee Break Executive Ballroom Pre-Function Area

7:30 - 10:30PM Networking Dinner Event at SeaWorld
Buses will begin loading at 7:00 pm from Signature 1 bus depot.
You must have a dinner ticket to board.

Thursday, March 30, 2017

7:00 - 12:30PM Registration Executive Ballroom Pre-Function Area

8:00 - 12:20PM General Session Executive Ballroom I

Session VII: Transcriptional Regulation by VDR

Session VIII: Vitamin D and Healthy Aging

9:20 - 9:35AM Coffee Break Executive Ballroom Pre-Function Area
Afternoon Free

Friday, March 31, 2017

7:00 - 5:00PM Registration Executive Ballroom Pre-Function Area

8:00 - 4:45PM General Session Executive Ballroom I

Session IX: Joint Plenary Lecture

Session X: The Debate

Session XI: Vitamin D and Breast Cancer

Session XII: Vitamin D Biology in Non-traditional Models

Session XIII: Clinical Trials

Session XIV: Vitamin D, Inflammation and Diabetes

9:40 - 10:00AM Coffee Break Executive Ballroom Pre-Function Area

12:05 - 2:00PM Lunch and Poster Session II Viewing Executive Ballroom H

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**MAJOR FUNDING FOR THE VITAMIN D WORKSHOPS IS PROVIDED
BY THE NATIONAL INSTITUTE ON AGING**



ABSTRACT - The Vitamin D Workshop Inc. was established in 1974 as a mechanism for organization of academic meetings devoted to the science of vitamin D. Vitamin D exerts biological actions via the vitamin D receptor which is expressed throughout the body. Basic cell and molecular research, epidemiological studies and clinical trials have linked vitamin D to a host of chronic diseases including osteoporosis, cancer, heart disease and obesity. The surge of publications on vitamin D and chronic disease has drawn attention to an individual's vitamin D status and the possibility that vitamin D supplementation may have preventive actions against chronic diseases. Worldwide, government agencies are re-evaluating recommended dietary allowances for vitamin D, and many are considering fortification and regulatory issues. Physicians and other health professionals have received mixed messages concerning when to measure vitamin D status, what the "optimal" serum vitamin D level is and how to institute supplementation regimens for deficient patients. Collectively these factors warrant an annual meeting of vitamin D scientists to disseminate current findings, discuss the emerging basic and applied research, and bring areas of controversy to light. The Vitamin D Workshop is the only recurring scientific meeting specifically focused on vitamin D. Through keynote lectures, invited speakers, promoted oral communications and poster presentations, the Workshop's broad scope combines state of the art basic research on vitamin D biology for basic scientists with clinical and observational reports geared towards applied scientists, policy makers and health professionals.

Funding for this conference was made possible, in part, by R13 AG48689-01 from the National Institute on Aging. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

EXHIBITORS

PLEASE VISIT THE BOOTHS IN THE REGISTRATION AREA

**BIO-TECH PHARMACAL INC
DIASOURCE IMMUNOASSAYS SA
GRASSROOTS HEALTH**

Organizers

Workshop Executive Committee

John White, Canada (CEO and Meeting Co-chair)
Peter Ebeling, Australia (Meeting Co-chair)
Marie Demay, USA (Past Chair)
JoEllen Welsh, USA (CFO)
Dan Bikle, USA
Geert Carmeliet, Belgium
Reinhold Erben, Austria

James Fleet, USA
Christopher Gallagher, USA
Martin Hewison, UK (Future Chair)
Wesley Pike, USA
Roger Bouillon, Belgium (ex-officio)
Anthony Norman, USA (ex-officio)

Program Advisory Committee

Klaus Badenhoop, Germany
Moray Campbell, USA
Margherita Cantorna, USA
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Kevin Cashman, Ireland
Sylvia Christakos, USA
David Feldman, USA
Brian Feldman, USA
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Bruce Hollis, USA
Glenville Jones, Canada
Rolf Jorde, Norway
Eniko Kallay, Austria
Atsushi Kittaka, Japan
Richard Kremer, Canada
Christel Lamberg-Allardt, Finland

Yan Chun Li, USA
Paul Lips, the Netherlands
Miguel Maestro, Spain
Adrian Martineau, United Kingdom
Chantal Mathieu, Belgium
Toshio Matsumoto, Japan
Howard Morris, Australia
Antonio Mourino, Spain
John Pettifor, South Africa
Inez Schoenmakers, United Kingdom
George Studzinski, USA
Rene St-Arnaud, Canada
Hans van Leeuwen, The Netherlands
Natasja van Schoor, the Netherlands
Susan Whiting, Canada

Meetings Plus

Roxanne Hall
Natalie Bishop
Thomas Carrell
Jean Hood
Carol Montgomery

2017 Awards

YOUNG INVESTIGATOR AWARD

Erica W. Mandell, University of Colorado School of Medicine, USA
FETAL VITAMIN D DEFICIENCY IMPAIRS LUNG STRUCTURE AND INCREASES SUSCEPTIBILITY TO
HYPEROXIA INJURY IN THE DEVELOPING RAT

TRAINEE TRAVEL AWARDS

Brittany Bunch, Roswell Park Cancer Institute, USA (Mentor: Candace Johnson, PhD)
VITAMIN D₃ CAN INCREASE AND PROLONG THE RESPONSE TO CISPLATIN THERAPY IN BLADDER CANCER
THROUGH VDR AND TAP73 SIGNALING CROSSTALK

Brian Chapron, University of Washington, USA (Mentor: Kenneth Thummel, PhD)
CHARACTERIZATION OF THE ROLE OF MEGALIN IN THE REGULATION OF VITAMIN D HOMEOSTASIS

Chloe Cheng, The University of Western Australia, Australia (Mentor: Robert Tuckey, PhD)
CHARACTERIZATION OF CYP2R1, A VITAMIN D 25-HYDROXYLASE, IN A MEMBRANE ENVIRONMENT

Brian DeFelice, University of California, Davis, USA (Mentor: Oliver Fiehn, PhD)
A SINGLE LC-MS/MS METHOD FOR SEPERATION AND QUANTIFICAITON OF MAJOR VITAMIN D PATHWAY
METABOLITES INCLUDING 1 α ,25(OH)₂D, 3-EPI-25OHD₃, AND 25OHD₃

Vassil Dimitrov, McGill University, Canada (Mentor: John White, PhD)
VITAMIN D ATTENUATES T CELL-MEDIATED INFLAMMATORY RESPONSES BY DIRECTLY STIMULATING
EXPRESSION OF PD-L1 IN EPITHELIAL AND MYELOID CELLS

Lasse Hansen, Harvard School of Dental Medicine, USA (Mentor: Martin Blomberg Jensen, MD, PhD)
OVARIAN 1,25-DIHYDROXYVITAMIN D AND SELECTION OF HIGH QUALITY SPERMATOZOA FOR
FERTILIZATION

Dean Larner, University of Birmingham, UK (Mentor: Martin Hewison, PhD)
GENDER-SPECIFIC FETAL-PLACENTAL INFLAMMATORY RESPONSES ASSOCIATED WITH VITAMIN D-
DEFICIENCY AND IMMUNE CHALLENGE IN PREGNANT MICE

Anette Larsen, Tromsø Endocrine Research Group, UiT, Norway (Mentor: Rolf Jorde, PhD)
THE EFFECT OF HIGH-DOSE VITAMIN D ON BONE MINERAL DENSITY IN SUBJECTS WITH PREDIABETES

Danyang Li, The University of Birmingham, UK (Mentor: Martin Hewison, PhD)
IMMUNOMODULATION BY VITAMIN D IS ASSOCIATED WITH REGULATION OF DENDRITIC CELL
MICRORNAS

Christopher Yanucil, University of Miami Miller School of Medicine, USA (Mentor: Christian Faul, PhD)
CALCITRIOL ATTENUATES FGF23-INDUCED CARDIAC HYPERTROPHY

Yang Zhang, Oregon State University, USA (Mentor: Adrian Gombart, PhD)
LOCAL SUSTAINED DELIVERY OF 1 α ,25(OH)₂D₃ BY NANOFIBER WOUND DRESSINGS INDUCES HUMAN
CATHELICIDIN ANTIMICROBIAL PEPTIDE EXPRESSION BOTH *IN VITRO* AND *IN VIVO*

Awards for junior scientists were made possible by funds from Heartland Assays, LLC (Ames, Iowa) and
a conference grant from the National Institutes of Health.

General Information

Welcome Reception and Plenary Poster Session, Tuesday, March 28, 2017

Please join us for a Welcome Reception Tuesday evening from 5:00 – 8:00 pm in Signature 1. All delegates and their registered accompanying guests are cordially invited.

Poster Sessions

There will be three poster sessions during the Workshop. Plenary posters will be highlighted during the Welcome Reception on Tuesday evening and will remain up for the duration of the Workshop. Two additional poster sessions will be held during the afternoon lunch periods on Wednesday and Friday.

Plenary Session posters may be put up on Tuesday between 3:00 – 5:00 pm and removed on Friday between 2:30 – 3:30 pm.

Wednesday posters may be put up on Wednesday morning before 12 noon and removed before 12 noon on Thursday.

Friday posters may be put up on Thursday after 12 noon and removed on Friday between 2:30 – 3:30 pm.

Posters that are not taken down at the appropriate time will be removed by staff members and held at the Vitamin D Workshop Hospitality desk until the end of the meeting at which time unclaimed posters will be discarded.

Breaks and Social Events

Lunches: Wednesday and Friday lunches are included in the registration fee. The lunches will be available each day in the Executive Ballroom H and the pre-function area.

Coffee Breaks: All registered delegates are invited to stretch and enjoy a hot or cold beverage in the pre-function area during the breaks.

Networking Banquet: Wednesday, March 29th: A private networking social event with buffet dinner will be held at SeaWorld Orlando Park where you will be able to explore the Wild Arctic area with your friends and colleagues. Shuttle buses will depart from the Signature 1 bus depot and will begin loading at 7:00 pm. You must have your dinner ticket to board the shuttle. Buses will depart SeaWorld for the return transfer at 10:30 pm.

Scientific Program – Tuesday and Wednesday

Tuesday, March 28

1:00 - 8:00PM Registration
5:00 - 8:00PM Welcome Reception and Plenary Posters

Wednesday, March 29

8:00 - 8:15AM **Opening Remarks**
J. White, Workshop Chair and P. Ebeling, Workshop Co-chair

Session I: OPENING KEYNOTE
Moderator: P. Ebeling

8:15 - 8:55AM J. Fleet THE YEAR IN VITAMIN D: BASIC/TRANSLATIONAL
8:55 - 9:00AM *Discussion*

Session II: VITAMIN D, IMMUNITY AND THE MICROBIOME
Moderators: M. Hewison and C. Bernal-Mizrachi

9:00 - 9:20AM C. Maurice CHARACTERIZING THE ACTIVE HUMAN GUT MICROBIOTA
9:20 - 9:25AM *Discussion*

9:25 - 9:45AM J. Baines GENOME-WIDE ASSOCIATION ANALYSIS IDENTIFIES VARIATION IN
9:45 - 9:50AM *Discussion* VITAMIN D RECEPTOR INFLUENCING THE GUT MICROBIOTA

9:50 - 10:00AM V. Dimitrov VITAMIN D ATTENUATES T CELL-MEDIATED INFLAMMATORY
10:00 - 10:05AM *Discussion* RESPONSES BY DIRECTLY STIMULATING EXPRESSION OF PD-L1 IN
EPITHELIAL AND MYELOID CELLS

10:05 - 10:15AM D.P. Larner GENDER-SPECIFIC FETAL-PLACENTAL INFLAMMATORY RESPONSES
10:15 - 10:20AM *Discussion* ASSOCIATED WITH VITAMIN D-DEFICIENCY AND IMMUNE CHALLENGE
IN PREGNANT MICE

10:20 - 10:40AM **Coffee Break**

Session III: VITAMIN D AND SUPPRESSION OF MALIGNANCY
Moderators: J. Fleet and M. Verstuyf

10:40 - 11:00AM J. Moscat VDR REGULATION OF STELLATE CELL FIBROSIS AND LIVER CANCER
11:00 - 11:05AM *Discussion* VIA P62

11:05 - 11:25AM P. Herschberger EXPLOITING 1,25-DIHYDROXYVITAMIN D3 TO OVERCOME RESISTANCE
11:25 - 11:30AM *Discussion* TO EPIDERMAL GROWTH FACTOR RECEPTOR (EGFR) TYROSINE KINASE
INHIBITORS (TKIs) IN EGFR MUTANT LUNG CANCER

11:30 - 11:40AM B.L. Bunch VITAMIN D3 CAN INCREASE AND PROLONG THE RESPONSE TO
11:40 - 11:45AM *Discussion* CISPLATIN THERAPY IN BLADDER CANCER THROUGH VDR AND TAP73
SIGNLAING CROSSTALK

11:45 - 11:55AM	R.A. Durazo-Arvizu	THE "J-SHAPED" ASSOCIATION BETWEEN SERUM TOTAL 25-HYDROXYVITAMIN D AND ALL-CAUSE MORTALITY: AN EXPANDED EXAMINATION OF THE ASSOCIATION BASED ON STANDARDIZED LEVELS OF 25(OH)D
11:55 - 12:00PM	<i>Discussion</i>	

12:00 - 2:00PM **LUNCH AND POSTER SESSION I VIEWING**

Session IV: STRUCTURE/FUNCTION AND VITAMIN D ANALOGUES

Moderator: R. Horst

2:00 - 2:05PM	R. Horst	TRIBUTE TO SATYA REDDY
2:05 - 2:25PM	J. Gleason	BIFUNCTIONAL VITAMIN D ANALOGUES
2:25 - 2:30PM	<i>Discussion</i>	

Session V: VITAMIN D, UV LIGHT AND SKIN BIOLOGY

Moderators: D. Bikle and M. Kimlin

2:30 - 2:50PM	P. Elias	DILUTION OF EPIDERMAL PIGMENTATION DURING HUMAN EVOLUTION
2:50 - 2:55PM	<i>Discussion</i>	
2:55 - 3:15PM	D. Fisher	SKIN β -ENDORPHIN MEDIATES ADDICTION OF UV LIGHT
3:15 - 3:20PM	<i>Discussion</i>	
3:20 - 3:30PM	R.S. Mason	1,25(OH) ₂ D ₃ FACILITATES DNA REPAIR IN SKIN BY INCREASING ENERGY AVAILABILITY IN UV-IRRADIATED KERATINOCYTES
3:30 - 3:35PM	<i>Discussion</i>	
3:35 - 3:45PM	Y. Zhang	LOCAL SUSTAINED DELIVERY OF 1 α ,25(OH) ₂ D ₃ BY NANOFIBER WOUND DRESSINGS INDUCES HUMAN CATHELICIDIN ANTIMICROBIAL PEPTIDE EXPRESSION BOTH <i>IN VITRO</i> and <i>IN VIVO</i>
3:45 - 3:50PM	<i>Discussion</i>	

3:50 - 4:10PM **Coffee Break**

Session VI: VITAMIN D METABOLISM

Moderators: G. Jones and D. Goltzman

4:10 - 4:30PM	M. Levine	SEQUENCE VARIABILITY IN THE CYP2R1 GENE ENCODING VITAMIN D 25-HYDROXYLASE INFLUENCES VITAMIN D HOMEOSTASIS IN HUMANS
4:30 - 4:35PM	<i>Discussion</i>	
4:35 - 4:45PM	B.D. Chapron	CHARACTERIZATION OF THE ROLE OF MEGALIN IN THE REGULATION OF VITAMIN D HOMEOSTASIS
4:45 - 4:50PM	<i>Discussion</i>	
4:50 - 5:00PM	K.P. Schlingmann	MUTATIONS IN GENES REGULATING VITAMIN D METABOLISM IN IDIOPATHIC INFANTILE HYPERCALCEMIA AND NEPHROCALCINOSIS/NEPHROLITHIASIS
5:00 - 5:05PM	<i>Discussion</i>	
5:05 - 5:15PM	R. St-Arnaud	OPOSSUMOUSE (A326G), HYPERCALCIMOUSE (R396W), AND ANABOLIMOUSE (V391L): INSIGHTS INTO <u>IN VIVO</u> METABOLISM OF VITAMIN D USING KNOCK-IN MOUSE MODELS OF CYP24A1 VARIANTS
5:15 - 5:20PM	<i>Discussion</i>	

7:00PM **Buses load for networking dinner event at SeaWorld from Signature 1 bus depot**

Scientific Program - Thursday

Thursday, March 30

Session VII:

TRANSCRIPTIONAL REGULATION BY VDR

Moderators: M. Campbell and L. Tavera-Mendoza

8:00 - 8:20AM	M. Meyer	IDENTIFICATION OF THE GENOMIC AND HOMEOSTATIC CIRCUITRY
8:20 - 8:25AM	<i>Discussion</i>	CONTROLLING CYP27B1 EXPRESSION IN VIVO
8:25 - 8:45AM	J.W. Pike	DIFFERENTIAL ENHANCER-MEDIATED REGULATION OF CYP24A1
8:45 - 8:50AM	<i>Discussion</i>	IN THE KIDNEY AND IN NONRENAL TARGET CELLS IN VIVO
8:50 - 9:00AM	C. Carlberg	EPIGENOMIC PU.1-VDR CROSSTALK MODULATES VITAMIN D SIGNALING
9:00 - 9:05AM	<i>Discussion</i>	
9:05 - 9:15AM	S.M. Lee	STUDIES ON THE FUNCTION OF THE PHOSPHORYLATED HUMAN
9:15 - 9:20AM	<i>Discussion</i>	VITAMIN D RECEPTOR IN VIVO
9:20 - 9:35AM	Coffee Break	

Session VIII:

VITAMIN D AND HEALTHY AGING

Moderators: J. Welsh and M. Thambisetty

9:35 - 9:45AM	M. Thambisetty	INTRODUCTION
9:45 - 10:05AM	F. Feron	TRANSCRIPTOMIC ANALYSIS OF VITAMIN D EFFECTS IN ANIMAL
10:05 - 10:10AM	<i>Discussion</i>	MODELS OF ALZHEIMERS DISEASE
10:10 - 10:30AM	S. Gonzalo	VDR SIGNALING PRESERVES GENOME STABILITY DURING AGING
10:30 - 10:35AM	<i>Discussion</i>	
10:35 - 10:55AM	S. Sisley	VITAMIN D RECEPTOR IN THE PARAVENTRICULAR NUCLEUS OF THE
10:55 - 11:00AM	<i>Discussion</i>	HYPOTHALAMUS IS NECESSARY FOR NORMAL GLUCOSE TOLERANCE
11:00 - 11:20AM	B. Richards	ESTIMATING 25-HYDROXY-VITAMIN D EFFECTS ON COMMON DISEASE
11:20 - 11:25AM	<i>Discussion</i>	IN HUMANS: RESULTS FROM MENDELIAN RANDOMIZATION STUDIES
11:25 - 11:45AM	N. van Schoor	VITAMIN D STATUS IN RELATION TO PHYSICAL FUNCTIONING, FALLS
11:45 - 11:50AM	<i>Discussion</i>	AND FRACTURES: THE LONGITUDINAL AGING STUDY AMSTERDAM
11:50 - 12:20PM		2017 Awards Ceremony

Afternoon Free

Scientific Program - Friday

Friday, March 31

Session IX: JOINT PLENARY: Vitamin D Workshop and the International Aldosterone Conference
Moderators: J. White and G.P. Rossi

8:00 - 8:45AM V. Corces A HIGH-ALTITUDE TALK ON "THE 3D GENOME" AND HIGHER ORDER
8:45 - 8:50AM *Discussion* STRUCTURES IN THE NUCLEUS: MECHANISMS OF LONG-RANGE
TRANSCRIPTIONAL REGULATION

**Session X: THE DEBATE: RCT ARE THE ONLY APPROPRIATE WAY TO DEMONSTRATE THE ROLE OF
VITAMIN D IN HEALTH. (PARTICIPANTS WILL ARGUE A FIRM YES OR NO POSITION)**
Moderator: R. Bouillon

8:50 - 8:53AM R. Bouillon CLARIFY DEBATE BACKGROUND

8:53 - 9:08AM R. Scragg CONTRA
9:08 - 9:10AM *Reply*

9:10 - 9:25AM R. Jorde PRO
9:25 - 9:27AM *Reply*

9:27 - 9:40AM Open Discussion

9:40 - 10:00AM **Coffee Break**

Session XI: VITAMIN D AND BREAST CANCER
Moderators: D. Feldman and E. Kallay

10:00 - 10:20AM J. Welsh VITAMIN D AND BREAST CANCER – PAST AND PRESENT
10:20 - 10:25AM *Discussion*

10:25 - 10:45AM B. Feldman TUMOR AUTONOMOUS EFFECTS OF VITAMIN D DEFICIENCY PROMOTE
10:45 - 10:50AM *Discussion* BREAST CANCER METASTASIS

10:50 - 11:10AM L. Tavera-Mendoza VDR AND AUTOPHAGY IN BREAST CANCER CELLS AND NORMAL
11:10 - 11:15AM *Discussion* MAMMARY GLAND

Session XII: VITAMIN D BIOLOGY IN NON-TRADITIONAL MODELS
Moderators: M. Demay and S. Christakos

11:15 - 11:35AM Y. Nys EGGSHELL FORMATION IN BIRDS: A CHALLENGE TO CALCIUM
11:35 - 11:40AM *Discussion* HOMEOSTASIS

11:40 - 12:00PM K. Dumas STUDYING VITAMIN D IN WORMS: BENEFICIAL EFFECTS ON PROTEIN
12:00 - 12:05PM *Discussion* HOMEOSTASIS AND LONGEVITY

12:05 - 2:00PM **LUNCH AND POSTER SESSION II VIEWING**

Session XIII:**CLINICAL TRIALS**

Moderators: P. Ebeling and R. Jorde

2:00 - 2:20PM	C. Gallagher	THE YEAR IN VITAMIN D: CLINICAL TRIALS
2:20 - 2:25PM	<i>Discussion</i>	
2:25 - 2:45PM	K. Sanders	TOO MUCH OF A GOOD THING? FALLS AND FRACTURES FOLLOWING
2:45 - 2:50PM	<i>Discussion</i>	INTERMITTENT HIGH DOSES OF VITAMIN D
2:50 - 3:00PM	J. Lappe	A RANDOMIZED CLINICAL TRIAL TO DETERMINE THE EFFECTS OF
3:00 - 3:05PM	<i>Discussion</i>	VITAMIN D ₃ AND CALCIUM SUPPLEMENTATION ON CANCER INCIDENCE
3:05 - 3:15PM	C. Damsgaard	ESTIMATION OF THE DIETARY REQUIREMENT FOR VITAMIN D IN WHITE
3:15 - 3:20PM	<i>Discussion</i>	CHILDREN AGED 4–8 YEARS: A RANDOMIZED, CONTROLLED TRIAL

Session XIV:**VITAMIN D, INFLAMMATION AND DIABETES**

Moderators: C. Mathieu and K. Badenhoop

3:20 - 3:30PM	A. Riek	VITAMIN D ₃ REPLACEMENT DECREASES A UNIQUE
3:30 - 3:35PM	<i>Discussion</i>	CIRCULATING MONOCYTE CHOLESTEROL POOL AND PROMOTES THE
		CLASSICAL MONOCYTE PHENOTYPE IN PATIENTS WITH TYPE 2 DIABETES
3:35 - 3:45PM	C. Bernal-Mizrachi	MATERNAL VITAMIN D DEFICIENCY INDUCES LOW
3:45 - 3:50PM	<i>Discussion</i>	BIRTH WEIGHT, PERSISTENT ADIPOSE TISSUE MACROPHAGE
		INFLAMMATION, AND INSULIN RESISTANCE IN THE OFFSPRING DESPITE
		VITAMIN D REPLACEMENT
3:50 - 4:00PM	M. Hewison	ANTI-INFLAMMATORY EFFECTS OF VITAMIN D ARE
4:00 - 4:05PM	<i>Discussion</i>	REDUCED IN T-CELLS FROM RHEUMATOID ARTHRITIS
		INFLAMED JOINTS
4:05 - 4:15PM	E. Mandell	FETAL VITAMIN D DEFICIENCY IMPAIRS LUNG STRUCTURE AND
4:15 - 4:20PM	<i>Discussion</i>	INCREASES SUSCEPTIBILITY TO HYPEROXIA INJURY IN THE DEVELOPING
		RAT
4:20 - 4:40PM		Closing Remarks and Announcements