

MICHIGAN CHAPTER – SOCIETY FOR NEUROSCIENCE
49th Annual Meeting
May 14, 2018



Michigan Chapter



Hosted by

WAYNE STATE UNIVERSITY

The Michigan Chapter is one of over 150 local chapters of the Society for Neuroscience (SfN). It is one of the original two chartered chapters of SfN upon its formation in 1969. The first Michigan Chapter meeting preceded that of the first SFN meeting.

SfN offers a number of grants and awards directed at chapters:

Chapter Grants

These allow chapters to apply for funding of up to \$2,000 a year to support chapter activities. Our chapter has been very successful in obtaining these awards, which has helped to fund outreach activities across the state.

Chapter of the Year Award

Recognizes outstanding chapters for their efforts and accomplishments across a broad range of activities that are in line with the mission and strategic initiatives of SfN. We are in consideration each year.

Trainee Professional Development Awards

Chapters support their members' applications for these awards that provide trainees the opportunity to advance their careers by presenting a scientific abstract and networking with senior scientists at the SfN annual meeting.

For more information on Chapter grants and awards, visit:

<https://www.sfn.org/awards-and-funding/chapter-grants-and-awards>

If you are interested in applying for a grant or award, contact the Chapter President, Dr. Susanne Brummelte: sbrummelte@wayne.edu



2018 MISfN Meeting Schedule

**All events held in the ballroom of the Student Center (2nd Floor)
unless otherwise indicated**

8:30 - 9:15 Registration, poster setup and breakfast

Vendors will be available throughout the entire morning session; be sure to visit them and show our appreciation for their support!

9:15 -10:30 Poster session A

10:30 - 10:45 Break / switch posters on boards

10:45 - 12:00 Poster session B

12:00 - 1:30 **Lunch (The Towers cafeteria)**

1:30 – 2:15 Business meeting

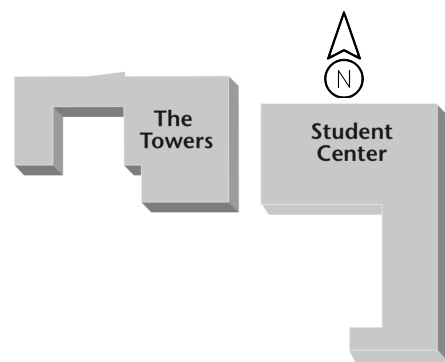
2:15 – 2:45 Founders award presentation

2:45 – 3:00 Break

3:00 – 4:00 Keynote address: Edward Hall, PhD
The 'Lazaroid' Tirilazad: How We Messed Up its Development for Acute Neurological Injuries and What We Can Do Differently to Achieve Clinically-Demonstrable Neuroprotection

4:00 – 4:15 Awards presentation and adjournment

4:30 – 5:30 Career mentoring roundtable and reception
Hilberry A, Student Center, 2nd Floor



Keynote

Edward Hall, PhD

University of Kentucky

William R. Markesbery, MD Chair in Neurotrauma
Research and Professor of Anatomy & Neurobiology,
Neurology, Neurosurgery and Physical Medicine &
Rehabilitation



*The 'Lazaroid' Tirilazad:
How We Messed Up its Development for Acute Neurological
Injuries and What We Can Do Differently to Achieve Clinically-
Demonstrable Neuroprotection*

Dr. Hall's laboratory is focused upon the understanding of the secondary injury process that follows mechanical trauma to the brain or spinal cord, and the discovery of novel pharmacological treatments that will inhibit post-traumatic neurodegeneration and/or enhance neurological recovery. His laboratory is presently interested in the roles of reactive oxygen-mediated oxidative and calpain-mediated cytoskeletal damage mechanisms and their pharmacological interruption.

Dr. Hall's ongoing research is funded by grants from the National Institute of Neurological Disorders and Stroke and the Kentucky Spinal Cord & Head Injury Research Trust.

Founder's Award

This award is in honor of Montford F. Piercey and Duncan McCarthy for their contributions in organizing our chapter. The 2018 winner of the Founder's Award is Megan F. Duffy from Michigan State University.

Synucleinopathy-triggered neuroinflammation in a novel model of sporadic Parkinson's disease

Megan F. Duffy¹, Timothy J. Collier^{1,2}, Kelvin C. Luk³, Malú G. Tansey⁴, Katrina L. Paumier⁵, Joseph R. Patterson¹, D. Luke Fischer¹, Nicole K. Polinski¹, Christopher J. Kemp¹, JianJun Chang⁴, Jacob W. Howe, and Caryl E. Sortwell^{1,2}

1. Department of Translational Science and Molecular Medicine, Michigan State University, Grand Rapids, MI USA

2. Mercy Health Hauenstein Neuroscience Medical Center, Grand Rapids, MI USA

3. Center for Neurodegenerative Disease Research, Department of Pathology and Laboratory Medicine, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA USA

4. Department of Physiology, Emory University School of Medicine, Atlanta, GA USA

5. Department of Neurology, Washington University, St. Louis, MO USA

6. Grand Valley State University, Allendale, MI USA

It remains unclear whether neuroinflammation contributes to nigral degeneration in Parkinson's disease (PD) or is merely a secondary consequence of degenerating neurons. Our lab recently characterized the accumulation of phosphorylated α -syn (pSyn) intraneuronal inclusions and bilateral nigrostriatal degeneration following intrastriatal injection of sonicated α -syn preformed fibrils (PFFs) into rats. To examine the neuroinflammatory signature in this model, male Fischer344 rats received unilateral intrastriatal injections of mouse α -syn PFFs or vehicle (PBS). pSyn inclusions in the SNpc were most abundant at months 1, 2 and 3, peaking at month 2, with all three time points exhibiting significantly higher α -syn inclusions compared to months 4, 5 and 6 ($p < 0.001$). We observed a significant decrease in ipsilateral THir neurons at 5 and 6 months p.i. compared to age matched, PBS injected controls ($p < 0.027$). At 2 months, increases in microglial soma size (~20%) and in both thickness and number of microglial processes was observed in the SN of PFF injected rats compared to PBS or rat serum albumin injected controls ($p < 0.02$). Major histocompatibility complex-II immunoreactive (MHC-IIir) microglia were observed in the ipsilateral SN in both α -syn PFF and PBS control rats at all time points.

Significantly higher numbers of MHC-IIir microglia were observed in the SN of α -syn PFF-injected rats compared to control rats at months 2, 4 and 5 ($p < 0.006$) with the highest number of MHC-IIir microglia observed in the SN 2 months following α -syn PFF injection ($p < 0.02$, compared to all other PFF time points), corresponding to the time point when the greatest number of SNpc neurons possess α -syn aggregates. In contrast, significantly fewer MHC-IIir microglia were observed at months 5 and 6, the interval of SNpc neuron loss. A strong correlation between number of MHC-IIir microglia and the number of SNpc neurons possessing α -syn inclusions was observed ($r = 0.88$). To examine global inflammatory disturbances induced by synucleinopathy and/or nigral degeneration, a separate cohort of male Fischer344 rats (N=118) received unilateral injection of mouse α -syn PFFs or vehicle (PBS) and cerebral spinal fluid (CSF) and plasma were collected at 2, 4, and 6 months post-injection. Levels of proinflammatory cytokine interleukin-6 (IL-6) were elevated at 2 months p.i., corresponding to peak pSyn burden in the brain. Collectively, our results suggest that α -syn PFF seeded synucleinopathy triggers disturbances in local microglia months prior to loss of THir neurons and suggest global inflammation may be a contributing factor to nigrostriatal degeneration.

Michigan Chapter of the Society for Neuroscience Council 2017-2018

| Office | Name | Term |
|-----------------|--|---------------|
| President | Susie Brummelte, WSU | 2017-2019 |
| President-elect | Open | To be elected |
| Past-President | Shane Perrine, WSU | 2017-2018 |
| Secretary | Jessica Matchynski-Franks, Rochester College | 2016-2018 |
| Treasurer | Tom Fischer, WSU | 2017-2019 |
| Awards Chair | Eric Ramsson, GVSU | 2017-2019 |

| Councilor | Name | Term |
|------------------------------|--------------------------------|-----------|
| Central Michigan University | Julien Rossignol | 2017-2019 |
| Michigan State University | Nicholas Kanaan | 2017-2019 |
| University of Michigan | Jonathan Morrow | 2017-2019 |
| Wayne State University | Alana Conti | 2016-2018 |
| Western Michigan University | Wendy Beane | 2016-2018 |
| Field Neuroscience Institute | Gary Dunbar | 2017-2019 |
| Councilor at Large I | Peter Vollbrecht, Hope College | 2016-2018 |
| Councilor at Large II | Kevin Trewartha, Michigan Tech | 2017-2019 |
| Student Councilor I | Zackary Bowers, CMU | 2017-2019 |
| Student Councilor II | Bob Kohler, WSU | 2016-2018 |

Upcoming meetings (tentative)

2019 WMU (50th meeting!)

2020 CMU

2021 MSU

2022 UM

2023 WSU

Business Meeting Agenda

MISfN 49th Annual Scientific Meeting, May 14th, 2018

- | | |
|---------------------------------------|---|
| 1. Welcome and acknowledgements | Susie Brummelte |
| 2. Treasurer's report | Tom Fischer |
| 3. Awards Chair report | Eric Ramsson |
| 4. President's report | Susie Brummelte |
| 5. Chapter outreach activities | Representatives from participating universities |
| 6. Elections for open MISfN positions | Susie Brummelte |

To be elected at the meeting (self-nominations are welcome):

| Position | Term |
|---------------------------------------|---|
| President-elect | 2018-2019 (will be president 2019-2021 and past-president in 2021-22) |
| Secretary | 2018-2020 |
| Wayne State University Councilor | 2018-2020 |
| Western Michigan University Councilor | 2018-2020 |
| Councilor at Large | 2018-2020 |
| Student Councilor | 2018-2020 |

 **Key Sponsor**



LIFE SCIENCE EXHIBITS



RESEARCH SUPPLIER PRODUCT SHOWS



***LSE is a Proud Sponsor of the
Michigan Chapter***

Society for Neuroscience

www.lifescienceexhibits.com

Silver Sponsors



W. Nuhsbaum, Inc.

Microscopy and Digital Imaging Sales, Consultation, Service, and Support for over 35 years



Leica LMD6 & LMD7
Laser Microdissection Microscopes



Trusted Leica Microsystems Dealer

For over 35 years, W. Nuhsbaum, Inc. has remained consistent and dedicated to its founding principles of delivering top quality microscope products from Leica Microsystems, as well as other trusted brands, throughout the Midwest. As a result, universities, hospitals, research institutions and industrial clients have chosen W. Nuhsbaum, Inc. for microscopy products and imaging equipment. Many remain customers for life because of the unparalleled service and expertise offered by Nuhsbaum's sales and support team.

Request a quote, demo or ask a question:

FRED ERDMANN
W. Nuhsbaum, Inc.
(313) 530-4384
ferdmann@nuhsbaum.com

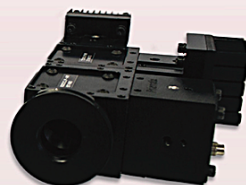
Prizmatix

LEDs for Neuroscience

18877 West 10 Mile Rd.
Suite 210
Southfield, MI 48075
Phone: (248) 436-8085
E-mail: sales.usa@prizmatix.com



right here
in Michigan!



Prizmatix Trio
3 Channel
Modular Light Source

Applications

Fluorescence Microscopy
Electrophysiology & Optogenetics
Voltage Sensitive Dyes
Fiber Photometry
In-vivo Optogenetics
Uncaging, Photoactivation

Formats

Collimated
Fiber Coupled
Light Guide Coupled
Turnkey or Modular
Single or Multi-Wavelength

Features

Ultra-High Power
Ultra-Low Noise
Ephys Compatible
High Uniformity & Stability
Optiblock™ Reconfigurable Modules
Multi-Wavelength & Multi-Output

Nikon, Olympus, Zeiss, Leica & more!

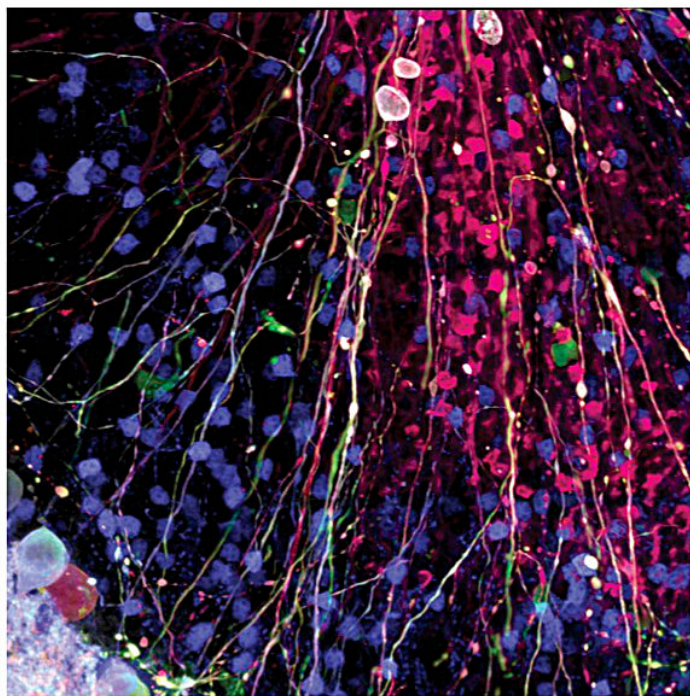
Large choice of wavelengths, White and UV!

High Uniformity & Stability!



As a tools provider and partner in research, MilliporeSigma is committed to the advancement of Neuroscience research and therapeutic development.

MilliporeSigma offers hundreds of new products for target identification, pathway detection, and profiling. These products provide proven solutions for a range of applications and are backed by extensive technical support.



Brainbow AAV transfection of Purkinje cells captured on an Olympus FLUOVIEW FV3000 microscope.
Hiro Ueno, Ph.D., Department of Stem Cell Pathology, Kansai Medical University.

Partner in Discovery

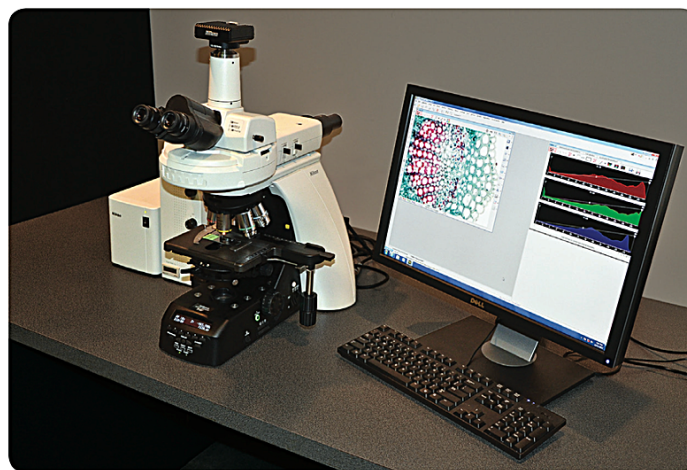
At Olympus, we understand the value of your research. We focus on developing and supplying quality resources to meet the needs of your laboratory. Our line of imaging solutions is built with quality, clarity, and value in mind.

Let us work with you to create your ideal environment for discovery.

Your Science Matters™

For further information, please visit:
www.olympus-lifescience.com
or stop by the Olympus booth today.

Based in Michigan, Mager is your authorized dealer for Nikon microscopes, imaging systems and accessories.



Instruments for Microscopy

Upright & Inverted
Clinical & Research
Cameras & Software



(313) 961-1606
info@DetroitR&D.com
www.DetroitRandD.com

Neuroscience-related Products from Detroit R&D (New Biomarkers & Therapeutic Targets)

Stroke/Ischemia ELISA Kits:

| | |
|------------------------|-----------|
| 14,15-DHET ELISA | Cat #DH1 |
| 20-HETE ELISA | Cat #20H1 |
| PGE ₂ ELISA | Cat #PGE1 |
| 12-HETE ELISA | Cat #12H1 |
| 15-HETE ELISA | Cat #15H1 |

Oxidative Stress:

| | |
|--|------------|
| 8-isoprostane ELISA | Cat #8iso1 |
| GSH Colorimetric Kit | Cat #GSH |
| Total Antioxidative Capacity (TAC) Kit | Cat #TAC |

Tools for Assessing Mitochondrial Function and Disease

| | |
|------------------------------------|-------------------------------------|
| Mitochondrial Copy Number Kit | Cat #MCN1 (H), #MCN2 (R), #MCN3 (M) |
| Mitochondrial DNA damage Kit | Cat #DD2H (H), #DD2R (R), #DD2M (M) |
| Citrate Synthase Enzyme Kit | Cat #CSE1 |
| Mitochondria Isolation Kit | Cat#MIS1 |
| 8-Isoprostane Oxidative Stress Kit | Cat#8iso1 |
| 8-OHdG Oxidative Stress Kit | Cat#8OHdG |

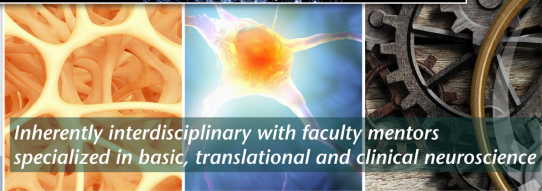


Translational Neuroscience Program

WAYNE STATE UNIVERSITY SCHOOL OF MEDICINE



Neuroscience research is one of the most rapidly developing branches of medical research



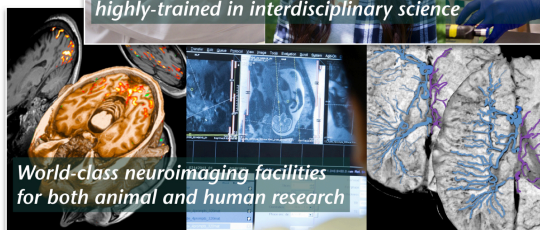
Inherently interdisciplinary with faculty mentors specialized in basic, translational and clinical neuroscience



Over 40 faculty members from 18 different departments across campus



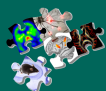
Inspiring a new generation of biomedical investigators highly-trained in interdisciplinary science



World-class neuroimaging facilities for both animal and human research



TNP faculty members are well recognized as international leaders and world experts



WSU Tolan Park Medical Bldg, Suite 5B-564
3901 Chrysler Service Dr., Detroit, MI 48201

tnp@wayne.edu
<http://tnp.wayne.edu>
313.577.1841

Institution Sponsors

Each year, programs in our host institutions provide generous support that helps us to keep meeting costs low. This allows for greater participation of students in our meetings to provide a valuable training experience for young Michigan neuroscientists. The chapter is grateful for their support.



**WAYNE STATE
UNIVERSITY**

College of Liberal Arts
and Sciences



**WAYNE STATE
UNIVERSITY**

Psychology



BEST 

Broadening Experiences in Scientific Training



**WAYNE STATE
UNIVERSITY**

Biological Science



**WAYNE STATE
UNIVERSITY**

Institute of Gerontology



**WAYNE STATE
UNIVERSITY**

Nutrition and Food Science



**MERRILL PALMER
SKILLMAN INSTITUTE**
For Child & Family Development



Poster Presentation Procedure

Due to the large number of poster presentations and to keep meeting costs low, the poster session is organized into two sessions, A and B.

Abstract authors can find their session and board number in the pages that follow.

Schedule:

9:15 -10:30 Poster Session A

10:30 -10:45 Posters from Session A are taken down,
replaced by posters in Session B

10:45 -12:00 Poster Session B

Posters **MUST** be removed from the poster boards following Session B; the poster boards will be removed from the Ballroom to allow set-up for the afternoon session

MISfN 2018 Poster Assignments

Theme: Cognition

Session A

| | | |
|----|---------|---|
| A1 | Anand | CHANGES IN NEURONAL MEMBRANE METABOLISM OVER THE COURSE OF COGNITIVE TRAINING: A PHOSPHORUS MAGNETIC RESONANCE SPECTROSCOPY (31P-MRS) STUDY |
| A2 | Chaby | THANKS FOR BEING FLEXIBLE: COGNITIVE FLEXIBILITY TRAINING CAN ATTENUATE THE EFFECTS OF A TRAUMA MODEL ON FEAR LEARNING AND MEMORY IN RATS |
| A3 | Drotos | DOES MUSIC TRAINING HELP LISTENERS UNDERSTAND SPEECH IN DIFFICULT LISTENING SITUATIONS? |
| A4 | Kaganac | PHYSIOLOGICAL RESPONSES OF MORTALITY SALIENCE IN RELATION TO EMPATHY |
| A5 | Posani | EFFECT OF SOCIAL ISOLATION AND HUNGER ON THE MOTIVATION TO SEEK SOCIAL CONTACT OR FOOD IN ADOLESCENT RATS |

Session B

| | | |
|----|---------|--|
| B1 | Quasem | INTRANASAL DETERGENT TREATMENT INFLUENCES FOOD DISCOVERY TIME IN MICE |
| B2 | Ramesh | MEMORY FOR RAPIDLY PRESENTED IMAGES IS RELATED TO HIPPOCAMPAL SUBFIELDS VOLUME |
| B3 | Suresh | THE EFFECT OF LPS INDUCED NEUROINFLAMMATION IN THE GLYMPHATIC CLEARANCE OF LARGE MACROMOLECULES IN THE BRAIN |
| B4 | Wolf | THE EFFECTS OF "JUNK-FOOD" ON CONDITIONED APPROACH AND REVERSAL LEARNING IN MALE AND FEMALE OBESITY-PRONE AND OBESITY-RESISTANT RATS |
| B5 | Zambron | THE PREDICTIVE RELATIONSHIPS BETWEEN VIOLENT MEDIA EXPOSURE AND EMPATHY IN THE PRESENCE OF MORTALITY SALIENCE |

Theme: Development

Session A

| | | |
|----|-----------|---|
| A6 | Mamilla | A COMPARATIVE STUDY OF CLINICAL PARAMETERS IN NEWBORNS WITH HYPOXIC ISCHEMIC ENCEPHALOPATHY IN PRESENCE AND ABSENCE OF SEVERE MRI ABNORMALITIES |
| A7 | Medendorp | CORTICAL HYPEREXCITATION DURING EARLY DEVELOPMENT RESULTS IN AUTISM BEHAVIORAL PHENOTYPES |
| A8 | Townsley | DEVELOPMENT OF A COST-EFFECTIVE MOVEMENT ASSAY FOR AN INSECT SENSORY NEUROSCIENCE LAB |

Session B

| | | |
|-----------|-------------------|---|
| B6 | van de Ven | IMPACT OF MATERNAL CHILDHOOD TRAUMA ON CHILD BEHAVIORAL PROBLEMS: THE ROLE OF CHILD FRONTAL ALPHA ASYMMETRY |
| B7 | VandenBerg | USE OF A HDC TRANSGENE BEARING AN INTERNAL FLAG-EPI TOPE LABEL TO COMPARE CELLULAR LOCALIZATION OF HDC TO HISTAMINE IN DROSOPHILA |
| B8 | Hehr | AMYGDALA-MPFC CONNECTIVITY IS ASSOCIATED WITH SLEEP DURATION IN CHILDREN AND ADOLESCENTS |

Theme: Integrative Physiology and Behavior; Motivation and Emotion

Session A

| | | |
|------------|------------------|--|
| A9 | Atluri | CHARACTERIZATION OF THE SIDE EFFECT PROFILE OF A BETA-ARRESTIN BIASED NEUROTENSIN RECEPTOR 1 LIGAND |
| A10 | Ayyar | A NOVEL ROLE FOR HYPOTHALAMIC GROWTH HORMONE RECEPTOR (GHR) EXPRESSING NEURONS IN GLUCOSE METABOLISM |
| A11 | Bali | REGULATION OF SERUM- AND GLUCOCORTICOID-INDUCIBLE KINASE PHOSPHORYLATION AND CATALYTIC ACTIVITY IN VENTRAL TEGMENTAL AREA BY CHRONIC DRUGS OF ABUSE |
| A12 | Batas | EVALUATION OF LOW DOSE MIXTURES OF 4-METHYLMETHCATHINONE (4-MMC) AND 3,4-METHYLENEDIOXYMETHAMPHETAMINE (MDMA) FOR CONDITIONED PLACE PREFERENCE IN MALE SPRAGUE-DAWLEY RATS |
| A13 | Bond | ANTAGONISM OF OREXIN 2 RECEPTORS IN THE PARAVENTRICULAR NUCLEUS OF THE THALAMUS DECREASES THE INCENTIVE MOTIVATIONAL VALUE OF A REWARD-CUE IN SIGN-TRACKERS |
| A14 | Bosse | CALCIUM/CALMODULIN-STIMULATED ADENYLYL CYCLASES 1 AND 8 REGULATE REWARD-RELATED BRAIN ACTIVITY AND ETHANOL CONSUMPTION |
| A15 | Bullock | THREE-LEVER DRUG DISCRIMINATION CHARACTERIZES THE NEUROPHARMACOLOGY OF THE INTEROCEPTIVE EFFECTS OF 4-METHYLMETHCATHINONE AND 3, 4-METHYLENEDIOXYPYROVALERONE |
| A16 | Burghardt | GLUTAMATE AND GABA RESPONSE IN THE ANTERIOR CINGULATE DURING APPRAISAL OF EMOTIONAL STIMULI IS INFLUENCED BY PERSONALITY TRAIT AND AEROBIC FITNESS |
| A17 | Cargile | REPEATED EXPOSURE TO 3-4,METHYLENEDIOXYPYROVALERONE (MDPV) AND METHAMPHETAMINE PRODUCES LOCOMOTOR SENSITIZATION IN FEMALE SPRAGUE-DAWLEY RATS |

| | | |
|------------|-----------------|---|
| A18 | Chandler | EVALUATION OF LOW DOSE MIXTURES OF 3-4,METHYLENEDIOXYPYROVALERONE (MDPV) AND METHAMPHETAMINE FOR CONDITIONED PLACE PREFERENCE IN FEMALE SPRAGUE-DAWLEY RATS |
| A19 | Chiu | EFFECTS ON ETHANOL CONSUMPTION AND ANXIETY BEHAVIOR AFTER TRAUMATIC STRESS AND ETHANOL WITHDRAWAL IN MICE |
| A20 | Cooper | DETERMINATION OF CIRCUIT-SPECIFIC MORPHOLOGICAL ADAPTATIONS IN VENTRAL TEGMENTAL AREA DOPAMINE NEURONS BY CHRONIC MORPHINE |
| A21 | Davidson | BINGE-LIKE TOLUENE EXPOSURE IN PERIADOLESCENCE ALTERS THE BEHAVIORAL RESPONSIVENESS TO SUBSEQUENT DRUG CHALLENGES IN SWISS-WEBSTER MICE |
| A22 | Doyle | CHANGES IN VENTRAL TEGMENTAL AREA SGK1 CATALYTIC ACTIVITY AND PHOSPHORYLATION ALTER DRUG-RELATED BEHAVIORS |
| A23 | Eagle | COCAINE RESHAPES THE PHYSIOLOGY OF VENTRAL CA1 AFFERENTS TO NUCLEUS ACCUMBENS THAT UNDERLIE DRUG SEEKING AND REWARD |
| A24 | Felton | PREPUBESCENT BEHAVIORS AND CIRCADIAN RHYTHMICITY IN AN ANIMAL MODEL FOR BIPOLAR DISORDER |
| A25 | Fetko | SENSITIZATION TO THE LOCOMOTOR STIMULANT EFFECTS OF A LOW DOSE MIXTURE OF COCAINE AND 3,4-METHYLENEDIOXYPYROVALERONE (MDPV) IN ADULT MALE SPRAGUE-DAWLEY RATS |
| A26 | Garrison | CHRONIC MORPHINE-INDUCED CHANGES IN GENE EXPRESSION IN THE VENTRAL TEGMENTAL AREA (VTA) |
| A27 | Gerena | ROLE OF ORBITAL FRONTAL CORTEX (OFC) SUBREGION ACTIVATION IN A RODENT MODEL OF CUE-INDUCED DRUG RELAPSE |
| A28 | Gibson | HIGH-FAT DIET IMPAIRS CIRCADIAN RHYTHMICITY IN A DIURNAL RODENT MODEL WITHOUT AFFECTING COGNITION |
| A29 | Gong | EXAMINING THE ROLE OF A CORTICO-THALAMIC CIRCUIT IN CUE-MOTIVATED BEHAVIORS USING CHEMOGENETICS |
| A30 | Gordon | DISTINCT NEURONAL ACTIVATION IN MEDIAL-PREFRONTAL CORTEX BETWEEN WILD-TYPE INBRED MOUSE STRAINS DURING FEAR EXTINCTION LEARNING |
| A31 | Grasser | DANCE/MOVEMENT AND ART THERAPY FOR THE TREATMENT OF TRAUMA-RELATED DISORDERS IN SYRIAN AND IRAQI REFUGEE CHILDREN |
| A32 | Greene | A PILOT STUDY ON ALERTNESS AND EEG ALPHA POWER DURING A MONOTONOUS DRIVING TASK |
| A33 | Gregory | EFFECTS OF N-ACETYLCYSTEINE ON SIGN- AND GOAL-TRACKING BEHAVIOR |

Session B

| | | |
|------------|--------------------|--|
| B9 | Haan | IMPACT OF OBESITY AND DIET: OBESITY DEVELOPMENT LEADS TO SELECTIVE MANIFESTATION OF ANXIETY-LIKE BEHAVIORS IN OBESITY-PRONE RAT POPULATIONS |
| B10 | Iadipaolo | FAAH GENETIC VARIATION ENHANCES HUMAN DEFAULT MODE NETWORK RESTING-STATE FUNCTIONAL CONNECTIVITY |
| B11 | Johnson | THE ROLE OF TYPE 1 OREXIN RECEPTORS IN THE THALAMIC PARAVENTRICULAR NUCLEUS (PVT) IN REGULATING INDIVIDUAL VARIATION IN CUE-MOTIVATING BEHAVIORS IN RATS |
| B12 | Karavidha | DIVERGENT EFFECTS OF REPEATED COCAINE AND NOVEL ENVIRONMENT EXPOSURE ON LOCUS COERULEUS C-FOS EXPRESSION AND BRAIN CATECHOLAMINE CONCENTRATIONS IN RATS |
| B13 | Keaton | BIOMARKERS IN PERIPARTUM DEPRESSION |
| B14 | Kuhn | THE EFFECTS OF CHEMOGENETIC INHIBITION OF PRELIMBIC INPUTS TO THE PARAVENTRICULAR NUCLEUS OF THE THALAMUS ON CUE- AND COCAINE-INDUCED DRUG-SEEKING BEHAVIOR IN SIGN-TRACKERS AND GOAL-TRACKERS |
| B15 | Manning | CIRCUIT-SPECIFIC HIPPOCAMPUS Δ FOSB EXPRESSION MEDIATES RESILIENCE IN CHRONIC SOCIAL DEFEAT STRESS |
| B16 | Matchynski | PHOTOACOUSTIC IMAGING OF NEUROACTIVATION USING A CFOS/LACZ GENE REPORTER SYSTEM |
| B17 | Mubarak | DIFFERENCES IN DOPAMINE 2 RECEPTOR AND OREXIN 1 RECEPTOR MRNA EXPRESSION IN THE PARAVENTRICULAR NUCLEUS OF THE THALAMUS IN SIGN-TRACKERS AND GOAL-TRACKERS |
| B18 | Olekanma | THE INFLUENCE OF OBESITY ON FOOD-CUE POTENTIATED EATING BEYOND SATIETY |
| B19 | Pant | THE EFFECT OF CHEMOGENETIC MANIPULATION OF PROJECTIONS FROM THE PREFRONTAL CORTEX TO THE NUCLEUS ACCUMBENS ON THE ATTRIBUTION OF INCENTIVE SALIENCE TO A REWARD CUE |
| B20 | Raines | THE ROLE OF LATERAL SEPTUM IN RETRIEVAL OF CONTEXT FEAR MEMORY |
| B21 | Risca | EVALUATING MONOAMINERGIC MECHANISMS OF 3,4-METHYLENEDIOXYPYROVALERONE (MDPV) DISCRIMINATION IN MALE SPRAGUE-DAWLEY RATS |
| B22 | Roberge | TREATMENT TO ENTICE MATERNAL CARE: A TRANSLATIONAL RAT MODEL RESEMBLING SKIN-TO-SKIN CONTACT |
| B23 | Russell | EXPLORING THE EXPRESSION OF DIFFERENT BEHAVIORAL FORMS OF CUE-POTENTIATED FEEDING THROUGH CS AND US VARIABLE MANIPULATIONS |
| B24 | Samad | SEX SPECIFIC MODULATION OF DAYTIME ILLUMINATION ON HYPOTHALAMIC OREXIN NEURONS |
| B25 | Showers | DETERMINATION OF THE RELATIONSHIP BETWEEN SGK1 CATALYTIC ACTIVITY AND PHOSPHORYLATION IN A MOUSE NEUROBLASTOMA CELL LINE |
| B26 | Silverstein | STRUCTURAL CONNECTIVITY ACROSS STIMULATION-DEFINED CRITICAL LANGUAGE AREAS |

| | | |
|------------|--------------------|---|
| B27 | Sujkowski | OCTOPAMINE DRIVES ENDURANCE EXERCISE ADAPTATIONS IN DROSOPHILA |
| B28 | Swantek | HEART RATE VARIABILITY BIOFEEDBACK USING VIRTUAL REALITY IN GAMBLING DISORDER: A PROOF OF CONCEPT |
| B29 | Tchessalova | MEMORY FUNCTION AND ASSOCIATED SIGNALING IS DYSREGULATED IN MALES AND FEMALES MONTHS AFTER SUBCHRONIC IMMUNE CHALLENGE |
| B30 | Vacante | INTERMITTENT ACCESS TO SUCROSE: EFFECT ON SUCROSE CONSUMPTION, OPERANT RESPONDING FOR PALATABLE FOOD PELLETS, AND SENSITIVITY TO NALTREXONE |
| B31 | Wang | EFFECTS OF TREATMENT WITH THE PROBIOTIC BIFIDOBACTERIUM INFANTIS ON MALE AND FEMALE RATS EXPOSED TO CHRONIC HIGH LEVELS OF CORTICOSTERONE |
| B32 | Williams | SEX DIFFERENCES IN HIPPOCAMPAL PHYSIOLOGY: CIRCUIT-SPECIFIC MECHANISMS UNDERLYING STRESS SUSCEPTIBILITY |

Theme: Neural Excitability, Synapses, and Glia

Session A

| | | |
|------------|-------------------------|--|
| A34 | Garay | A ROLE FOR RETINOIC ACID-INDUCED 1 (RAI1) IN NEURONAL ACTIVITY-DEPENDENT GENE EXPRESSION AND SYNAPTIC SCALING |
| A35 | Caballero-Floran | LITHIUM PARTIALLY RESTORES PRESYNAPTIC GABAERGIC SIGNALING DEFICITS IN THE ANK3 W1989R MOUSE MODEL |
| A36 | Hu | MYELIN ABNORMALITY IN CHARCOT-MARIE-TOOTH TYPE 4J RECAPITULATES FEATURES OF ACQUIRED DEMYELINATION |
| A37 | McCornack | CORNICHON HOMOLOG 3, A PROTEIN THAT MAY BE INVOLVED IN INDIVIDUAL OPIOID DEPENDENCE RISK, MODULATES AMPA RECEPTOR TRAFFICKING AND SPINE MORPHOLOGY |

Session B

| | | |
|------------|------------------|--|
| B33 | Mohamud | THE PROTEASOME: TARGETING THE NF-KB PATHWAY IN THE TREATMENT OF GLIOBLASTOMA MULTIFORME |
| B34 | Nelson | A LOSS-OF-FUNCTION VARIANT IN ANK3 FROM A FAMILY WITH BIPOLAR DISORDER CAUSES ALTERED FOREBRAIN CIRCUITRY |
| B35 | Steffke | ROLE OF SGK1 IN HIPPOCAMPAL DENDRITIC SPINE MORPHOLOGY AFTER CHRONIC COCAINE |
| B36 | VanVelsen | ESTABLISHING THE CONTRIBUTION OF CENTRAL NERVOUS SYSTEM (CNS) HISTAMINE SIGNALING TO COURTSHIP BEHAVIOR IN DROSOPHILA MELANOGASTER |

Theme: Neurodegenerative Disorders and Injury

Session A

| | | |
|------------|--------------------|--|
| A38 | Anderson | LUMINOPSIN-MEDIATED STIMULATION OF TRANSPLANTED DOPAMINERGIC CELLS IN UNILATERAL 6-OHDA LESION MODEL OF PARKINSON'S DISEASE |
| A39 | Atalla | MOTOR FUNCTION PROVIDES INSIGHT INTO COGNITIVE IMPAIRMENTS IN PERSONS WITH MS |
| A40 | Bahoura | THE EFFECT OF KETOROLAC ON POSTERIOR THORACOLUMBAR SPINAL FUSIONS: A PROSPECTIVE DOUBLE-BLINDED RANDOMIZED CONTROLLED TRIAL |
| A41 | Bolton-Hall | ETHANOL EXPOSURE PRIOR TO MILD TRAUMATIC BRAIN INJURY REDUCES POST-INJURY ALCOHOL BEHAVIORS |
| A42 | Christensen | AT8 PHOSPHORYLATION AND TAU N-TERMINUS EXPOSURE OCCUR IN AXONS BEFORE THE SOMATODENDRITIC COMPARTMENT IN MOSSY FIBER AND SCHAFER COLLATERAL PATHWAYS |
| A43 | Cunningham | QUALITY OF LIFE IS RELATED TO PROCESSING SPEED AND PERFORMANCE ON SIMPLE AND COMPLEX MOTOR TASKS IN PERSONS WITH MULTIPLE SCLEROSIS |
| A44 | Datta | EFFECT OF EXPOSURE TO PHENOBARBITAL AND LEVETIRACETAM ON DEATH AND DISABILITY IN NEWBORNS WITH MODERATE TO SEVERE HYPOXIC ISCHEMIC ENCEPHALOPATHY |
| A45 | Esen | ANTI-INFLAMMATORY ROLE OF KETOGENIC DIET IN A MURINE MODEL OF MULTIPLE SCLEROSIS |
| A46 | Fana | THERAPEUTIC IN VITRO DELIVERY OF CURCUMIN ENTRAPPED CYSTAMINE DENDRIMERS TO MOUSE-DERIVED GLIOBLASTOMA CELLS |
| A47 | Fisher | THE EFFECTS OF RS1030207 ON NEARBY GENE EXPRESSION IN HUMAN LYMPHOCYTES FROM PATIENTS WITH INTRACRANIAL ANEURYSM |
| A48 | Florendo | IN VITRO DELIVERY OF LARGE BDNF PLASMID WITH CONTROL OF GENE EXPRESSION USING TET-ON SYSTEM VIA PAMAM DENDRIMER NANOPARTICLES |
| A49 | Fritz | BACKWARD WALKING MEASURES BETTER IDENTIFY FUTURE FALLERS IN MULTIPLE SCLEROSIS THAN FORWARD WALKING |
| A50 | Guentert | THE ROLE OF INFLAMMATION AND GENDER ON DENDRITIC SPINES AND NEURON ABORTIZATION IN NL-G-F MICE |
| A51 | Harutyunyan | STRIATAL PARKIN REGULATES REWARDING AND REINFORCING EFFECTS OF METHAMPHETAMINE IN YOUNG ADULT RATS |
| A52 | Huffman | TOWARD THE CELLULAR BASIS OF DECTIN-1/CLEC7A MEDIATED NEUROREPAIR |
| A53 | Hussain | BLAST INDUCED GLIAL REACTIVITY CHANGES IN THE BRAIN AND SPINAL CORD- IMPLICATIONS FOR SENSORY CHANGES |

Session B

| | | |
|------------|---------------------|--|
| B37 | Keene | ROLE OF EARLY EXPOSURE TO INFLAMMATORY STRESS ON PLAQUE DEPOSITION AND MICROGLIA DENSITY IN ALZHEIMER'S DISEASE |
| B38 | Kolli | SILENCING OF THE MUTANT HUNTINGTIN GENE THROUGH CRISPR-CAS9 IMPROVES THE MITOCHONDRIAL BIOENERGETICS IN IN-VITRO MODEL OF HUNTINGTON'S DISEASE |
| B39 | Kumar | ANTHROPOMETRIC MEASURES AS BIOMARKERS OF NEURODEVELOPMENTAL OUTCOMES OF NEWBORNS WITH MODERATE TO SEVERE HYPOXIC-ISCHEMIC ENCEPHALOPATHY |
| B40 | Lloyd | ALTERED HDAC4/5 EXPRESSION IN THE HIPPOCAMPUS FOLLOWING TRAUMATIC BRAIN INJURY IN MICE |
| B41 | Lynch | THE IN VIVO EFFECTS OF REDOX STATE ON Δ FOSB COMPLEX FORMATION AND INTERACTION PARTNERS |
| B42 | Madsen | ROLE OF INFLAMMATION AND GENDER ON THE ONSET AND PROGRESSION OF ALZHEIMER'S DISEASE |
| B43 | Mark | SEX DIFFERENCES IN HDAC9, MMP-2, AND ER- α EXPRESSION IN A SALT SENSITIVE, HIGH FAT DIET RAT MODEL |
| B44 | Petersen | NON-INVASIVE BIOLUMINESCENT-ACTIVATED OPTOGENETIC STIMULATION FOR REHABILITATION FOLLOWING TRAUMATIC SPINAL CORD INJURY |
| B45 | Pruitt | LINKING FUNCTIONAL CONNECTIVITY TO MEMORY COMPLAINTS AND DEPRESSIVE SYMPTOMS IN OLDER ADULTS |
| B46 | Savonen | PARKINSON'S DISEASE ASSOCIATED ALTERATIONS IN THE DNA MODIFICATIONS, 5-METHYLCYTOSINE AND 5-HYDROXYMETHYLCYTOSINE |
| B47 | Schneider | EXPLORING HDAC INHIBITION AS A POTENTIAL THERAPEUTIC FOR TBI-INDUCED IMPAIRMENT IN EXTINCTION OF CONDITIONED FEAR BEHAVIOR |
| B48 | Srinageshwar | MIXED-SURFACE PAMAM DENDRIMERS CROSS THE BLOOD-BRAIN BARRIER WHEN INJECTED VIA CAROTID ARTERY AND TAIL-VEIN AND APPLICATIONS OF DENDRIMERS IN DELIVERING DIFFERENT SIZED-LARGE PLASMIDS IN VITRO |
| B49 | Stevens | CHARACTERIZING TAU TOXICITY USING DROSOPHILA PRIMARY CULTURES |
| B50 | Thompson | RETENTION OF STEMNESS, PROLIFERATION, AND DIFFERENTIATION ABILITY OF MOUSE-DERIVED BONE MARROW MESENCHYMAL STEM CELLS LABELED WITH G4-90/10 PAMAM DENDRIMERS FOR HUNTINGTON'S DISEASE TREATMENT |
| B51 | Viviano | MEMORY SYSTEM FUNCTIONAL CONNECTIVITY AND WORKING MEMORY PERFORMANCE IN SUBJECTIVE MEMORY COMPLAINTS |
| B52 | Woznicki | ALTERATIONS IN OREXIN EXPRESSING NEURONS IN DORSOLATERAL HYPOTHALAMUS FOLLOWING MILD TRAUMATIC BRAIN INJURY |
| B53 | Xavier | MOTOR PERFORMANCE PROVIDES INSIGHTS INTO COGNITION AND PAIN IN PERSONS WITH HUNTINGTON'S DISEASE |

Theme: Sensory and Motor Systems

Session A

| | | |
|------------|----------------|---|
| A54 | Edwards | COGNITIVE PROCESSING SPEED AS A PREDICTOR OF MOTOR SKILL LEARNING IN HEALTHY ADULTS |
| A55 | George | A MORPHOLOGICAL AND PHYSIOLOGICAL ANALYSIS OF VIP NEURONS IN THE INFERIOR COLLICULUS OF MICE |
| A56 | Gregory | STRUCTURAL AND FUNCTIONAL CHANGES OF PYRAMIDAL NEURONS IN PRIMARY MOTOR CORTEX AT THE SITE OF AN IMPLANTED MULTIELECTRODE ARRAY |

Session B

| | | |
|------------|-----------------|---|
| B54 | Jellies | DECISION-MAKING THROUGH THE EYES OF A LEECH: CONTEXT DEPENDENT NEURONAL COMPUTATION OF IMAGE FEATURES |
| B55 | Khalil | ATRAZINE EXPOSURE AFFECTS OLFACTORY SENSORY NEURON MORPHOLOGY IN THE LATERAL ANTENNULES OF CRAYFISH |
| B56 | McSorley | P75NTR FAILS TO COLOCALIZE WITH BRAIN LIPID-BINDING PROTEIN IN THE OLFACTORY BULB |
| B57 | Railing | DENDRITIC SPINE ALTERATIONS OF STRIATAL SPINY PROJECTION NEURONS IN THE MOUSE MODEL OF FRAGILE X SYNDROME |

Theme: Techniques

Session A

| | | |
|------------|--------------|---|
| A57 | Otero | RETENTION OF STEMNESS, PROLIFERATION, AND DIFFERENTIATION ABILITY OF MOUSE-DERIVED BONE MARROW MESENCHYMAL STEM CELLS LABELED WITH G4-90/10 PAMAM DENDRIMERS FOR HUNTINGTON'S DISEASE TREATMENT |
| A58 | Pal | A BIOLUMINESCENT CALCIUM SENSOR TO DETECT SUB-CELLULAR CALCIUM AND DRIVE OPTOGENETIC ELEMENTS |

Session B

| | | |
|------------|-----------------|---|
| B58 | Thompson | ENHANCEMENT OF FAST SCAN CYCLIC VOLTAMMETRY DETECTION OF DOPAMINE WITH TRYPTOPHAN |
| B59 | Wiseman | MAGNETIC RESONANCE ANGIOGRAPHY AND VENOGRAPHY WAS NOT USEFUL FOR CORRECTING UNDERESTIMATED SUSCEPTIBILITY MEASUREMENTS OF SUB-VOXEL OBJECTS ON QUANTITATIVE SUSCEPTIBILITY MAPS |

Alphabetical Listing

| <u>Last name</u> | <u>Poster #</u> |
|-------------------------|------------------------|
| Anand | A1 |
| Anderson | A38 |
| Atalla | A39 |
| Atluri | A9 |
| Ayyar | A10 |
| Bahoura | A40 |
| Bali | A11 |
| Batas | A12 |
| Bolton-Hall | A41 |
| Bond | A13 |
| Bosse | A14 |
| Bullock | A15 |
| Burghardt | A16 |
| Caballero-Floran | A35 |
| Cargile | A17 |
| Chaby | A2 |
| Chandler | A18 |
| Chiu | A19 |
| Christensen | A42 |
| Cooper | A20 |
| Cunningham | A43 |
| Datta | A44 |
| Davidson | A21 |
| Doyle | A22 |
| Drotos | A3 |
| Eagle | A23 |
| Edwards | A54 |
| Esen | A45 |
| Fana | A46 |
| Felton | A24 |
| Fetko | A25 |

| <u>Last name</u> | <u>Poster #</u> |
|-------------------------|------------------------|
| Fisher | A47 |
| Florendo | A48 |
| Fritz | A49 |
| Garay | A34 |
| Garrison | A26 |
| George | A55 |
| Gerena | A27 |
| Gibson | A28 |
| Gong | A29 |
| Gordon | A30 |
| Grasser | A31 |
| Greene | A32 |
| Gregory, B.A. | A56 |
| Gregory, J | A33 |
| Guentert | A50 |
| Haan | B9 |
| Harutyunyan | A51 |
| Hehr | B8 |
| Hu | A36 |
| Huffman | A52 |
| Hussain | A53 |
| Iadipaolo | B10 |
| Jellies | B54 |
| Johnson | B11 |
| Kaganac | A4 |
| Karavidha | B12 |
| Keaton | B13 |
| Keene | B37 |
| Khalil | B55 |
| Kolli | B38 |
| Kuhn | B14 |

| <u>Last name</u> | <u>Poster #</u> |
|-------------------------|------------------------|
| Kumar | B39 |
| Lloyd | B40 |
| Lynch | B41 |
| Madsen | B42 |
| Mamilla | A6 |
| Manning | B15 |
| Mark | B43 |
| Matchynski | B16 |
| McCornack | A37 |
| McSorley | B56 |
| Medendorp | A7 |
| Mohamud | B33 |
| Mubarak | B17 |
| Nelson | B34 |
| Olekanma | B18 |
| Otero | A57 |
| Pal | A58 |
| Pant | B19 |
| Petersen | B44 |
| Posani | A5 |
| Pruitt | B45 |
| Quasem | B1 |
| Railing | B57 |
| Raines | B20 |
| Ramesh | B2 |
| Risca | B21 |
| Roberge | B22 |
| Russell | B23 |
| Samad | B24 |
| Savonen | B46 |
| Schneider | B47 |

| <u>Last name</u> | <u>Poster #</u> |
|-------------------------|------------------------|
| Showers | B25 |
| Silverstein | B26 |
| Srinageshwar | B48 |
| Steffke | B35 |
| Stevens | B49 |
| Sujkowski | B27 |
| Suresh | B3 |
| Swantek | B28 |
| Tchessalova | B29 |
| Thompson, C.E. | B50 |
| Thompson, S | B58 |
| Townsley | A8 |
| Vacante | B30 |
| van de Ven | B6 |
| VandenBerg | B7 |
| VanVelsen | B36 |
| Viviano | B51 |
| Wang | B31 |
| Williams | B32 |
| Wiseman | B59 |
| Wolf | B4 |
| Woznicki | B52 |
| Xavier | B53 |
| Zambron | B5 |