The ASNTR would like to acknowledge and thank the following organizations for their continued support of our Travel Award program:

National Institute of Health
National Institute of Neurological Disorders and Stroke
Translational Stroke Research
Florida Hi-Tech Corridor Council
Parkinson’s Disease Foundation
ASNTR Past Presidents

TRAVEL AWARD RECIPIENTS

Sandra Acosta
Andrew Crane
Vivian de Alvarenga Guedes
Peter Deng
Jared Ehrhart
Loëna Fernandes
Dylan Finneran
Harman Ghuman
Kirstan Gimse
Beth Grimmig
Amanda Hazy
Ahmad Jalloh
Valerie Joers
Yeonwoo Lebovitz
Jea-Young Lee
M. Grant Liska
Olivia Lossia
David Marmion
Natosha Mercado
Elliot Neal
Franziska Nitzsche
Iaci Nunes Soares
Andrew Olin
Stefano Pianta
Suning Ping
Leslie Sandusky
Jeanette Shultz
Bhairavi Srinageshwar
Andrew Stewart
Scott Vermilyea
Mitsuyoshi Watanabe
Zheng Wei
Kaya Xu
Xuegang Yuan

Education Program Committee: Fredric Manfredsson, Chair, Heather Boger, Cesar Borlongan, Francesca Cicchetti, Timothy Collier, Scott Counts, Brian Cummings, Mike Modo, Kevin Nash, Jaci Sagen, Maj-Linda Selenica, Paul Stroemer, Beth Vernaleo
April 27, 2017

Dear new and old friends of the American Society of Neural Therapy and Repair (ASNTR),

It is my privilege to welcome you to the ASNTR 24th Annual Meeting!!!

The Program committee has prepared for you an array of sessions, aiming to delve into the most cutting edge neurotranslational research available today, all around the theme “Neurorepair in the Modern World”. Dr. Ned Kalin, our keynote speaker, will talk to us about his unique preclinical studies to identify novel molecular targets for the treatment of human anxiety and affective disorders. Throughout the sessions, we will have an opportunity to discuss with world experts about common pathways of neurodegeneration, biomarkers, target imaging, delivery of biologics, and new tools and models to maximize the impact of preclinical research. This year we will devote a session to pediatric neurological disorders, highlighting the deleterious effect of the Zika virus infection in neurodevelopment. The Presidential Symposium will be led by Dr. Jonathan Kimmelman, who will make us reflect deeply on the challenges of clinical translation in neurological disorders.

Did you know that ASNTR attendees come from Institutions that call the USA home as well as faraway places in Japan, Canada, Brazil, Taiwan and Switzerland? As you are reading this, I invite you to start a conversation with someone at this meeting that you did not know until today. ASNTR is the perfect safe space to take the risk! In that respect, the data blitz and poster sessions will be a great place for you to show and discuss your new findings, mingle and find new collaborators. And if you like to dance, dust off your dancing shoes and join us at the “Dancing to Health” session for lively presentations on nontraditional forms of exercise and a chance to experience first-hand and side-by-side with patients the benefits of tango and salsa dancing while sharing time with your colleagues.

If you are one of our generous sponsors, I want to personally thank you for helping make this meeting possible and for facilitating the attendance of a new generation of scientists through Travel Awards. In that regard, a special thank you goes to Dr. Fredric Manfredsson, ASNTR Education Committee Chair, who organized the Trainees’ Workshop. The ASNTR tradition of supporting our younger attendees is only possible through the commitment of its members and the support of sponsors, such as NIH, Parkinson’s Disease Foundation and the Florida Hi-Tech corridor.

How do you make your dreamed ASNTR meeting into a reality? You invoke Donna Morrison and her accomplice Inger Mills, to sprinkle their fairy dust and make it happen! Well, not really, but sometimes it feels like that. For months, they worked closely with the program committee to iron out details, keep us on track and ensure that no detail is overlooked. Please, if you have a chance, make sure to thank them for their steadfast commitment to ASNTR success.

I am so glad you came! I truly hope that you enjoy the meeting and plan to come to many more.

Marina E. Emborg
ASNTR President 2016-17
The University of South Florida is a high-impact, global research university dedicated to student success. USF ranks 50th in the nation for federal and total expenditures in research among all U.S. universities, public or private (NSF), and earned over $411 million in research awards and contracts in FY2012. USF ranks tenth worldwide among universities granted U.S. patents (IPO), and is ranked fourth among the country’s most veteran-friendly schools by Military Times Edge. It is one of only 40 public research universities nationwide with very high research activity that is designated as community engaged by the Carnegie Foundation for the Advancement of Teaching. The Chronicle of Higher Education ranked USF as the fifth fastest growing research university in the U.S. from 2000-2010. Serving more than 47,000 students, USF ranks 40th on Forbes’ Top 100 Best Buy Colleges. It has an annual budget of $1.5 billion and an annual economic impact of $3.7 billion. USF is a member of the Big East Athletic Conference.

The University of South Florida Health is an enterprise for change in the way we understand health and how it transforms our quality of life. USF Health’s mission is to envision and implement the future of health. Our commitment is to improve the full spectrum of health, from the environment, to the community, to the individual. Together through talent and innovation, USF Health is integrating research, education and health care to reach our shared value - making life better.

USF Health is the partnership of the University of South Florida Morsani College of Medicine, the College of Nursing, the College of Public Health, the College of Pharmacy, the School of Biomedical Sciences and the School of Physical Therapy and Rehabilitation Sciences; and the Doctors of USF Health. USF Health is an integral part of the University of South Florida, a high-impact, global research university dedicated to student success.

The Florida High Tech Corridor Council (FHTCC) is a regional economic development initiative of the University of Central Florida (UCF), the University of South Florida (USF) and the University of Florida (UF) whose mission is to grow high tech industry and innovation in the region through partnerships that support research, marketing, workforce and entrepreneurship. A partnership involving more than 25 local and regional economic development organizations (EDOs) and 14 community colleges, the Council is co-chaired by the presidents of UCF, USF and UF. The Council includes the presidents of two of the community colleges, the president of Florida Institute of Technology and representatives of high tech industry. The unique partnership has resulted in a strategic approach to high tech economic development that involves matching funds research, workforce development and a marketing program leveraging government, EDO and corporate budgets on a regional rather than local basis.
Precision NanoSystems Inc (PNI) is a revenue-stage company headquartered in Vancouver, BC with operations across the globe. Our mission is to empower researchers to make transformative new medicines by providing solutions including instruments, reagents, and support centered on gene and drug delivery.

Neuroscience has been a focus of PNI, and our Neuro9™ transfection technology facilitates the functional genomics studies in primary neurons to better understand the molecular mechanisms of disease. Neuro9 achieves >90% transfection efficiency with no observable toxicity in vitro and in vivo. Neuro9 is user-prepared using kits that work with the NanoAssembler™ Benchtop instrument and NanoAssembler Spark™ for in vivo and in vitro scales respectively. One hallmark of the product family is ease-of-use that allows users with varying levels of experience to formulate gene delivery nanoparticles as reproducibly as an expert.

**The Parkinson’s Disease Foundation (PDF) is a leading national presence in Parkinson’s disease research, education and public advocacy. They are working for the nearly one million people in the US who live with Parkinson’s by funding promising scientific research while supporting people living with Parkinson’s through educational programs and services. Since its founding in 1957, PDF has dedicated more than $115 million to fund the work of leading scientists throughout the world and nearly $50 million to support national education and advocacy initiatives.**
## Conference Schedule

### Thursday, April 27, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:00 pm to 04:00 pm</td>
<td>Trainee Workshop – Travel Award Winners - Palm</td>
</tr>
<tr>
<td>04:00 pm to 06:00 pm</td>
<td>Conference Registration – Lobby II</td>
</tr>
<tr>
<td>04:00 pm to 04:30 pm</td>
<td>Council Meeting – Current ASNTR Officers Cardita Room – 5th Floor</td>
</tr>
<tr>
<td>04:30 pm to 05:30 pm</td>
<td>2018 Program Committee Member Meeting – Cardita Room – 5th Floor</td>
</tr>
<tr>
<td>06:00 pm to 06:30 pm</td>
<td>2017 ASNTR Data Blitz Session – Palm/Bay</td>
</tr>
<tr>
<td>06:30 pm to 09:00 pm</td>
<td>2017 ASNTR Poster Session – Palm/Bay - Reception (Cash Bar)</td>
</tr>
</tbody>
</table>

### Friday, April 28, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30 am to 08:30 am</td>
<td>Conference Registration – Lobby II</td>
</tr>
<tr>
<td>08:30 am to 09:00 am</td>
<td>Continental Breakfast – Palm</td>
</tr>
<tr>
<td>09:00 am to 10:00 am</td>
<td>Opening Remarks - Travel Award Presentations – Beach/Gulf</td>
</tr>
<tr>
<td>10:00 am to 11:20 am</td>
<td>Presentation – Presidential Keynote Address – Beach/Gulf</td>
</tr>
<tr>
<td>11:20 am to 11:30 am</td>
<td>Presentations – Beach/Gulf</td>
</tr>
<tr>
<td>11:30 am to 01:00 pm</td>
<td>Morning Break – Refreshments Provided – Palm</td>
</tr>
<tr>
<td>01:00 pm to 03:00 pm</td>
<td>Presentations – Beach/Gulf</td>
</tr>
<tr>
<td>03:00 pm to 04:20 pm</td>
<td>Free Time</td>
</tr>
<tr>
<td>04:20 pm to 04:30 pm</td>
<td>Afternoon Break – Refreshments Provided - Palm</td>
</tr>
<tr>
<td>04:30 pm to 06:30 pm</td>
<td>Presentations – Beach/Gulf</td>
</tr>
</tbody>
</table>

### Saturday, April 29, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 am to 08:00 am</td>
<td>Conference Registration – Lobby II</td>
</tr>
<tr>
<td>08:00 am to 10:00 am</td>
<td>Continental Breakfast – Palm</td>
</tr>
<tr>
<td>10:00 am to 10:10 am</td>
<td>Presentations – Beach/Gulf</td>
</tr>
<tr>
<td>10:10 am to 12:30 pm</td>
<td>Morning Break – Refreshments Provided – Palm</td>
</tr>
<tr>
<td>12:30 pm to 02:30 pm</td>
<td>Presentations – Beach/Gulf</td>
</tr>
<tr>
<td>02:30 pm to 04:00 pm</td>
<td>Free Time</td>
</tr>
<tr>
<td>04:00 pm to 04:15 pm</td>
<td>Presentations – Presidential Symposium – Beach/Gulf</td>
</tr>
<tr>
<td>04:15 pm to 05:30 pm</td>
<td>Afternoon Break – Refreshments Provided - Palm</td>
</tr>
<tr>
<td>05:30 pm to 06:15 pm</td>
<td>Presentations – Memorial Award Presentations &amp; ASNTR Business Meeting – Beach/Gulf</td>
</tr>
<tr>
<td>07:00 pm to 10:00 pm</td>
<td>ASNTR Beach Party - Dinner &amp; Dancing (Cash Bar)</td>
</tr>
</tbody>
</table>
POSTER PRESENTATIONS
Palm/Bay

- Authors must mount their poster during the one hour before the scheduled session start.
- Poster numbers supplied by ASNTR will be in the upper corner of each poster board, and this number corresponds with the number assigned to each poster in the program.
- Pushpins will be available at the poster session.
- Authors must remain with their posters for the duration of their scheduled session as indicated in the program.
- All posters must remain up until the session ends and then must be removed within one hour.
- ASNTR cannot assume responsibility for materials beyond these time limits.

PLATFORM PRESENTATION SPEAKERS
Beach/Gulf

- Speakers should provide the Audio Visual Technician your PowerPoint Presentation at least 30 minutes prior to your session.
- The Audio Visual Technician will be available during the General Sessions to assist with any problems.
- Please bring a copy of your presentation on CD-ROM or USB storage device to load to a conference computer. **No Personal laptops are to be used.**
- To ensure that the meeting proceeds as scheduled, please refer to the program for your presentation time.
- Test your presentation on the provided equipment in advance (e.g. the evening before your presentation or early during lunch/coffee breaks).
- Please be aware of the time limitations for each oral presentation; you are allotted fifteen minutes to present your data and to answer questions.
- **NOTE:** There will be no time extensions for your talk if you encounter technical difficulties.
# Conference Agenda

## Thursday, April 27<sup>th</sup> 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 01:00 pm to 04:00 pm | **Workshop – Travel Award Winners – Palm**  
  “Research Funding 101”  
  Fredric Manfredsson, *Michigan State University*  
  Corinna Burger, *University of Wisconsin-Madison*  
  Timothy Lavaute, *NINDS, NIH*  
  John Winston, *American Defense International* |
| 04:00 pm to 06:00 pm | Conference Registration – Lobby II                                  |
| 04:00 pm to 04:30 pm | **Council Meeting – Cardita – 5<sup>th</sup> Floor**                 |
| 04:30 pm to 05:30 pm | **2018 Program Committee Meeting – Cardita – 5th Floor**           |
| 06:00 pm to 06:30 pm | **ASNTR Data Blitz/Poster Teasers – Palm/Bay**                     |
| 06:30 pm to 09:00 pm | **2017 ASNTR Poster Session – Palm/Bay**  
  Reception (Cash Bar)** |
Thursday, April 27th

Welcome Reception, Data Blitz & Poster Session
Palm/Bay

Data Blitz 6:00 – 6:30 pm

Chairs: Sandra Acosta & Paula Bickford

1 KDEL RECEPTORS – NOVEL ER STRESS RESPONSE GENES
   S. Bäck, K.A. Trychta, C. Richie, M.J. Henderson, B.K. Harvey

2 HISTOLOGICAL CORRELATES OF TRAUMATIC BRAIN INJURY-INDUCED ANXIETY
   BEHAVIORS: A TARGET FOR HYPERBARIC OXYGEN THERAPY
   L. Gelineau, V.A. Guedes, D.J. Eve, M.G. Liska, C. Stonesifer, M.G. Crowley,
   S.A. Acosta, C.V. Borlongan

3 THE SYNAPTIC SCAFFOLDING PROTEIN HOMER1C IS NECESSARY FOR
   SUCCESSFUL LEARNING AND MEMORY, AND FOR INDUCTION OF GROUP 1
   METABOTROPIC GLUTAMATE RECEPTOR-MEDIATED LONG-TERM-DEPRESSION.
   K. Gimse, A. Olin, C. Burger

4 PHASE 1/2A STUDY TO EVALUATE THE SAFETY OF NEURAL STEM CELLS IN
   PATIENTS WITH PARKINSON’S DISEASE
   R. Gonzalez, I. Garitaonandia, T. Abramihina, G. Sherman, A. Noskov,
   A. Semechkin, A. Shahrul, G. Nair, A.H. Evans, R. Kern

5 LONGITUDINAL MONITORING OF ER STRESS AND ER CALCIUM HOMOSTASIS
   IN VIVO
   E.S. Wires, M.J. Henderson, X. Yan, S. Bäck, K.A. Trychta, M.H. Lutrey,
   B.K. Harvey
6  INTERROGATING THE ROLE OF PERIPHERAL-DERIVED HEMATOPOIETIC CELLS IN TISSUE HOMEOSTASIS FOLLOWING BRAIN TRAUMA  
   A. Házy, T.R. Brickler, B. Okyere, M.H. Theus

7  CEREBRAL ANEURYSM HEALING: MCP-1—IL-6—OPN PATHWAY  
   K. Hosaka, H. Fazal, L. Lin, B. Hoh

8  THE ROLE OF MATERNAL GUT MICROBIOME IN PERINATAL NEURODEVELOPMENT: IMPLICATIONS FOR NEURODEVELOPMENTAL DISORDERS  
   Y. Lebovitz, J. Brabender, M.H. Theus

9  EVALUATION OF THE PROGNOSTIC VALUE OF THE ACOUSTIC STARTLE REFLEX FOR TRAUMATIC BRAIN INJURY  
   M.G. Liska, V.A. Guedes, D.J. Eve, C. Stonesifer, L. Gelineau, M.G. Crowley, S.A. Acosta, C.V. Borlongan

10 POST-INJURY THERAPEUTIC EFFECTS OF 3,6’-DITHIO POMALIDOMIDE ON TRAUMATIC BRAIN INJURY  
    S-W. Liu, T. Huang, N.H. Greig, J-Y. Wang

11 IMPROVING VIABILITY OF hNSCs BY OPTIMIZING BIOMECHANICAL STRESSES DURING CELL INJECTION  
    H. Ghuman, B. Wahlberg, J. Liu, M. Modo

12 MODIFYING DOPAMINE NEURONS IN THE RAT BRAIN USING CRISPR-MEDIATED TRANSGENESIS  
    J.C. Necarsulmer, D.B. Howard, J.M. Pickel, C.T. Richie, B.K. Harvey

13 OPTIMIZATION OF THE RADIAL ARM WATER MAZE TO DISTINGUISH LEARNING AND MEMORY PERFORMANCE IN AGED RATS  
    A. Olin, G. Cortese, C. Burger
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>TREATMENT WITH Nrf2 AND p53 TRANSCRIPTION FACTOR MODULATORS IN AN IN VITRO MILD TBI MODEL</td>
<td>W.A. Ratliff, J.N. Chang, N.H. Greig, B.A. Citron</td>
</tr>
<tr>
<td>15</td>
<td>REDUCTION OF NEUROINFLAMMATION, OXIDATIVE STRESS AND AUTOPHAGY CONTRIBUTES TO POST-INJURY BENEFICIAL EFFECT OF INTRAVENOUS POMALIDOMIDE ON TRAUMATIC BRAIN INJURY</td>
<td>J-Y. Wang, Y-E. Liao, J-Y. Wang, D. Tweedie, N.H. Greig</td>
</tr>
<tr>
<td>16</td>
<td>NEURAL STEM CELL-ENCODED HYPOXIA INDUCIBLE FACTOR-1α (HIF-1α) IS ESSENTIAL FOR THE ENDOGENOUS REGENERATIVE RESPONSE TO ISCHEMIC INJURY IN A MOUSE MODEL OF STROKE</td>
<td>L. Li, L.A. Cunningham</td>
</tr>
<tr>
<td>18</td>
<td>ECM HYDROGEL INJECTION FOR THE TREATMENT OF STROKE</td>
<td>H. Ghuman, M. Gerwig, F.J. Nicholls, J. Liu, J. Donnelly, B. Wahlberg, S.F. Badylak, M. Modo</td>
</tr>
<tr>
<td>19</td>
<td>HIGHER COGNITIVE ABILITIES PRIOR TO STROKE INFLUENCE NEUROPLASTICITY AND MOBILIZATION OF HUMAN BONE MARROW STEM CELLS IN AFFORDING NEUROPROTECTION</td>
<td>S.A. Acosta, Y. Kaneko, C.V. Borlongan</td>
</tr>
</tbody>
</table>
21 SHORT BOUT OF EXERCISE PRIOR TO STROKE IMPROVES DISEASE FUNCTIONAL OUTCOMES BY ENHANCING ANGIOGENESIS

S. Pianta, H. Nguyen, K. Xu, S.A. Acosta, N. Tajiri, J-Y. Lee, C.V. Borlongan

22 Ang-(1-7) PROMOTES NEUROPROTECTION IN IN VITRO OGD/R MODEL BY MODULATING THE ACTIVATION OF THE INTRINSIC APOPTOTIC PATHWAY


23 P-COUMARIC ACID, A KEY PEANUT NUTRIENT, AFFORDS NEUROPROTECTIVE EFFECTS IN AN IN VITRO MODEL OF STROKE

C. Stonesifer, S.A. Acosta, V.A. Guedes, J-Y. Lee, Y. Kaneko, C.V. Borlongan

24 MONITORING ER CALCIUM AND ER PROTEOSTASIS UNDER HYPOXIC CONDITIONS

K.A. Trychta, X. Yan, J. Anttila, M. Airavaara, K.J. Wu, Y. Wang, M.J. Henderson, B.K. Harvey

25 INTRA-ARTERIAL STEM CELL TREATMENT REDUCES ISCHEMIC BRAIN INJURY IN REPRODUCTIVELY SENESCENT FEMALE RATS

M. Watanabe, P. Bhattacharya, W. Zhao, A. Khan, J.M. Hare, M. Perez-Pinzon, A.P. Raval, D.R. Yavagal

26 HUMAN STEM CELLS TRANSPLANTED INTO THE RAT STROKE BRAIN MIGRATE TO Spleen VIA THE LYMPHATIC SYSTEM AND GUIDED BY INFLAMMATORY SIGNAL

K. Xu, J-Y. Lee, R. Lin, S. Pianta, S.A. Acosta, V.A. Guedes, Y. Kaneko, F. Vale, H. van Loveren, C.V. Borlongan

27 INHIBITION OF DRP1 MITOCHONDRIAL TRANSLOCATION PROVIDES NEURAL PROTECTION IN DOPAMINERGIC SYSTEM IN A PARKINSON’S DISEASE MODEL INDUCED BY MPTP

E. Filichia, B. Hoffer, X. Qi, Y. Luo
28 IMPACT OF INFLAMMATION ON ALPHA-SYNUCLEIN EXPRESSION IN THE COLONIC ENTERIC NERVOUS SYSTEM OF NONHUMAN PRIMATES

H. Resnikoff, J. Shultz, V. Bondarenko, A. Mejia, H. Simmons, M.E. Emborg

29 CRISPR/Cas9-MEDIATED MODULATION OF PARKINSON’S DISEASE-RELATED GENES IN THE RAT SUBSTANTIA NIGRA


30 STRIATAL Nurr1 EXPRESSION CAUSES PATHOPHYSIOLOGICAL CHANGES WHICH MIMIC LEVODOPA-INDUCED DYSKINESIAS


31 POSITRON EMISSION TOMOGRAPHY IMAGING OF CARDIAC NEUROPROTECTION INDUCED BY PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR GAMMA (PPARγ) ACTIVATION


32 THE TRICYCLIC ANTIDEPRESSANT MEDICATION NORTRIPTYLINE INHIBITS ALPHA-SYNUCLEIN ACCUMULATION, AGGREGATION AND TOXICITY IN MULTIPLE IN VITRO AND IN VIVO MODELS


33 NANOCOFFEE DISPLAYS NEUROPROTECTIVE EFFECTS IN TRAUMATIC BRAIN INJURY MODELS

M.G. Crowley, V.A. Guedes, M.G. Liska, L. Gelineau, S.A. Acosta, J-Y. Lee, M. Provenzano, I. Antonucci, L. Stuppa, C. Cao, C.V. Borlongan

34 HYPERBARIC OXYGEN THERAPY EFFECTS ON TRAUMATIC BRAIN INJURY-ASSOCIATED BEHAVIORAL IMPAIRMENTS

V.A. Guedes, D.J. Eve, M.G. Liska, C. Stonesifer, L. Gelineau, M.G. Crowley, S.A. Acosta, C.V. Borlongan
35  HUMAN CORD BLOOD PLASMA AS A POTENTIAL THERAPEUTIC FOR ALS  
   *J. Ehrhart, P.R. Sanberg, S. Garbuzova-Davis*

36  ASTAXANTHIN MODULATES COGNITIVE FUNCTION IN YOUNG AND AGED MICE  
   *B. Grimmig, L. Daly, C. Hudson, P.C. Bickford*

37  LISPRO, AN IONIC COCRYSTAL OF LITHIUM, MITIGATES ALZHEIMER-LIKE  
    PATHOLOGICAL CHANGES IN THE MICE  
   *A. Habib, D. Sawmiller, Y. Xiang, D. Rongo, J. Tian, H. Hou, J. Zeng, B. Giunta,  
    A. Smith, A. Feng, T. Mori, G. Currier, R.D. Shytle, J. Tan*

38  PROTEOMIC COMPARISON OF AGED AND YOUNG MICROGLIA HIGHLIGHTS  
    BIOLOGICAL CONSEQUENCES OF AGING  
   *A. Jalloh, A. Flowers, C. Hudson, S. Stevens, P.C. Bickford*

39  MODULATION OF MICROGLIA CANNABINOID RECEPTOR 2 TO AMELIORATE  
    NEUROINFLAMMATION IN PARKINSON’S DISEASE  
   *V. Joers, B. Murray, M.E. de Sousa Rodrigues, F.P. Manfredsson, B. Moore,  
    M. Tansey*

40  NEURAL STRUCTURE AND FUNCTION ARE MODIFIED BY STEM CELL FACTOR AND  
    GRANULOCYTE COLONY-STIMULATING FACTOR IN A MOUSE MODEL OF CADASIL  
   *S. Ping, L-R. Zhao*

41  A TAU-DEPENDENT POLYAMINE STRESS RESPONSE ELICITS COGNITIVE  
    IMPAIRMENT AND EXACERBATES NEUROPATHOLOGY  
   *L.A. Sandusky, A. Kovalenko, D.S. Placides, W.J.D. Fraser, J.B. Hunt Jr,  
    S.N. Fontaine, C.A. Dickey, M-L. Selenica, K.R. Nash, M.N. Gordon, D.G. Morgan,  
    D.C. Lee*
42 COMPLEMENTATION OF Lmx1a/Pitx3-NULl EMBRYOS WITH PORCINE BLASTOMERES GENERATES CHIMERIC FETAL PORCINE BRAIN


43 INVESTIGATING A ROLE FOR CONNEXIN 43 IN HIPPOCAMPAL NEUROGENESIS FOLLOWING MODERATE TRAUMATIC BRAIN INJURY


44 USING iPSC-DERIVED HUMAN DA NEURONS FROM OPIOID-DEPENDENT SUBJECTS TO STUDY DOPAMINE DYNAMICS


45 ABSENCE OF DIRECT CELL-TO-CELL CONTACT IN HUMAN iPSC-INDUCED NEUROPROTECTION AGAINST STROKE IN VITRO REVEALS NOVEL STEM CELL ANTI-INFLAMMATORY SECRETED FACTORS AND FILOPODIA EXTENSION

J-Y. Lee, P-J. Lin, C.V. Borlongan

46 DOES DYSFUNCTIONAL BDNF LIMIT REMODELING OF THE AGED PARKINSONIAN STRIATUM?

N.M. Mercado, D. Korol, R. Gardner, C.E. Sortwell, T.J. Collier, K. Steece-Collier

47 A SUBPOPULATION OF BONE MARROW-DERIVED STEM CELLS EXHIBITING PROPERTIES OF REGULATORY T CELLS (Tregs) CONFERS NEUROPROTECTION AGAINST STROKE

E. Neal, S.A. Acosta, Y. Kaneko, C.V. Borlongan

48 APPLICATION OF PAMAM DENDRIMER NANOPARTICLES IN LABELING STEM CELLS AND MATURE NEURONS IN VITRO AND IN VIVO AND AS A POTENTIAL TREATMENT FOR GLIOBLASTOMA MULTIFORME

49 NEURAL PROGENITOR CELL SURVIVAL AND NEURITIC OUTGROWTH AFTER TRANSPLANTATION INTO JAUNDICED AND NON-JAUNDICED RAT BRAIN
F-C. Yang, S.M. Riordan, J.L. Vivian, S.M. Shapiro, J.A. Stanford

50 PROOF OF CONCEPT – CRISPR-Cas9 LIPID NANOPARTICLES AS AN EFFICIENT DELIVERY TOOL FOR CULTURED CELLS AND IN ANIMAL MODELS

51 OPTOGENETIC STIMULATION OF TRANSPLANTED NEURAL PROGENITOR CELLS IMPROVES REGENERATION AND FUNCTIONAL RECOVERY AFTER ISCHEMIC STROKE IN RODENTS
Z. Wei, M. McCrory, S-P. Yu, L. Wei

52 ANTAGONIZATION OF THE NOGO-RECEPTOR 1 ENHANCES DOPAMINERGIC FIBER OUTGROWTH OF GRAFTS IN A RAT MODEL OF PARKINSON’S DISEASE
S. Seiler, S. Di Santo, H.R. Widmer

53 IN VITRO 3D CULTURE OF HUMAN MESENCHYMAL STEM CELLS FOR ISCHEMIC STROKE TREATMENT
X. Yuan, J.T. Rosenberg, Y. Liu, S.C. Grant, T. Ma

54 POTENTIAL REPAIR OF THE BLOOD-SPINAL CORD BARRIER COINCIDES WITH REDUCTION OF MICROHEMORRHAGES IN THE SPINAL CORD OF SYMPTOMATIC ALS MICE AFTER INTRAVENOUS HUMAN BONE MARROW CD34+ CELL TRANSPLANTATION
D.J. Eve, G. Steiner, A. Mahendrasah, C. Kurien, A. Thomson, D. Falco, P.R. Sanberg, C.V. Borlongan, S. Garbuzova-Davis

55 DISEASE AND STEM CELL-BASED ANALYSIS OF THE 2017 ASNTR MEETING
D.J. Eve
Session 2-1

Mark Cookson, Laboratory of Neurogenetics, National Institute on Aging, NIH

Dr. Cookson received both his B.Sc. and Ph.D. degrees from the University of Salford, UK, in 1991 and 1995, respectively. He obtained postdoctoral training at the Medical Research Council laboratories and the University of Newcastle, UK, before joining the Mayo Clinic in Jacksonville, Florida, as a Senior Research Fellow and Assistant Professor of Neuroscience. Dr. Cookson moved to the NIA in 2002 and is currently an Investigator in the Laboratory of Neurogenetics. His group uses cellular and molecular biology tools to study inherited neurodegenerative disorders such as Parkinson's disease, attempting to understand the mechanisms leading to neuronal damage.

Session 2-2

Malú Tansey, Emory University School of Medicine

Dr. Malú Gámez Tansey obtained her B.S/M.S in Biological Sciences from Stanford University in Palo Alto, California in 1986, and her Ph.D. in Cell Regulation in the Department of Physiology at the University of Texas Southwestern Medical Center in Dallas, Texas in 1992. She pursued post-doctoral work in Neuroscience in the Department of Molecular Pharmacology at Washington University and in 2000 she joined Xencor Inc., a private biotechnology company in Monrovia, California as Group Leader of Chemical Genetics. In 2002, she returned to academia as an Assistant Professor of Physiology at UT Southwestern to investigate the role of TNF signaling in the CNS and its impact on neuronal survival and neurological disorders. The general research interests of Dr. Tansey’s laboratory include investigating mechanisms underlying the role of cytokine signaling and brain-immune system crosstalk in health and disease, in particular the role and regulation of neuroinflammatory and immune system responses in modulating the gene-environment interactions that determine risk for development and progression of neurodegenerative and neuropsychiatric diseases.

Sponsorship provided by Fisher Scientific
Presenter Biographies

Session: 3-1

**Diane Stephenson**, Critical Path Institute

Diane Stephenson, Ph.D. received her undergraduate degree in Biochemistry at University of California, Santa Barbara, and her Ph.D. in Medical Neurobiology from Indiana University. In her academic career, she focused her research on Amyotrophic Lateral Sclerosis and Alzheimer's disease (AD), and while in industry, drug discovery initiatives for Alzheimer's disease, stroke, Parkinson's disease, and Autism Spectrum Disorders represented key themes. Dr. Stephenson joined Critical Path Institute as Director of the Coalition Against Major Diseases (CAMD) in 2011 with specific emphasis on Alzheimer's disease. In her current role leading the Critical Path for Parkinson’s (CPP) Consortium, Diane leads a multidisciplinary global team comprised of academic experts, industry scientists, patient advocacy groups, and regulatory experts collectively aimed at accelerating treatments for Parkinson's disease. She is an ambassador for advancing regulatory science across multiple types of brain diseases.

Session: 3-2

**Katrina Paumier**, Washington University School of Medicine

Katrina Paumier, Ph.D. is the Deputy Director of the Dominantly Inherited Alzheimer Network (DIAN). She received her undergraduate degree at the University of Illinois, Champagne-Urbana and her Ph.D. from the University of Cincinnati, followed by her Postdoctoral Fellowship with Pfizer. Her research has focused on understanding the role of alpha-synuclein in the pathogenesis and treatment of PD. She has a specific interest in translational medicine and previously conducted a retrospective database-mining project in order to assess the extent in which antidepressant treatment has disease-modifying effects in a population of early Parkinson’s patients.

Session: 4-1

**Marcel Daadi**, Texas Biomedical Research Institute – St. Louis

Marcel Daadi, Ph.D. is an Associate Scientist, Leader of Regenerative Medicine & Aging Unit | Southwest at the Southwest National Primate Research Center and an expert in regulated translational research and has developed therapeutic neural stem cell lines for clinical use in Parkinson’s disease, stroke, and to target brain tumors in both industrial and academic settings. He has discovered novel techniques of engineering stem cell lines from pluripotent human embryonic stem cells and continues to develop this therapeutic cell line for clinical use.
Presenter Biographies

Session: 5-1

Ted Golos, University of Wisconsin-Madison

Dr. Golos, received undergraduate training at Marquette University, and his Ph.D. in Physiology and Biophysics at the University of Illinois, Urbana-Champaign, and postdoctoral work at the University of Pennsylvania. He is Professor and Chair of the Dept. of Comparative Biosciences, School of Veterinary Medicine, University of Wisconsin-Madison, and a faculty member in Obstetrics and Gynecology, UW-Madison School of Medicine and Public Health. Most recently, has collaborated with a multi-investigator team of virologists and immunologists at UW to establish nonhuman primate models of infection with Zika virus, including infection of the pregnant rhesus monkey and its impact on fetoplacental development. Insight derived from the macaque model, where development of the maternal-fetal interface closely mirrors that in human pregnancy, may also allow a better understanding of why the maternal immune system allows the mother to control peripheral Listeria or Zika infection, but fails to protect the pregnancy.

Session: 5-3

Alysson R. Muotri, University of California San Diego

Dr. Muotri earned a BSc in Biological Sciences from the State University of Campinas in 1995 and a Ph.D. in Genetics in 2001 from University of Sao Paulo, in Brazil. He moved to the Salk Institute as Pew Latin America Fellow in 2002 for a postdoctoral training in the fields of neuroscience and stem cell biology. He has been a Professor at the School of Medicine, University of California in San Diego since late 2008. His research focuses on modeling neurological diseases, such as Autism Spectrum Disorders, using human induced pluripotent stem cells. His lab has developed several techniques to culture human neurons and glia for basic research and drug-screening platforms. Sponsorship provided by David Brindley

Session: 5-4

Brian Kaspar, The Ohio State University / Nationwide Children’s Hospital

Dr. Kaspar's research focuses on basic and translational studies related to neurological and neuromuscular disorders. His laboratory has strengths in animal models of neurodegenerative and neuromuscular disease, gene delivery, and stem cell biology. A main focus of the Kaspar laboratory is centered on the mechanism(s) of neurodegeneration in Amyotrophic Lateral Sclerosis (ALS) and Spinal Muscular Atrophy (SMA). They employ rodent models of this disease to investigate various cell type involvements in disease onset and progression, develop novel methods to deliver genes and therapies more efficiently to the nervous system and test novel targets to combat these diseases. The laboratory also investigates the biological control of embryonic and adult derived stem cells. Sponsorship provided by David Brindley
**Presenter Biographies**

**SATURDAY, APRIL 29th 2017**

**Session: 6-1**

**Barbara Waszczak**, Northeastern University

Barbara Waszczak is a Professor of Pharmacology in the Department of Pharmaceutical Sciences at Northeastern University. The focus of the Waszczak lab is to find a way to harvest the potential of glial cell line-derived neurotrophic factor (GDNF) as a treatment for Parkinson's Disease (PD). Her team uses the intranasal route of administration as a way to deliver the neuroprotective protein GDNF to the brain, bypassing the blood-brain barrier (BBB). Current studies are aimed at developing an intranasal gene therapy approach using plasmid DNA nanoparticles which encode GDNF. When given intranasally to rats, these nanoparticles lead to transfection of cells and production of GDNF within the brain.

**Session: 7-1**

**Christopher Richie**, National Institute on Drug Abuse, National Institutes of Health

Dr. Richie received his Doctorate in Molecular Biology from the University of Texas – M.D. Anderson Cancer Center, Houston, Texas and is currently the Core Manager of the Genetic Engineering and Viral Vector Core at the National Institute on Drug Abuse where the research focus is to facilitate studies of brain function under physiological and pathological conditions through developing and producing genetic tools capable of modulating and monitoring the molecules, cells and circuits in the nervous system.

**Session: 7-4**

**Marc Halterman**, University of Rochester Medical Center

Marc Halterman, M.D., Ph.D. is interested in finding new approaches to treat ischemic brain injury. In particular, his lab focuses on signaling nodes in transcriptional networks that regulate neuron survival and are amenable to small molecule regulation. Putative targets identified through genomic and proteomic-based screens are first validated *in vivo* and studied further using primary neuronal cultures, neurospheres and related *in vitro* assays. To manipulate gene function his team uses several complementary approaches including knockout mouse models, viral-mediated gene regulation, site-directed mutagenesis and pharmacological inhibition. Ultimately, Dr. Halterman’s goal is to identify novel therapeutic targets and treatments for disorders in which ischemia is a central component.
Presenter Biographies

Session: 7-5
**Erika Sasaki**, Keio University

Dr. Erika Sasaki, Central Institute for Experimental Animals, is known for being the first who successfully modified genes of marmosets, a small primate species, and generated transgenic marmosets. A transgenic animal is an animal in which foreign genes are introduced by genetic engineering techniques. She is working on establishing human disease models in transgenic marmosets that will serve for preclinical trial systems for examining the safety and efficacy of drugs and treatments in a highly accurate manner. *Sponsorship provided by Precision-Nano*

Session: 8-1
**Kristen Pickett**, University of Wisconsin Madison

Dr. Pickett is an Assistant Professor in the departments of Kinesiology and Occupational Therapy at the University of Wisconsin, Madison, where she leads the Sensory Motor Integration Lab. The focus of her lab is in understanding the role of the brain in sensory and motor control of human movement using a combination of clinical, biomechanical and neural imaging measures. The clinical/translational component of her research examines neurological populations that manifest both gross and fine motor control and sensory abnormalities such as those seen in Parkinson disease and dystonia.

Session: 8-2
**Kristen Sowalsky**, Applied Neuromechanics Laboratory, University of Florida-Gainesville

Dr. Kristen Sowalsky’s work has focused on the enhancement of human movement performance for many years. She holds a Bachelor's degree in Exercise Science, practiced as a Chiropractic Physician for six years, and recently attained her Ph.D. in Health and Human Performance. Her research at the University of Florida is targeted at optimizing therapies and alternative treatment strategies to improve mobility in people with movement disorders, primarily those with Parkinsonism. Her personal interests and experiences have inspired her to investigate the effects of rhythm, music, and dance on people with Parkinson’s disease. In her free time, Kristen teaches latin dance at Salsa Mundial in Gainesville, Florida. *Sponsorship provided by Florida Hi-Tech Corridor Council*
# Conference Agenda

**Friday, April 28th 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30 am to 01:00 pm</td>
<td>Platform Presentations – Beach/Gulf</td>
</tr>
<tr>
<td>07:30 am to 08:30 am</td>
<td>Conference Registration – Lobby II</td>
</tr>
<tr>
<td>08:30 am to 09:00 am</td>
<td>Continental Breakfast – Palm</td>
</tr>
<tr>
<td>08:30 am to 09:00 am</td>
<td>Opening Remarks – Travel Award Presentations</td>
</tr>
<tr>
<td>09:00 am to 10:00 am</td>
<td>Session I – <em>Presidential Keynote Address</em></td>
</tr>
<tr>
<td>10:00 am to 11:20 am</td>
<td>Session II – “At a Crossroads: Are Mechanisms of Neurodegeneration Similar Between Diseases?”</td>
</tr>
<tr>
<td>11:20 am to 11:30 am</td>
<td>Morning Break – Refreshments Provided – Palm</td>
</tr>
<tr>
<td>11:30 am to 01:00 pm</td>
<td>Session III – “Teaming Up for Disease Clues: The Search for Biomarkers”</td>
</tr>
<tr>
<td>01:00 pm to 03:00 pm</td>
<td>Free Time</td>
</tr>
<tr>
<td>03:00 pm to 05:30 pm</td>
<td>Conference Registration – Lobby II</td>
</tr>
<tr>
<td>03:00 pm to 04:20 pm</td>
<td>Session IV – <em>Visualizing the Target: New Imaging Resources for Neurological Disorders</em></td>
</tr>
<tr>
<td>04:20 pm to 04:30 pm</td>
<td>Afternoon Break – Refreshments Provided – Palm</td>
</tr>
<tr>
<td>04:30 pm to 06:30 pm</td>
<td>Session V – <em>From the Beginning: The Impact of Early Neurological Disease</em></td>
</tr>
</tbody>
</table>
Ned H. Kalin, MD, is Hedberg Professor and Chairman of the Department of Psychiatry at the University of Wisconsin School of Medicine and Public Health. He is the Director of the Health Emotions Research Institute and the Lane Neuroimaging Laboratory, a Professor in the Department of Psychology at the University of Wisconsin, and an affiliate scientist at the Wisconsin Regional Primate Center and the Harlow Primate Laboratory. Dr. Kalin earned his medical degree from Jefferson Medical School in Philadelphia, Pennsylvania, did his residency in the Department of Psychiatry at the University of Wisconsin, and a fellowship in Neuropsychopharmacology at the National Institute of Mental Health. He is board certified by the American Board of Psychiatry and Neurology. He is a fellow of the American College of Neuropsychopharmacology and the American College of Psychiatry, has served as President of the International Society of Psychoneuroendocrinology, as a member of the National Advisory Mental Health Council and is Co-Editor for the Journal Psychoneuroendocrinology.

He has published over 200 peer-reviewed journal articles related to the adaptive and maladaptive expression of emotion and anxiety. His research focuses on uncovering basic mechanisms that relate stress to the development of psychopathology and to understanding the mechanisms that cause some children to be vulnerable for the development of anxiety and depression. In addition to his research activities, he treats patients who suffer from anxiety and depression who are refractory to standard treatment.

Dr. Kalin has been recognized for numerous awards including the 1985 A.E. Bennett Award for basic science research in biological psychiatry, the 2005 Edward A. Strecker Award, the 2007 American College of Psychiatrists Award for research in mood disorders, the 2007 Gerald Klerman Senior Investigator Award, and the 2015 Anna-Monika Prize of the European College of Neuropsychopharmacology. In 2013 he was inducted as a Fellow in the American Association for the Advancement of Science, and in 2015 he was elected as a member of the National Academy of Medicine. In 2017, Dr. Kalin was inducted as a Distinguished Life Fellow of the American Psychiatric Association.
At a Crossroads: Are Mechanisms of Neurodegeneration Similar Between Diseases?

10:00 am – 11:20 am

Chairs: Agnes Luo & Li-Ru Zhao

2-1 LRRK2 PATHWAYS: RELEVANCE FOR INHERITED AND SPORADIC PARKINSON’S DISEASE

*M.R. Cookson – Laboratory of Neurogenetics, National Institute on Aging, NIH*

2-2 ROLE OF INFLAMMATION AND IMMUNE RESPONSES IN AGE-RELATED NEURODEGENERATION

*M.A. Tansey – Emory University School of Medicine*

2-3 MITOCHONDRIAL UNFOLDED PROTEIN RESPONSE (mtUPR) DYSFUNCTION DURING THE PROGRESSION OF ALZHEIMER’S DISEASE

*S.E. Counts – Michigan State University*
Teaming Up for Disease Clues: 
The Search for Biomarkers

11:30 am – 1:00 pm

Chairs: Kyle Fink & Jeanette Shultz

3-1 THE ROLE OF PRECOMPETITIVE CONSORTIA, DATA SHARING AND REGULATORY SCIENCE IN CATALYZING INNOVATION FOR NEURODEGENERATIVE DISEASES
*D. Stephenson – Critical Path Institute*

3-2 THE ROAD TO THE CLINIC IS PAVED WITH SILK: THERAPEUTIC INTERVENTIONS AND METHODS OF VALIDATION
*K. Paumier – Washington University School of Medicine*

3-3 GROWTH, MORPHOLOGY, MITOCHONDRIAL, AND AUTOPHAGIC ALTERATIONS IN SPORADIC PARKINSON’S DISEASE FIBROBLASTS
*L. Madhavan – University of Arizona*
Visualizing the Target: New Imaging Resources for Neurological Disorders

3:00 pm – 4:20 pm

Chairs: Marcel Daadi & Mike Modo

4-1 MRI-GUIDED TRANSPLANTATION OF NEURAL STEM CELLS TO THE BASAL GANGLIA OF BABOONS

*M. Daadi* – Texas Biomedical Research Institute

4-2 INTRACEREBRAL DELIVERY OF INDUCED PLURIPOTENT STEM CELL-DERIVED NEURONS USING REAL-TIME INTRAOPERATIVE MRI


4-3 OVEREXPRESSING SDF-1 FOR ENHANCING THE THERAPEUTIC EFFICACY OF MSC AND NSC TRANSPLANTATIONS FOR TREATING SPINAL CORD INJURIES

*A.N. Stewart, U. Hochgeschwender, M. Lu, J. Rossignol, G.L. Dunbar* (Travel Award Winner)

4-4 ESTABLISHING EFFICACY FOR A COMBINATION OF PHYSICAL AND CELL THERAPY FOR STROKE

*F. Nitzsche, H. Ghuman, M. Gerwig, J. Moorhead, A. Poplawsky, B. Wahlberg, F. Ambrosio, M. Modo* (Travel Award Winner)
From the Beginning:
The Impact of Early Neurological Disease
David Brindley Symposium

4:30 pm – 6:30 pm

Chairs: Julien Rossignol & Evan Snyder

5-1 NONHUMAN PRIMATE MODELING OF ZIKA VIRUS VERTICAL TRANSMISSION
T.G. Golos – University of Wisconsin-Madison

5-2 ZIKA VIRUS DYSREGULATES GENE EXPRESSION AND ALTERS PROTEIN SECRETION IN NEURAL STEM CELLS
O.V. Lossia, M.O. Tree, S.C. Goldthorpe, B. Srinageshwar, G.L. Dunbar, M.J. Conway, J. Rossignol (Travel Award Winner)

5-3 BRAIN ORGANOIDS AS A MODEL FOR ZIKA INFECTION: FROM BASIC SCIENCE TO TREATMENT
A.R. Muotri – University of California San Diego

5-4 AN ENCOURAGING CLINICAL TRIAL USING AAV9 FOR CHILDREN WITH SMA
B.K. Kaspar – The Ohio State University / Nationwide Children’s Hospital
# Conference Agenda

## Saturday, April 29th 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 am to 12:30 pm</td>
<td>Platform Presentations – Beach/Gulf</td>
<td></td>
</tr>
<tr>
<td>07:00 am to 08:00 am</td>
<td>Conference Registration – Lobby II</td>
<td></td>
</tr>
<tr>
<td>08:00 am to 10:00 am</td>
<td>Continental Breakfast – Palm</td>
<td></td>
</tr>
<tr>
<td>08:00 am to 10:00 am</td>
<td>Session VI – <strong>Into the Brain: Delivery of Biologics</strong></td>
<td></td>
</tr>
<tr>
<td>10:00 am to 10:10 am</td>
<td>Morning Break – Refreshments Provided – Palm</td>
<td></td>
</tr>
<tr>
<td>10:10 am to 12:30 pm</td>
<td>Session VII – <strong>Tools and Models: A Vision for the Future</strong></td>
<td></td>
</tr>
<tr>
<td>12:30 pm to 02:30 pm</td>
<td>Free Time</td>
<td></td>
</tr>
<tr>
<td>02:30 pm to 04:15 pm</td>
<td>Conference Registration – Lobby II</td>
<td></td>
</tr>
<tr>
<td>02:30 pm to 04:00 pm</td>
<td>Session VIII – <strong>Dancing to Health</strong></td>
<td></td>
</tr>
<tr>
<td>04:00 pm to 04:15 pm</td>
<td>Afternoon Break – Refreshments Provided – Palm</td>
<td></td>
</tr>
<tr>
<td>04:15 pm to 05:30 pm</td>
<td>Session IX – <strong>Presidential Symposium</strong></td>
<td></td>
</tr>
<tr>
<td>05:30 pm to 06:15 pm</td>
<td>ASNTR Memorial Awards &amp; Business Meeting</td>
<td></td>
</tr>
<tr>
<td>07:00 pm to 10:00 pm</td>
<td>ASNTR Beach Party – Dinner &amp; Dancing (Cash Bar)</td>
<td></td>
</tr>
</tbody>
</table>
Saturday, April 29th

Into the Brain:
Delivery of Biologics

8:00 am – 10:00 am

Chairs: Corinna Burger & Kevin Nash

6-1 AN INTRANASAL GENE THERAPY FOR PARKINSON'S DISEASE AND ENHANCEMENT BY FOCUSED ULTRASOUND (FUS)

B.L. Waszczak – Northeastern University

6-2 TOWARDS RODENT AND NONHUMAN PRIMATE MODELS OF MULTIPLE SYSTEM ATROPHY

D.J. Marmion, R.J. Mandel, D. Kirik, Y. Chu, T.J. McCown, S.J. Gray, J.H. Kordower (Travel Award Winner)

6-3 ALLELE-SPECIFIC SILENCING OF MUTANT HUNTINGTIN GENE FOLLOWING INJECTION OF COMPLEXED LIPID NANOPARTICLE AND TRANSCRIPTION ACTIVATOR-LIKE EFFECTORS IN VIVO


6-4 TARGETS FOR GLOBAL BRAIN DELIVERY OF RECOMBINANT PROTEIN

D.J. Finneran, A. Pitre, C. Schuetz, D. Morgan, K.R. Nash (Travel Award Winner)

6-5 NEUROPROTECTIVE Nurr1 AGONIST THERAPY IN PARKINSON’S DISEASE: POTENTIAL OFF-TARGET IMPLICATIONS

K. Steece-Collier – Michigan State University
Tools and Models:
A Vision for the Future

10:10 am – 12:30 pm

Chairs: Brandon Harvey & Lalitha Madhavan

7-1 USING CRISPR FOR GENOME EDITING IN THE RAT BRAIN
C. Richie – National Institute on Drug Abuse, National Institutes of Health

7-2 TARGETED GENE REGULATION IN GENETICALLY-LINKED NEUROLOGICAL DISORDERS USING CRISPR/Cas9 AND TRANSCRIPTION ACTIVATOR-LIKE EFFECTORS
K. Fink – University of California, Davis Health Systems

7-3 MODULATING THE INFLAMMATION-ASSOCIATED STROKE VASCULOME WITH HUMAN ENDOTHELIAL PROGENITOR CELLS
S.A. Acosta, V.A. Guedes, J-Y. Lee, Y. Kaneko, C.V. Borlongan (Travel Award Winner)

7-4 PRIMING EFFECTS OF ENDOTOXEMIA ON NEUTROPHIL ACTIVATION, NEUROINFLAMMATION AND REPERFUSION INJURY FOLLOWING TRANSIENT GLOBAL ISCHEMIA
M.W. Halterman – University of Rochester Medical Center

7-5 GENETICALLY MODIFIED NONHUMAN PRIMATE MODEL
E. Sasaki – Keio University
Saturday, April 29th

Dancing to Health

2:30 pm – 4:00 pm

Chairs: Kristen Pickett, Koji Hosaka & Yuji Kaneko

8-1  Kristen A. Pickett, Ph.D., Assistant Professor, Kinesiology Occupational Therapy, University of Wisconsin-Madison

8-2  Kristen Sowalsky, D.C., Ph.D., Applied Neuromechanics Laboratory, University of Florida-Gainesville

8-3  DANCING TO HEALTH - Dance Therapy Demonstration and Participation
Presidential Symposium

4:15 pm – 5:30 pm

Introductions: Marina Emborg

HOW EFFICIENT IS CLINICAL TRANSLATION IN NEUROLOGY?

Jonathan Kimmelman, PhD

Jonathan Kimmelman is an Associate Professor in the Biomedical Ethics Unit / Social Studies of Medicine at McGill University, and directs the STREAM research group. His research centers on the intersection of scientific practice and ethics. Currently, Dr. Kimmelman is pursuing four main research programs: 1- study of preclinical research practices; 2- study of practices in mid-stages of clinical development; 3- development of a more robust framework for research ethics, and 4- metascience.

Dr. Kimmelman received the 2006 Maud Menten New Investigator Prize (Institute of Genetics), a CIHR New Investigator Salary Award (2008), and a Friedrich Bessel-Humboldt Fellowship (2014). He has been a commentator in numerous media outlets, including the New York Times, Globe and Mail, and BBC World Service. He also has served in an advisory capacity for the World Medical Association, FDA, and the Canadian Institute of Health Research. Dr. Kimmelman currently chairs the ethics and public policy committee of the International Society of Stem Cell Research, and was a member of the Institute of Medicine Committee on Ethics Principles and Guidelines for Health Standards for Long Duration and Exploration Spaceflights. He is a member of the National Heart Lung and Blood Institute Gene and Cell Therapy Data Safety Monitoring Board.

When not writing grants or responding to referee comments, Kimmelman can be found wandering through industrial ruins, or listening to contemporary classical music.
Saturday, April 29th

2017 Memorial Award Presentations

5:30 pm - 5:45 pm

Paul Sanberg

The Bernard Sanberg Memorial Award will be presented by the ASNTR to an individual on the basis of outstanding research contributions in the field of neural therapy and repair. The contributions may be preclinical, clinical, or work which translates basic research to clinical trials. The selection of the awardee will be based on the quality of the contribution and its impact in advancing neural repair.

The award is named for Bernard Sanberg, father of Dr. Paul Sanberg, a co-founder of the ASNTR. After Bernard Sanberg died of a stroke in 1999, the award bearing his name was established and it is now presented annually by the ASNTR to an individual who has made outstanding research contributions in the field of neural therapy and repair.

In addition, The Molly and Bernard Sanberg Memorial Award is presented periodically by the ASNTR to an outstanding scientist who has made a significant contribution to the field of brain repair.

Recent past winners of the Bernard Sanberg Award include Marina Emborg, MD, PhD, University of Wisconsin-Madison (2016); John Elsworth, PhD, Yale University (2015); Doug Kondziolka, MD, PhD NYU (2014); Michael Modo, PhD, University of Pittsburgh (2013); Timothy J. Collier, PhD, Michigan State University (2012); Roy A.E. Bakay, MD, Rush University (2011); D. Eugene Redmond, MD, PhD, Yale University (2010).

Recent past winners of the Molly and Bernard Sanberg Award include Eng Lo, Ph.D., Harvard Medical School (2016); Cesar Borlongan, PhD, University of South Florida (2015); Tom Freeman, MD, University of South Florida (2013); Sean Savitz, MD, University of Texas Medical School at Houston (2012); Steven Dunnett, PhD, Cardiff University (2010); Barry Hoffer, PhD, NIDA/NIH (2007); Patrik Brundin, MD, PhD, Lund University (2003).
ASNTR Business Meeting

5:45 pm – 6:15 pm

All members and nonmembers are strongly encouraged to attend this meeting to welcome new ASNTR officers and to become actively involved in the future direction of the society.

ASNTR BEACH PARTY

JOIN US FOR DINNER & DANCING

(CASH BAR)

7:00 pm - 10:00 pm

NAME BADGE REQUIRED FOR ADMISSION

Thank you for another great year!
**ASNTR 2017**

**Officers**

**President:**
Marina E. Emborg  
University of Wisconsin, Madison  
1223 Capitol Court  
Madison, WI 53715  
emborg@primate.wisc.edu

**President-Elect:**
Mike Modo

**Immediate Past-President:**
Cesar Borlongan

**Secretary:**
Corinna Burger

**Treasurer:**
Mike Modo

**Executive Director:**
Paul R. Sanberg

**Councilors**

Sandra Acosta  
Scott Counts  
David Eve  
Lalitha Madhavan  
Fredric Manfredsson  
Julien Rossignol  
Dustin Wakeman  
Jeannette Shultz,  
*Student Representative*

**Local Organizing Committee**

Cesar Borlongan, *Chair*  
Paula Bickford  
David Eve  
Yuji Kaneko  
Doug Shylte  
Alison Willing

**Nominations Committee**

Gene Redmond, *Chair*  
Evan Snyder  
Yang D. (Ted) Teng

**Scientific Program Committee**

Corinna Burger, *Chair*  
Marcel Daadi  
Marina Emborg  
Kyle Fink  
Brandon Harvey  
Yuji Kaneko  
Dustin Wakeman  
Fredric Manfredsson  
Mike Modo  
Julien Rossignol  
Evan Snyder

**Education Program Committee**

Fredric Manfredsson, *Chair*  
Heather Boger  
Cesar Borlongan  
Francesca Cicchetti  
Timothy Collier  
Scott Counts  
Brian Cummings  
Mike Modo  
Kevin Nash  
Jaci Sagen  
Maj-Linda Selenica  
Paul Stroemer  
Beth Vernaleo

❖ **ASNTR Cover and T-Shirt designed by Sydney Corey ❖

---

**ASNTR Past Presidents**

<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
<th>Name</th>
<th>Years</th>
<th>Name</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>John R. Sladek</td>
<td>94/95</td>
<td>Lotta Granholm-Bentley</td>
<td>01/02</td>
<td>Evan Y. Snyder</td>
<td>08/09</td>
</tr>
<tr>
<td>Paul R. Sanberg</td>
<td>95/96</td>
<td>D. Eugene Redmond, Jr.</td>
<td>02/03</td>
<td>Kathy Steece-Collier</td>
<td>09/10</td>
</tr>
<tr>
<td>Jeffrey H. Kordower</td>
<td>96/97</td>
<td>Thomas B. Freeman</td>
<td>03/04</td>
<td>Daniel J. Peterson</td>
<td>10/11</td>
</tr>
<tr>
<td>William J. Freed</td>
<td>97/98</td>
<td>Paul M. Carvey</td>
<td>04/05</td>
<td>Paula C. Bickford</td>
<td>11/12</td>
</tr>
<tr>
<td>Ole Isacson</td>
<td>98/99</td>
<td>Walter C. Low</td>
<td>05/06</td>
<td>Howard J. Federoff</td>
<td>12/13</td>
</tr>
<tr>
<td>Martha C. Bohn</td>
<td>99/00</td>
<td>Paul J. Reier</td>
<td>06/07</td>
<td>Yang D. (Ted) Teng</td>
<td>13/14</td>
</tr>
<tr>
<td>Roy A.E. Bakay</td>
<td>00/01</td>
<td>Timothy J. Collier</td>
<td>07/08</td>
<td>Gary L. Dunbar</td>
<td>14/15</td>
</tr>
</tbody>
</table>
Make plans now to join us next year!

April 25-29th
2018

25th annual meeting of the America Society for Neural Therapy and Repair
Held in conjunction with the
15th International Meeting on Neural Transplantation and Repair
The meeting is hosted by ASNTR and jointly sponsored by ASNTR and our European colleagues in NECTAR

Sheraton Sand Key Resort
Clearwater Beach, FL, USA

www asntr org