



Stroke News

INSIDE RESEARCHERS EXPLORE TRANSLATIONAL RESEARCH **PAGE 3** CED TALKS PACKAGE
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Wednesday, January 24, 2018

Acute Ischemic Stroke Guidelines 2018 released today

The Acute Ischemic Stroke Guidelines 2018 — presented today in a one-hour session in Hall K— will change the way clinicians treat large vessel/severe strokes.

The session will cover four main areas that will have implications for your practice and patients:

- 1:35-1:45 p.m.**
Systems of Care
Speaker: Opeolu M. Adeoye, MD, University of Cincinnati Gardner Neuroscience Institute, Neurocritical Care Program, Cincinnati, Ohio
- 1:45-1:55 p.m.**
IV Thrombolysis
Speaker: Alejandro A. Rabinstein, MD, Mayo Clinic, Rochester, Minnesota
- 1:55-2:05 p.m.**
Endovascular Treatment
Speaker: Thabele M. Leslie-Mazwi, MD, Massachusetts General Hospital, Boston, Massachusetts
- 2:05-2:15 p.m.**
In-Hospital Care
Speaker: William J. Powers, MD, Department of Neurology, University of North Carolina School of Medicine, Chapel Hill, North Carolina

To allow more time to answer your questions, a Panel Discussion/Q&A Session will be held at 8:45-10:45 a.m. Thursday in Theater 411.

Stroke News on the move



Download the **Mobile Meeting Guide** app from the Apple App Store or Google Play.



Presenters shared innovative best clinical practices at Tuesday's annual State-of-the-Science Stroke Nursing Symposium. Dawn Aycock, BSN, MSN, PHD, (top right, at left), opened with a discussion on the Council on Cardiovascular and Stroke Nursing (CVSN). Kathy J. Morrison, MSN, RN, CNRN, SCRN, FAHA, (left) helped to close the session with a focus on the Bundled Payments for Care Improvement (BPCI) Initiative.

Stroke triage, bundled care initiative focus of nursing symposium

The State-of-the-Science Stroke Nursing Symposium shares innovative best clinical practices to optimize patient outcomes throughout the stroke continuum of care. Here are highlights from the 2018 morning session.

Implementing Mission: Lifeline into hospitals, systems of care

Because time is brain, the hospital where acute stroke patients are initially transported can be critical.

"Transporting patients with a small vessel occlusion to a hospital that can administer tPA within 60 minutes improves outcomes, including a reduction in hospital mortality and long-term disability," said Deborah Summers, MSN, RN, with Saint Luke's Health System in Kansas City. "Similarly, patients with a large vessel occlusion would benefit from treatment

at a thrombectomy-capable stroke center."

The hospital decision typically lies with EMS personnel, who are required to identify the presence of stroke and the type of stroke. Mission: Lifeline Stroke, the AHA/ASA's severity-based stroke triage algorithm, helps EMS personnel triage stroke patients.

"The intent of the algorithm was to get the right patient to the right stroke center in the right amount of time," said Lynn Hundley, MSN, RN, CCNS, with Norton Healthcare in Louisville, Kentucky. But there are still knowledge gaps with EMS providers, and to triage stroke patients

appropriately, stroke nurses must step in.

"Finding tools for your EMS to use when doing your education is critical for all of us,"

“When patients are discharged to rehab, you really don't know what happens to them after that.”

Alicia Richardson, RN, MSN

Hundley said. She suggested the app, Stroke Scales for EMS. The AHA also provides resources to help educate EMS personnel at Strokeassociation.org/HIStoolkit.

Stroke patients do best when receiving the appropriate level of care, which may not

indicate treatment at a comprehensive stroke center, according to the case studies shown.

"Acute stroke ready hospitals and primary stroke centers are the core foundation of our

see TRIAGE, page 10



JOIN US TONIGHT

for a dinner symposium.

**Wednesday,
January 24, 2018**

6:30 p.m.
Cocktail Reception
7:00 p.m.
Dinner Symposium

InterContinental
Los Angeles
Downtown

Wilshire I & II Ballroom

**PROGRAM
MODERATOR:
LEE SCHWAMM, M.D.**

Professor of Neurology,
Harvard Medical School
C. Miller Fisher endowed
Chair in Neurology
Massachusetts General Hospital
Boston, Massachusetts

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Limited space remains.

This program is limited to licensed healthcare professionals only. This event is not part of the official International Stroke Conference 2018 as planned by the International Stroke Conference Program Committee.

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Further, Together

Researchers explore new translational research in pre-conference symposium

Researchers on Tuesday addressed the failure to find a neuroprotective agent and explored alternatives to traditional translational research in a pre-International Stroke Conference 2018 symposium.

“Stroke in the Lab World: Reversing Stroke Translational Research — Bedside-to-Bench and Back Again” featured leading researchers who have successfully achieved reverse translation, starting with human samples and applying cutting-edge big data techniques to identify genes/proteins of relevance.

“I think we need an infusion of big data from a very different approach to complement forward translational research,” said Jin-Moo Lee, MD, PhD, professor of neurology at the Washington University School of Medicine in St. Louis, Missouri, and chair of the symposium.

Daniel Woo, MD, MS, co-moderator and professor of neurology at the University of Cincinnati in Ohio, agreed.

“Thus far, animal models for neuroprotection have held many promises but no deliveries,” he said. “This suggests that what works in these animal models does not translate well into humans.”

The reverse-translation approach begins at the bedside, taking biofluids or cellular samples from patients with disease, and extracting big data such as genomics, transcriptomics and other -omics.

“Using these techniques, novel genes, proteins and pathways that may include risk as well as protective association with disease traits can be identified,” Lee said. “By employing the power of systems biology, much can be learned about these pathways as they relate to each other and to disease.”

Further investigation of these disease-related pathways can be explored at the lab bench by exploiting appropriate animal models and cell culture systems.

“I think we need an infusion of big data from a very different approach to complement forward translational research.”

Jin-Moo Lee, MD, PhD



Frank Sharp, MD, presented his findings on a transcriptomics approach to circulating leukocytes from stroke patients.

Frank Sharp, MD, professor of neurology at the University of California in Davis, presented “Probing biofluids to understand disease pathogenesis: a transcriptomics approach.” Sharp studies the transcriptome of circulating leukocytes from stroke patients.

“What he’s essentially doing is profiling white blood cells throughout the body,” Lee said.

“During their circulation, the leukocytes are likely changed by the environments they encounter. They go in the brain, they come

see **TRANSLATIONAL**, page 14

Hearty Humor by Jonny Hawkins



“A lot of my patients have white coat syndrome.”

More intensive recovery program may better engage stroke patients

A more intensive stroke recovery program that includes cognitive, aerobic and resistance training engages adult patients more effectively than traditional rehab programs, early results from a randomized clinical trial suggest.

The trial is part of the 2017 Bugher Collaborative reports on three centers presented Wednesday at 3 p.m. in Room 502 A.

“Our reports this year will be updates from the fourth year of the fourth cycle of the Bugher Collaborative,” said Ralph L. Sacco, MD, MS, director of the Bugher Collaborative Center at the University of Miami Miller School of Medicine and co-moderator of the session. “The three centers will be presenting updates chock full of clinically important progress on all three projects.”

The Bugher Collaborative is a unique venture sponsored by the American Stroke Association and the Bugher Foundation. Each four-year collaborative focuses on specific topics within stroke and recovery.

“There has been a lot of excitement in stroke

in recent years, but a lot of it has been in acute treatment and some considerable progress in prevention,” said Sacco, professor and Olemberg Chair of Neurology, executive director of the McKnight Brain Institute and director of the University of Miami Clinical & Translational Science Institute.

“The three Bugher Centers focus on issues related to the recovery from stroke in basic science as well as translational and clinical work. Each site has multiple projects, but the beauty and the secret ingredient is collaboration and research that crosses traditional boundaries.”

The other co-moderators are:

- Thomas Carmichael, MD, PhD, director of the University of California Los Angeles Bugher Center, is professor and Frances Stark Endowed Chair of Neurology and co-director of the UCLA Broad Stem Cell Center.
- Timothy J. Bernard, MD, director of the University of Colorado Bugher Center, is associate professor of pediatrics and co-director of the Colorado Pediatric Stroke Program.

The UCLA Bugher Center focuses on the mechanisms of white matter damage and repair using mouse models of small vessel stroke.

Small vessel disease is common in humans, but few treatments focus on recovery from small vessel disease. Researchers have identified specific pathways and genetic markers involved in white matter repair as well as specific drug targets that could alter pathways to promote repair and recovery after stroke.

The UC Bugher Center focuses on the mechanisms of recovery from pediatric stroke and how recovery may differ in adults.

Much of the work involves neuropsychological outcomes following childhood stroke and the role of lesion-specific plasticity in the developing brain. Mechanisms and pathways to recovery appear to be different. Depending on where the stroke injury occurred, recovery may follow pathways that emphasize function reorganization, a reorganization of the brain to recover lost cognitive function or local recovery of the injured region.

UM researchers are focusing on adult recovery. Expect an update on a feasibility study that compares usual recovery treatment versus a combination of intensive cognitive and physical therapy involving aerobic and resistance training.

The current study follows patients for 90 days to assess compliance with both rehab regimens. Later trials will look for signals of improved recovery.

“Patients who are randomized to usual care seem to get more bored and drop out more often,” Sacco said. “Patients in the intensive program seem to be very engaged, but follow-up will not be completed until April or May.”

“Our next frontier in improving treatment for stroke needs to focus on recovery with more research on the mechanisms of repair and cognitive outcomes in both children and adults with stroke.” ■



Ralph L. Sacco, MD, MS

Stroke News

Wednesday, January 24, 2018

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Government agencies to explain infrastructure, support of research

Stroke researchers can learn about U.S. government agencies and how to get involved during “The Role of the Government Agencies in Fostering the Stroke Innovation Ecosystem.”

The session, held Thursday at 8:45-10:15 a.m. in Room 408, will include representatives from the Food and Drug Administration, the Centers for Disease Control and Prevention, and the National Institute of Neurological Disorders and Stroke.



Clinton Wright, MD

“Here’s the place where one of the primary funders of stroke research at NIH — which is NINDS — and the CDC, the FDA, as well as the international center, Fogarty, are together to answer questions about opportunities for stroke researchers,” said Clinton Wright, MD,

director of the Division of Clinical Research at NINDS.

Wright will present NINDS Funding for Clinical Stroke Research focusing on StrokeNet, a clinical trial network made up of 25 regional centers and more than 200 hospitals in the United States that conduct clinical trials and research studies to advance acute stroke treatment, stroke prevention, and recovery and rehabilitation following a stroke. StrokeNet is the infrastructure and pipeline for new potential treatments for stroke patients and those at risk for stroke.

“We want researchers to know how to get access to the network to propose clinical trials,” Wright said. “It can be a phase II trial, it can be a phase III trial, it can be a biomarker study. We’ll tell them about the mechanisms and how to get involved in StrokeNet.”

Robert Merritt, health scientist at the CDC, will discuss the evolution of the Paul Coverdell National Acute Stroke Program, which

began 16 years ago as a registry focused on stroke patient quality of care data in the hospital setting. Today, the program spans the full care continuum that begins in the community and moves through emergency services, hospitalization, discharge coordination and rehabilitation.

“The program is built in a way that new technologies, new treatments can be worked into this continuum of care,” Merritt said. “You can be more adept at responding to changes in practice guidelines or new data

because it’s not tied to one treatment per se, it’s tied to a set of treatment outcomes that are agreed upon by the AHA, the Joint Commission and CDC. So you’re always in good company.”

Merritt also will follow up on the CDC’s VitalSigns report from September, which examined the stall in progress of the decline in stroke deaths.

International researchers will be especially interested in “International Stroke Research:

Partnering with NIH,” presented by Claudia Moy, PhD, acting director of the NINDS Office of International Activities.

The Fogarty International Center at the NIH supports and facilitates global health research conducted by U.S. and international investigators. Its signature initiative — the Global Brain Disorders Research grant program — has provided support for research and capacity building in low- and middle-income countries since 2003.

“Awards made through this program to U.S. institutions and their partner institutions in sub-Saharan Africa and other regions have provided opportunities to address questions of barriers to care, testing prevention strategies and improving outcomes,” Moy said. “This is information that will help reduce the burden of stroke in the affected populations and may translate to other populations and settings.”

Carlos Peña, PhD, MS, director of the Division of Neurological and Physical Medicine Devices at the FDA, will speak on “Navigating the FDA Regulatory Landscape for Stroke Devices.” ■

UPCOMING SESSION

The Role of the Government Agencies in Fostering the Stroke Innovation Ecosystem
8:45-10:15 a.m. • Thursday
Room 408

ISC 2018 ABSTRACT CATEGORIES

- Acute Endovascular Treatment
- Acute Neuroimaging
- Acute Nonendovascular Treatment
- Aneurysm
- Basic and Preclinical Neuroscience of Stroke Recovery
- Cerebral Large Artery Disease
- Clinical Rehabilitation and Recovery
- Community/Risk Factors
- Diagnosis of Stroke Etiology
- Emergency Care/Systems
- Experimental Mechanisms and Models
- Health Services, Quality Improvement and Patient-Centered Outcomes
- In-Hospital Treatment
- Intracerebral Hemorrhage
- Nursing
- Pediatric Stroke
- Preventive Strategies
- SAH and Other Neurocritical Management
- Vascular Biology in Health and Disease
- Vascular Cognitive Impairment
- Vascular Malformations
- Late-Breaking Science

CED Talks package stroke wisdom in breezy, brainy presentations



CED Talks provide a brief format to highlight key insights from industry experts.

Cerebrovascular Education and Discovery Talks return to ISC 2018 with more insights from experts in basic and clinical science in stroke.

Inspired by the popular TED Talks, the four 15-minute CED Talks at 3-4 p.m. Wednesday in Room 151 will be punctuated with snappy visuals and examples by winners of prestigious ISC awards.

The speakers are:

- Donna M. Ferriero, MD, director of the Neonatal Brain Disorder Laboratories, co-director of the Newborn Brain Research Institute at the University of California San Francisco and the 2010 Thomas Willis Award winner, will present “Neonatal Stroke: Little Brains, Big Consequences.”

Ferriero’s laboratory has been critical in defining the role of oxidative stress during hypoxia-ischemia and the relationship of selectively vulnerable populations of neural cells during maturation-dependent injury.

- Thomas G. Brott, MD, professor of neurology and director of research at the Mayo Clinic in Jacksonville, Florida, and 1997 winner of the William M. Feinberg Award for Excellence in Clinical Stroke, will present “Free Fallin’ — Can the Megadrop in Stroke Mortality Continue?”

As the decline in stroke mortality has flattened out, there are concerns about population trends, said Bruce Ovbiagele, MD, ISC 2018 program chair.

“There has been anticipation that with diabetes and obesity and the aging population, how are we going to be able to further affect stroke mortality?” he said. “The other aspect of it is that stroke disproportionately affects ethnic minorities as the population demographically changes race/ethnic-wise.”

- Philip Bath, MD, chair and head of the Division of Clinical Neuroscience at the University of Nottingham in the United Kingdom and 2016 winner of the William M. Feinberg Award, will present “Blood Pressure in Acute Stroke: To Treat or Not to Treat — That Is Still the Question.”

“It’s a burning question and may be a little bit surprising that we haven’t gained broader

insight into this issue,” Ovbiagele said. “The issue is, how much do you reduce the blood pressure and for how long?”



Bruce Ovbiagele, MD

- A.M. Hakin, MD, director of neuroscience research at Ottawa Hospital Research Institute in Canada and the 2007 Thomas Willis Award winner, will present “Small Vessel Disease — A Major Health Challenge and Opportunity.”

As the cause of most strokes, cerebral small vessel disease has a substantial health impact, Ovbiagele said.

“The good news, of course, is we think it is rather treatable because it correlates with all the established risk factors that we know and that we are supposed to address, but it’s how to prevent it before it actually begins to cause any overt or covert issues.”

Miguel A. Perez-Pinzon, PhD, director of the Cerebral Vascular Disease Research Center at the University of Miami, and Ovbiagele will moderate the talks. ■

UPCOMING SESSION

CED Talks
3-4 p.m. • Wednesday
Room 151

Novel therapies offer hope for managing ICH

Translational research is altering every step of managing intracranial cerebral hemorrhage — from ambulance to emergency room to pharmacologic and surgical treatments.

“For half of all stroke patients, the first medical person they see is a paramedic,” Nerses Sanossian, MD, said in “Stroke in the Real World: There Will Be Blood,” a Tuesday pre-ISC 2018 symposium. “Paramedics have a unique opportunity to alter the course of stroke.”

Sanossian, associate professor of neurology and director of the Roxanna Todd Hodges Stroke Program at the University of Southern California Keck School of Medicine, said early recognition and treatment of ICH is key. Although half of ICH patients show visible signs of deterioration between the first assessment in the ambulance and the first assessment in the ER, paramedics identify fewer than a quarter of ICH patients. And patients with ICH are more likely to have worse outcomes.

A simple Glasgow Coma Score assessment in the ambulance and again in the ER may help. The FAST-MAG trial in Los Angeles found that a one-point change in GCS between ambulance assessment and ER assessment identifies 85 percent of ICH patients. A two-point change identifies 91 percent of ICH patients.

Starting treatment before admission saves minutes and brain function, he said. Ambulance-based treatment could slow or delay hematoma expansion, provide supportive care and offer neuroprotection. The question is how to take advantage of these pre-admission steps.

As an example, standard ambulance personnel aren’t trained to administer thrombolytic agents for acute ischemic stroke. They



Daniel F. Hanley, MD, FAHA, (above) noted that “clot volume removed is proportional to benefit.”

may be able to treat elevated blood pressure using existing agents such as nitroglycerin patches and minocycline.

“Early and aggressive lowering of blood pressure is a good hypothesis, but there is no evidence to support its use in the real world,” Sanossian said. “Not yet.”

Stabilization and triage in the ER is the next step. Early imaging should guide diagnosis and treatment.

“Aggressive therapy is needed in that first golden hour,” said Kyle B. Walsh, MD, MS, associate professor of emergency medicine at the University of Cincinnati.

AHA guidelines call for a target blood pressure of 140 or lower for most ICH patients, as well as anticoagulation using warfarin or direct acting anticoagulants, vitamin K antagonists and fresh frozen plasma or prothrombin complex concentrates. Factor VIIa is not recommended due to lack of evidence for efficacy.

Current data suggest transferring patients from the ER to a tertiary care center or a neurologic ICU.

“For half of all stroke patients, the first medical person they see is a paramedic. Paramedics have a unique opportunity to alter the course of stroke.”

Nerses Sanossian, MD



Guohua Xi, MD, spoke regarding the size of the hematoma and its effect on outcomes. Nerses Sanossian, MD, (right) opened the session, addressing the need for early detection of ICH, beginning with paramedic response.

Treating ICH still offers more questions than answers. The usual progression is hematoma expansion, brain edema, necrosis and brain atrophy. The mechanisms involved are beginning to emerge.

“The size of the hematoma is the most important factor,” said Guohua Xi, MD, professor of neurosurgery and Richard C. Schneider Research Professor at the University of Michigan. “The larger the hematoma, the worse the outcome.”

Erythrocyte lysis, hemoglobin degradation, iron overload, toxic plasma proteins and white blood cells are all potentially druggable targets.

Surgical removal of the hematoma is another option.

“If there is less clot, we might be in better shape regardless of what biochemical approach we might be using,” said Daniel F.

Hanley, MD, FAHA. “The evidence is incomplete, but pretty darn good that clot volume removed is proportional to benefit.”

The three options for clot removal are craniotomy, endoscopy and minimally invasive surgery. It’s not clear which method is more appropriate for which patients.

“The removal of clots is probably the way to go,” said Mario Zuccarello, MD. “Today, we don’t know if minimally invasive is better than craniotomy.”

Craniotomy subjects the brain to more surgical trauma, but removes more clot, he said. Minimally invasive surgery causes less trauma, but removes less clot, has a steep learning curve and requires expensive equipment available in only a few academic centers.

“MIS will have a role, but the key is early treatment that removes as much clot as possible,” Zuccarello said. ■



IMPROVE: Stroke Care in China leaders from the Chinese Stroke Association and the American Stroke Association met Tuesday at ISC to discuss implementing a stroke quality improvement program modeled after Get With The Guidelines-Stroke.

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ISC honors awardees

The ISC Main Event Sessions will feature lectures by the Feinberg, Sherman and Willis award recipients. The ISC Stroke Research Mentor Award will be presented during the Late-Breaking Science Concurrent Oral Abstract Session.

Six ISC abstract-based awards will be presented to the award recipients in the concurrent oral abstract session in which their abstract is being presented. These ISC awards honor investigators for their stroke-related research. Abstract-based awards also provide opportunities for funding to attend ISC for junior investigators.

Late-Breaking Science Oral Abstracts

Thursday, Jan. 25
3:30-3:33 p.m.

Room 151

Stroke Research Mentor Award

Dawn Kleindorfer, MD, FAHA

University of Cincinnati
Cincinnati, Ohio

This annual award recognizes the outstanding achievements in the mentoring of future generations of researchers in the field of cerebrovascular disease.



Opening Main Event

Wednesday, Jan. 24
11-11:20 a.m.

Hall K

Thomas Willis Lecture

Jun Chen, MD, FAHA

University of Pittsburgh
School of Medicine
Pittsburgh, Pennsylvania

“Mechanistic Research to Identify Novel Targets for Stroke Therapy: The Dawn of a New Era of Integrative Approaches”
This award recognizes contributions to the investigation and management of stroke — basic science.



Thursday Main Event

Thursday, Jan. 25
10:35-11 a.m.

Hall K

William M. Feinberg Award for Excellence in Clinical Stroke

Joanna M. Wardlaw, MB ChB(Hons), MD, FRCP, FRCP, FRSE, FMedSci, FAHA, CBE

University of Edinburgh
Edinburgh, Scotland

“Small Vessel Disease: A Big Problem, but Fixable”
This award honors contributions to the investigation and management of stroke — clinical science.



Closing Main Event

Friday, Jan. 26
11:33-11:53 a.m.

Hall K

David G. Sherman Lecture

Walter J. Koroshetz, MD

National Institute of Neurologic Disorders and Stroke
Bethesda, Maryland

“Stroke Science: Back to the Future”
This award recognizes lifetime contributions to investigation, management, mentorship and community service in the stroke field.



ISC ABSTRACT-BASED AWARDS

SAH and Other Neurocritical Management Oral Abstracts

Wednesday, Jan. 24
9:45 a.m.

Room 515 B

Stroke Basic Science Award

Han-Gil Jeong, MD

Seoul, Republic of Korea

Biocompatible, Aminocaproic Acid Stabilized Ceria Nanoparticles Rescue the Injured Brain After Subarachnoid Hemorrhage (40)

This award encourages investigators to undertake or continue stroke research in basic or translational science, and it must be laboratory-based.



Clinical Rehabilitation and Recovery Oral Abstracts II

Wednesday, Jan. 24
1:30 p.m.

Room 408

Stroke Rehabilitation Award

Steven Warach, MD, PhD

Austin, Texas

Validation of an Ordinal, Six-Item Functional Outcome Scale for Speech and Language Disability in Stroke: The Austin Speech Labs Communication Disability Scale (42)

This award encourages investigators to undertake or continue research and/or clinical work in the field of stroke rehabilitation and submit an abstract to the International Stroke Conference.



Emergency Care/Systems Oral Abstracts II

Thursday, Jan. 25
7:12 a.m.

Room 408

Stroke Care in Emergency Medicine Award

Brittany Megan Bogle, PhD

Chapel Hill, North Carolina

Using Discrete Event Simulation to Assess the Regionally Specific Impact of the Severity-Based Stroke Triage Algorithm for EMS on Patient Outcomes and Overtriage (93)

This award encourages investigators to undertake or continue research in the emergent phase of acute stroke treatment and submit an abstract to the International Stroke Conference.



Acute Neuroimaging Oral Abstracts II

Thursday, Jan. 25
8:45 a.m.

Room 515 A

Mordecai Y.T. Globus New Investigator Award in Stroke

Edrich J. Rodrigues, MBChB

Melbourne, Australia

CT Perfusion Mismatch Identifies More Thrombectomy Patients Than Clinical Core Mismatch (113)

This award recognizes Dr. Mordecai Y.T. Globus' major contributions to research in cerebrovascular disease and his outstanding contributions to the elucidation of the role of neurotransmitters in ischemia and trauma; the interactions among multiple neurotransmitters; mechanisms of hypothermic neuroprotection; and the role of oxygen radical mechanisms and nitric oxide in brain injury.



Vascular Cognitive Impairment Oral Abstracts

Thursday, Jan. 25
1:42 p.m.

Room 515 A

Vascular Cognitive Impairment Award

Ken Uekawa, MD

New York, New York

CD36 in Perivascular Macrophages Contributes to Neurovascular and Cognitive Dysfunction and Amyloid Angiopathy in Mice Overexpressing the Alzheimer A β Peptide (149)

This award encourages investigators to undertake or continue research or clinical work in the field of vascular cognitive impairment and submit an abstract to the International Stroke Conference.



Community/Risk Factors Oral Abstracts I

Friday, Jan 26
8 a.m.

Room 515 B

Robert G. Siekert New Investigator Award in Stroke

Eliza C. Miller, MD

New York, New York

Preeclampsia and Early Stroke Incidence in the California Teachers Study (174)
In recognition of Dr. Robert G. Siekert, founding chair of the American Heart Association's International Conference on Stroke and Cerebral Circulation, this award encourages new investigators to undertake or continue stroke-related research.



ISC 2019 AWARD NOMINATIONS

AHA Members: Submit your nominations for the ISC 2019 Feinberg, Sherman, Willis and Research Mentor awards.

Nomination Period Opened:
Wednesday, Jan. 24, 2018

Nomination Period Closes:
Wednesday, June 27, 2018

Go to strokeconference.org/awardsandlectures for more information.

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1. ICM Competitive Comparison Guide. Medtronic data on file. 2017.
2. Sanna T, Diener HC, Passman RS, et al. Cryptogenic stroke and underlying atrial fibrillation. N Engl J Med. June 26, 2014; 370(26):2478-2486.

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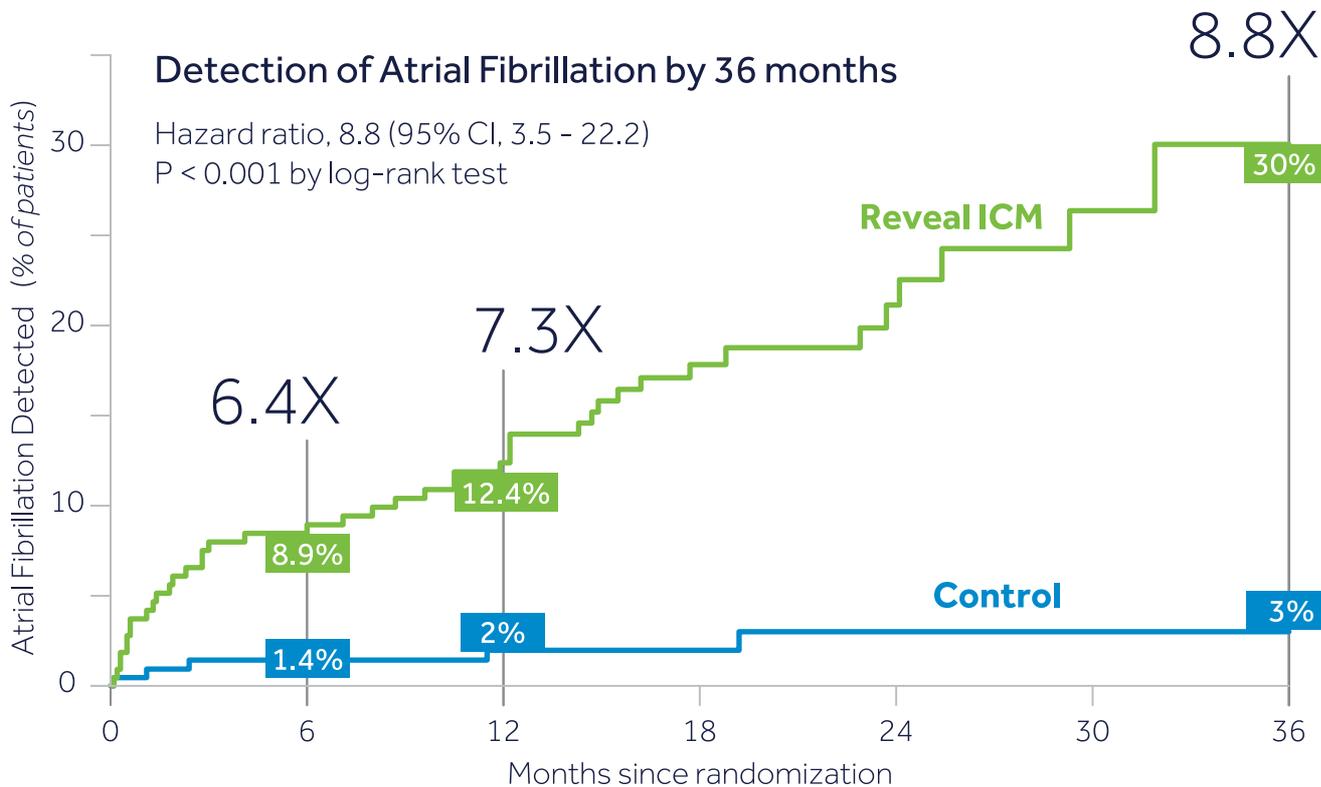
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of patients who had AF would have been missed if only monitored for 30 days²

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INDICATIONS: REVEAL LINQ™ LNQ11 Insertable Cardiac Monitor: The Reveal LINQ Insertable Cardiac Monitor is an implantable patient-activated and automatically-activated monitoring system that records subcutaneous ECG and is indicated in the following cases: • patients with clinical syndromes or situations at increased risk of cardiac arrhythmias • patients who experience transient symptoms such as dizziness, palpitation, syncope, and chest pain, that may suggest a cardiac arrhythmia. This device has not been specifically tested for pediatric use. **Patient Assistant:** The Patient Assistant is intended for unsupervised patient use away from a hospital or clinic. The Patient Assistant activates the data management feature in the Reveal Insertable Cardiac Monitor to initiate recording of cardiac event data in the implanted device memory. **CONTRAINDICATIONS:** There are no known contraindications for the implant of the Reveal LINQ Insertable Cardiac Monitor. However, the patient's particular medical condition may dictate whether or not a subcutaneous, chronically implanted device can be tolerated. **WARNINGS/PRECAUTIONS: REVEAL LINQ™ LNQ11 Insertable Cardiac Monitor:** Patients with the Reveal LINQ Insertable Cardiac Monitor should avoid sources of diathermy, high sources of radiation, electrosurgical cautery, external defibrillation, lithotripsy, therapeutic ultrasound and radiofrequency ablation to avoid electrical reset of the device, and/or inappropriate sensing as described in the Medical procedure and EMI precautions manual. MRI scans should be performed only in a specified MR environment under specified conditions as described in the Reveal LINQ MRI Technical Manual. **Patient Assistant:** Operation of the Patient Assistant near sources of electromagnetic interference, such as cellular phones, computer monitors, etc., may adversely affect the performance of this device. **POTENTIAL COMPLICATIONS:** Potential complications include, but are not limited to, device rejection phenomena (including local tissue reaction), device migration, infection, and erosion through the skin. See the device manual for detailed information regarding the implant procedure, indications, contraindications, warnings, precautions, and potential complications/adverse events. For further information, please call Medtronic at 1-800-328-2518 and/or consult Medtronic's website at www.medtronic.com. **CAUTION:** Federal law (USA) restricts this device to sale by or on the order of a physician.

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Poster tours, sessions kick off today

SC 2018 offers two types of poster sessions: Professor-Led Poster Tours and one-on-one Q&A Poster Presentations.

Choose from 10 Professor-Led Poster Tours at 5:30-6:30 p.m. today. Expert moderators will lead these tours, which are organized by category; they provide a short presentation and Q&A with each of the poster authors in that section. To take part, simply review the Poster Abstracts section of the Final Program (page 54) or view the Moderated Poster Sessions on the Mobile Meeting Guide app. Decide which section/category of posters you would like to attend. Then, at 5:20 p.m., arrive at the correspondingly numbered "Section" sign for your selected section/category. Headsets will be available for ease of listening to the presenters.

During the Regular Poster Sessions, presenters will be at their posters for informal Q&As with attendees at 6:30-7 p.m. today. These one-on-one sessions are not a part of the earlier Professor-Led Poster Tours. To see the posters featured in today's Regular Poster Sessions, go to page 62 of the Poster Abstracts section of the Final Program or view the Poster Sessions on the Mobile Meeting Guide app.

Posters also will be available for viewing in the Poster Hall (Hall H) at 8 a.m.-7 p.m. today and Thursday. See Thursday's *Stroke News* for details on Thursday's Professor-Led Poster Tours and Regular Poster Sessions.

Please see page 53 of the Final Program for the Poster Hall map. ■

Professor-Led Poster Tours 5:30-6:30 p.m.

Posters WMP1-WMP120

1. Acute Endovascular Treatment Moderated Poster Tour I
2. Acute Neuroimaging Moderated Poster Tour
3. Aneurysm & SAH and Other Neurocritical Management Moderated Poster Tour
4. Cerebral Large Artery Disease Moderated Poster Tour
5. Community/Risk Factors Moderated Poster Tour I
6. Diagnosis of Stroke Etiology Moderated Poster Tour
7. Experimental Mechanisms and Models Moderated Poster Tour
8. Health Services, Quality Improvement and Patient-Centered Outcomes Moderated Poster Tour I
9. Intracerebral Hemorrhage Moderated Poster Tour
10. Nursing & Vascular Biology in Health and Disease Moderated Poster Tour

Regular Poster Sessions 6:30-7 p.m.

Posters WP1-WP427

These posters are not included in the 5:30 p.m. Professor-Led Poster Tour Session.

- Acute Endovascular Treatment Posters I
- Acute Neuroimaging Posters I
- Acute Nonendovascular Treatment Posters I
- Aneurysm Posters I
- Basic and Preclinical Neuroscience of Stroke Recovery Posters I
- Cerebral Large Artery Disease Posters I
- Clinical Rehabilitation and Recovery Posters I
- Community/Risk Factors Posters I
- Diagnosis of Stroke Etiology Posters I
- Emergency Care/Systems Posters I
- Experimental Mechanisms and Models Posters I
- Health Services, Quality Improvement and Patient-Centered Outcomes Posters I
- In-Hospital Treatment Posters I
- Intracerebral Hemorrhage Posters I
- Nursing Posters I
- Pediatric Stroke Posters I
- Preventive Strategies Posters I
- Vascular Biology in Health and Disease Posters I
- Vascular Cognitive Impairment Posters I
- Vascular Malformations Posters I
- Late-Breaking Science Posters I

TRIAGE

continued from page 1

systems of care," said Jean D. Luciano, NP, with Penn Medicine in Philadelphia.

Bottom line on bundled payments for care improvement program

A focus on a contractual agreement that health systems voluntarily enter into with CMS, including financial and performance accountability for episodes of care, rounded out the morning session.

The Bundled Payments for Care Improvement Initiative incentivizes health systems to work together to be more efficient about post-acute care. BPCI data can help hospitals spot trends, such as an increase in hospital readmissions from an acute care facility at specific times, such as on weekends. It may lead to higher quality and more coordinated care at a lower cost to Medicare — and it may be a wave of the future, according to Kathy J. Morrison, MSN, RN, CNRN, SCR, FAHA, a certified stroke nurse with Penn State Hershey Medical Center.

BPCI resulted from the need to better prepare patients for discharge, because outcomes data showed that nearly two-thirds of Medicare beneficiaries discharged after ischemic stroke died or were re-hospitalized within one



Attendees discuss presented material following Tuesday's State-of-the-Science Stroke Nursing Symposium on Bundled Payments for Care Improvements.

year because of comorbidities, Morrison said.

Medical centers participating in BPCI are required to establish a structure and processes with skilled facilities that focus on key metrics, including length of stay, readmission rates at the skilled facility and complications. Hospitals partner with post-acute care facilities to comply with best practices for hospital discharge and follow-up care.

Representatives from Penn State Health and Kiersten Espallat, DNP, APN, from

Vanderbilt University Medical Center, presented the outcomes of their hospital's experience with BPCI. Financially, the results were mixed, but patient outcomes improved across the board.

"When patients are discharged to rehab, you really don't know what happens to them after that," said Alicia Richardson, RN, MSN, stroke program coordinator for Penn State Health. "The bundle makes everyone work together, resulting in better care." ■

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Renew or join as a professional member today to make a difference.

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<https://professional.heart.org/professional>

‘Game of Strokes’ returns to ISC 2018 after triumphant debut last year

“**G**ame of Strokes” — inspired by the HBO drama series “Game of Thrones” — will return to the International Stroke Conference 2018.

Bruce Ovbiagele, MD, this year’s ISC program chair and “Game of Thrones” uber-fan, introduced the wildly popular and fiercely competitive session to stroke experts last year.

“I think it’s fair to say of all the things that we introduced, the ‘Game of Strokes’ was very, very, very popular,” Ovbiagele said of the standing-room-only session. “Response to the session was overwhelming to the extent that I got about three or four emails from people saying they didn’t want their sessions to go up against ‘Game of Strokes.’”

This success had led to reducing the session from 90 minutes to 60 minutes.

“We don’t want to cannibalize other coexisting sessions,” Ovbiagele said. “And we’re also trying to be careful that hopefully the people who might be drawn to ‘Game of Strokes’ would be different from the people who might want to attend sessions that are occurring concurrently.”

José Biller, MD, professor and chairman of neurology at Loyola University in Chicago



Three teams compete during the 2017 “Game of Strokes” competition.

and editor-in-chief of the *Journal of Stroke and Cerebrovascular Diseases*, will again moderate and present questions to three teams vying for the Gold Brain Trophy.

Topics will cover the natural history of stroke, stroke mechanisms, syndromes, diagnosis and treatment, and the portrayal of stroke in pop culture.

The audience can play along on the ISC 2018 Mobile Meeting App.

This year’s teams hail from Africa, Europe and the Middle East; Asia, Australia and South America; and Canada and the United States (the returning champions).

Members of the winning team will receive free registration for ISC 2019 and the coveted Gold Brain Trophy will be engraved with their team name/regions. To avoid a true “Game of Thrones” bloodbath, the trophy will reside at the AHA/ASA National Center. ■

Don’t miss these important late-breaking trials at ISC today!

Opening Main Event
10:30 a.m.–Noon
Wednesday, Jan. 24
Hall K

- 11:20 a.m.
Results of the DEFUSE 3 Study (LB1)
Gregory W. Albers, Stanford University Medical Center, Stanford, California
- 11:32 a.m.
Tenecteplase Versus Alteplase Before Endovascular Thrombectomy (EXTENDIA TNK): A Multicenter, Randomized, Controlled Trial (LB2)
Bruce C. Campbell, Royal Melbourne Hospital University of Melbourne, Parkville, Australia
- 11:44 a.m.
Magnitude of Benefit of Endovascular Thrombectomy 6–24 Hours After Onset in Acute Ischemic Stroke Patients With Clinical-Core Mismatch
Jeffrey L. Saver, Geffen School of Medicine at UCLA, Los Angeles, California





Visit the Science & Technology Hall to

AMP UP

your International Stroke Conference experience

AHA/ASA HEADQUARTERS (BOOTH 445)
Find the latest information on AHA/ASA initiatives.

SIMULATION ZONE (BOOTH 159)
The Simulation Zone in the Science & Technology Hall features two interactive displays including:

- **Body Interact** is a 3-D immersive training platform that virtualizes acute and chronic neurovascular disorders with a lifelike patient.
- The **Mentice VIST® G5 Simulator** is a portable high-fidelity endovascular simulator enabling hands-on procedural training for clinicians and medical professionals.

EXPERT THEATER (BOOTH 401)
Enjoy complimentary lunch* while learning the latest advances in stroke practices, services and technologies.

*Provided to attendees by the AHA/ASA. These events are not part of the official ISC 2018 as planned by the AHA Committee on International Stroke Programming.

SCIENCE & TECHNOLOGY HALL HOURS | Wednesday, Jan. 24: 10 a.m.–4 p.m. | Thursday, Jan. 25: 10 a.m.–4 p.m.



Did you know the AHA Patient Support Network has over 100,000 members?

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Heart.org/SupportNetwork



American Heart Association



American Stroke Association

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Visit the Science & Technology Hall to extend your clinical and professional education with interactive learning, new products and services, and networking opportunities.

Showcasing more than 90 companies Wednesday and Thursday at 10 a.m.-5 p.m., the hall lets you investigate diagnostic and monitoring equipment, clinical reporting and support services, new technology, staffing support services, education and more.

Also, stop by the American Heart Association/American Stroke Association's **HeadQuarters in Booth 445**. There, you can learn more about AHA/ASA initiatives, education, membership and publications.



2018 ISC Exhibitors

For more information about the 2018 ISC exhibitors, please refer to the **Mobile Meeting Guide app**.

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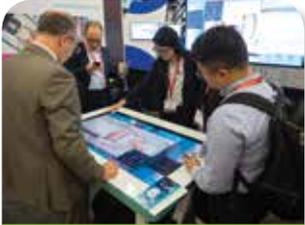
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Simulation Zone

The Simulation Zone (Booth 159) features two interactive displays:

- **Body Interact:** A 3-D immersive training platform that virtualizes acute and chronic neurovascular disorders.
- **The Mentice VIST® G5 Simulator** is a portable high-fidelity endovascular simulator enabling hands-on procedural training for clinicians and medical professionals.

Schedule

Wednesday, Jan. 24

Body Interact Sessions:
Noon | 1 p.m. | 2 p.m.

Mentice Sessions:
12:30 p.m. | 1:30 p.m.
2:30 p.m.

Thursday, Jan. 25

Body Interact Sessions:
Noon | 1 p.m. | 2 p.m.

Mentice Sessions:
12:30 p.m. | 1:30 p.m.
2:30 p.m.

See the ISC 2018 Mobile Meeting Guide app or the online ISC 2018 Program Planner for more information about the sessions.

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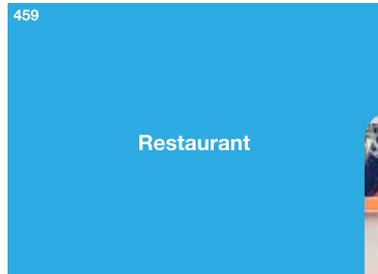
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Science & Technology Hall (Hall J)



AHA/ASA Headquarters

Learn more about AHA/ASA initiatives, education, membership and publications.

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ENTRANCE TO PLENARY →

Poster Hall

Be sure to visit the Poster Hall, located adjacent to the Science & Technology Hall in Hall H, to see more than 500 posters each day.

USE Schedule

Wednesday, Jan. 24
7-9 p.m.

PFO Closure — Addressing the Unmet Need for Reducing the Risk of Recurrent Ischemic Stroke
Sheraton Grand Los Angeles
Supported and sponsored by Abbott

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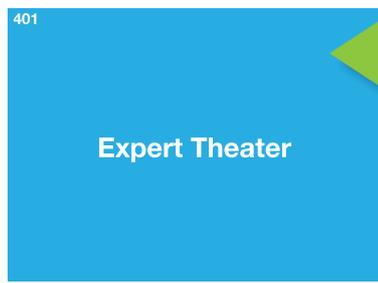
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Expert Theater

The Expert Theater offers targeted educational programs and features products and therapeutic treatments from industry supporters.

HeadQuarters Theater Schedule

Wednesday, Jan. 24

11-11:30 a.m.
Announcing the NEW Thrombectomy-Capable Stroke Center Certification Program
Presenters: Patrick Phelan and Laura Riise

Noon-1 p.m.
Stroke Journal Webinar: Infection and Stroke in Children
Presenter: Heather Fullerton, MD, MAS, University of California, San Francisco

Thursday, Jan. 25

10:15-10:45 a.m.
Acute Stroke QI Project in China
Presenter: Louise Morgan, director of International Quality Improvement

11-11:30 a.m.
Developments in Mission: Lifeline Stroke
Presenter: Peter Panagos and James Lugtu

Expert Theater Schedule

Booth 401
Enjoy complimentary lunch* while learning the latest advances in stroke practices, services and technologies.

Wednesday, Jan. 24

12:10-12:40 p.m.
Journey to ENRICH: The Evolutionary Trend Supporting Early Surgical Intervention for Intracerebral Hemorrhage
Presenters: Gustavo Pradilla, MD, assistant professor of neurosurgery at Emory University School of Medicine, chief of neurosurgery service at the Marcus Stroke & Neuroscience Center at Grady Health System in Atlanta, Georgia; Mark Bain, MD, director of the Cerebrovascular Neurosurgery Fellowship Program at The Cleveland Clinic.

Supported by NICO

Thursday, Jan. 25

12:10-12:40 p.m.
Cryptogenic Stroke — The Missing Link
Presenter: Robert Felberg, MD, medical director of the Overlook Hospital in Summit, New Jersey
Supported by Medtronic

* Provided to attendees by the AHA/ASA. These events are not part of the official ISC 2018 as planned by the AHA Committee on International Stroke Programming.

The American Heart Association would like to thank the following supporters of ISC 2018

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AHA would also like to thank the following companies for their support of ISC 2018. This support was provided in the form of educational grants
Cerenovus • Chiesi USA • Medtronic

TRANSLATIONAL

continued from page 3

out of the brain, and their transcriptome might reflect changes associated with stroke.”

Based on this transcriptome, Sharp has found that “there are unique fingerprints that can identify the underlying cause of the stroke.”

Another presentation in the symposium, “Integrating big data across the -omics — a systems biology approach,” focused on making sense of the big data coming from the bedside. Presenter Phil De Jager, MD, PhD, professor of neurology at Columbia University in New York, has used systems biology to discover and validate new therapeutics for Alzheimer’s disease.

“When you have big data sets that contain millions of SNPs, tens of thousands of genes, transcripts and proteins, you have to find ways to reduce the dimensionality of the data into smaller modules,” Lee said. “Dr. De Jager has a talent for integrating big data across the -omics and reducing it into comprehensible ideas that are biologically meaningful.”

The final two presentations brought the research back to the lab bench.

“Once you identify the targets that are relevant to disease, you might have to go back to the bench again to figure out exactly what role they’re playing — what pathways are involved — and that may involve either cell cultures or animal models,” Lee said.

Martin Dichgans, MD, director of the

Institute for Stroke and Dementia Research at Ludwig-Maximilians-University in Munich, Germany, found such a pathway. Taking a gene that had demonstrated genome-wide association with large vessel stroke (HDAC9) and knocking it out in a mouse model, Dichgans demonstrated that HDAC9 was important for the pathogenesis of atherosclerosis. Dichgans then found small molecules that inhibited this pathway, and thereby attenuated atherosclerosis.

“This line of investigation went full circle from bedside to bench, identifying a drug-able target, and hopefully back to the clinic in the not-too-distant future,” Lee said.

Adam J. Engler, PhD, associate professor of bioengineering at the University of

California in San Diego, presented “Harvesting human cells to develop ‘disease-in-a-dish.’”

Engler, who studies the heart and heart disease, has created a three-dimensional fibrillar scaffold to which cells adhere that can be customized to a variety of disease conditions. He takes skin cells from patients with heart disease caused by genetic mutation, differentiating them into heart cells using his cell culture system. He then examines the phenotypes of these cells to see if it can model the disease directly in vitro.

Throughout the pre-conference, attendees also received up-to-date information on the strongest biologic associations identified through human big data systems research as well as examples of how some of these have been explored at the bench. ■

Start Planning Now for Your Science at ISC 2019!

ISC 2019 and Nursing Symposium 2019 Call for Science Dates

Session Ideas

Suggested Session Submitter Opened: Monday, Jan. 22, 2018
Suggested Session Submitter Closes: Monday, Feb. 26, 2018

Abstracts

Submission Opens: Wednesday, May 23, 2018
Submission Closes: Tuesday, Aug. 14, 2018

Late-Breaking Science and Ongoing Clinical Trials Abstracts

Submission Opens: Wednesday, Oct. 10, 2018
Submission Closes: Wednesday, Nov. 7, 2018

The link to submit abstracts and/or session ideas can be found at strokeconference.org/submitscience on the applicable date above. Start planning now for the International Stroke Conference 2019, **Feb. 6-8**, in Honolulu, Hawaii!

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2. Visit learn.heart.org from any computer with an Internet connection.

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1. TR-NV13807 Rev A

2. Umansky, F. et al. Microsurgical anatomy of the proximal segments of the middle cerebral artery. J Neurosurg 61:458-467, 1984

3. TR-NV12180 Rev A

4. Solitaire™ Platinum 6x40 device compared to Solitaire™ Platinum 4x40 device

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