International Society for Neurovascular Disease







ISNVD 10th Annual Meeting

Vascular Contributions to Healthy Aging and Dementia

July 21 - 23, 2022

New York, NY

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Welcome to the 10th Annual Meeting of ISNVD! The International Society for Neurovascular Disease (ISNVD) is dedicated to the dissemination and review of new concepts in etiopathogenesis, novel diagnostics and modes of therapy in neuro-vasculature diseases. Targeted medical groups include, but are not limited to neurologists, neuroradiologists, vascular and interventional surgeons and radiologists, and biomedical engineers, as well as postdocs and students.

ISNVD holds annual scientific meetings and sponsors educational and scientific workshops. After a two-year break due to the pandemic, the 10th ISNVD annual meeting will be held at New York University (NYU) Grossman School of Medicine on July 21 - 23, 2022 in New York City. Featuring an eclectic mix of scientific presentations and lectures from **over 30 revered speakers**, the meeting will focus on **vascular contribution to healthy aging and cognitive impairment and dementia** (VCID) or age-related neurodegenerative diseases, with **16 extensive sessions** covering **9 educational topics**. At the meeting, young investigator awards (YIA) will be selected from early-stage investigators who will give oral presentations.

ACKNOWLEDGMENTS

President of ISNVD Yulin Ge Vice President/ Meiyun Wang

President-Elect

Conference Chair Yulin Ge **Conference Co-Chair** E. Mark Haacke

YIA Committee Kunlin Jin (Chair) **Executive Committee** Aldo Bruno

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E. Mark Haacke

Local Committee Meiyun Wang Yulin Ge (Chair)

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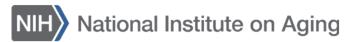
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COLLABORATION AND AWARDS

Associated Publication Promotion

1. Aging and Disease (A&D with impact factor of 9.968 in 2021)

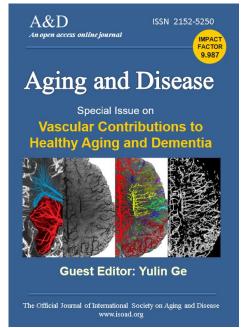
Guest Editor: Yulin Ge, M.D (<u>www.aginganddisease.org/EN/column/column230.shtml</u>)

- A special issue on "Vascular Contributions to Healthy Aging and Dementia" is now collecting article in journal of A&D.
- Meeting attendees are encouraged to submit your research work to this Special Issue.
- Please mention this special issue topic when you submit the manuscript.

Article collection: Original Research, Reviews, Opinion, Commentary, Corresponding, and Letter to the Editor etc.

Deadline: January 15 2023. You are always welcome to submit earlier to get published earlier.

Contact: Li Jiang at abstracts@isnvd.org



2. Diagnostics (Journal with impact factor of 4.1 in 2021)

Guest Editor: Prof. Paolo Zamboni, Dr. Zamboni is collecting articles for a special issue "Vascular Diseases Diagnostics" with a special rate for the 10th ISNVD Annual Meeting attendees.

Contact:

Ms. Lareina Guo, M.Sc. Section Managing Editor, Diagnostics lareina.guo@mdpi.com

Young Investigator Award (YIA)

The Young Investigator Award (YIA) at ISNVD'2022 is to inspire the promising investigators from all countries in the world to promote the neurovascular and dementia research. Three YIAs will be awarded: First place: \$600; Second place: \$400; Third place: \$300. The YIA selection will be based on the evaluation of both abstract content and presentation at the meeting.

Eligibility for YIA: (1) abstract accepted for oral presentation, (2) meeting registration, (3) young investigator with age under 35 years old, and (4) CV and a recommendation letter are required for the competition.

Day 1: Thursday, July 21

07:30	07:30 Check-In & Breakfast		
08:30	Opening Remarks & Conference Goal	Yulin Ge, M.D. President of ISNVD, Conference Chair	
08:40	Welcome to NYU	Robert I. Grossman, M.D. Dean & CEO of NYU Grossman School of Medicine, NYU Langone Health	
08:45	Welcome Remarks from ISNVD	E. Mark Haacke, Ph.D. Past President of ISNVD, Conference Co-Chair	
	Plenary Keynote Lecture		
	Moderator: E. Mark Haacke, Ph.D., Wa	ayne State University	
08:50	NINDS Programs and Vision for Vascular Contributions to Cognitive Impairment and Dementia (VCID)	Roderick A. Corriveau, Ph.D. National Institute of Neurological Disorder and Stroke (NINDS), MD	
	S1 – Vascular Anatomy & Physi	ology in Aging	
	Moderator: Hanzhang Lu, Ph.D., John	s Hopkins University	
09:20	Vascular Anatomy of the Brain: Macro and Microvasculature	Nivedita Agarwal, MD. IRCCS Scientific. Institute, Eugenio Medea, Milan, Italy	
09:40	The Role of the Vascular Endothelium in Neurovascular Coupling	Elizabeth M.C. Hillman, Ph.D. Professor, Columbia University, NY	
10:00	The Brain Vascular Connectome and Brain-Wide Arteriole Dynamics	David Kleinfeld, Ph.D. Distinguished Professor, University of California at San Diego, CA	
10:20	Vascular Physiology, White Matter Lesions, Neurodegeneration, and Alzheimer's Disease	David Salat, Ph.D. Associate Professor, Harvard Medical School, MA	
10:40	Coffee Break		

Day 1: Thursday, July 21

S2 – Vascular Contribution to Cognitive Impairment & Dementia (VCID)		
Moderator: Prashanthi Vemuri, Ph.D., Professor, Mayo Clinic, Rochester		
11:00	Vascular Cognitive Impairment: Where We Have Been and Where We Are Going	Charles S DeCarli, M.D. Distinguished Professor, University of California in Davis, CA
11:20	Cerebrovascular Reactivity as a Biomarker in VCID	Hanzhang Lu, Ph.D. Professor, Johns Hopkins University, MD
11:40	Emerging and Overlapping Rules of Hippocampal Cellular Vulnerability between Alzheimer's Disease, Vascular Disease, and Epilepsy	Arjun Masurkar, M.D., Ph.D. Assistant Professor, NYU Grossman School of Medicine, NY
12:00	S3 – Poster Se	ssion
12:40	Lunch Break	
	S4 – Genetic, Sleep, Exercise, and Dietar	ry Relations to Dementia
	Moderator: Nivedita Agarwal, M.D., IRCC	S Scientific Institute, Italy
13:30	The Intricate Relation between Genetics and Lifestyle in the Etiology of Dementia	Mohammad Arfan Ikram, M.D., Ph.D Professor, Erasmus MC Rotterdam, The Netherlands
13:50	Sleep Clues to Alzheimer's Disease	Omonigho Michael Bubu, M.D., Ph.D. Assistant Professor, NYU Grossman School of Medicine, NY
14:10	<u>Virtual:</u> Aerobic Exercise Training Reduces Central Arterial Stiffness and Improves Cerebral Blood Flow in Older Adults	Rong Zhang, Ph.D. Professor, UT Southwestern Medical Center, TX
14:30	Coffee Break	
S5 – Scientific Abstract Presentations		
	Moderator: Sagar Buch, Ph.D., Way	ne State University
14:50	Age-Dependent Cerebrospinal Fluid-tissue Water Exchange Detected by Non-Invasive Magnetization Transfer Indirect Spin Labeling MRI	Jiadi Xu, Ph.D. Associate Professor, Johns Hopkins University

15:00	Physics Linkages Between Arterial Stiffness, Cerebrovascular Flow and Cognitive Impairment	Trevor Tucker, Ph.D. The University of British Columbia, Canada	
15:10	Quantitative Relationship between Cerebrovascular Network and Neuronal Cell Types in Mice	Yongsoo Kim, Ph.D. Associate Professor, The Penn State University	
15:20	Lower Cerebral Arterial Blood Flow is Associated with Greater Serum Neurofilament Light Chain Levels in Multiple Sclerosis Patients	Dejan Jakimovski, M.D., Ph.D. Assistant Professor, Buffalo Neuroimaging Analysis Center	
15:30	Dextran-Enhanced CEST MRI Reveals the Size Effect of BBB Dysfunction Associated with Neuroinflammation	Guanshu Liu, Ph.D. Associate Professor, Johns Hopkins University	
15:40	Effect of Glycated Hemoglobin Level on Brain Clearance Morphology	Jeiran Choupan, Ph.D. Assistant Professor, Keck School of Medicine of USC	
15:50	Neurovascular Coupling is Preserved in Healthy, Aged Mice	Qingguang Zhang, Ph.D. Assistant Professor, Penn State University	
	S6 – Functional Imaging B	iomarkers	
	Moderator: J. Steven Alexander, Ph.D., LSU Health Shreveport		
16:00	White Matter Functional Connectivity: Applications in AD?	Bharat B. Biswal, Ph.D. Distinguished Professor, New Jersey Institute of Technology	
16:20	Neuroinflammation and Vascular Dementia	Kunlin Jin, Ph.D. Professor, University of North Texas Health Science Center, TX	
16:40	Acute and Post-acute COVID-19 Related Cognitive Impairment: The Relationship with Endothelial Dysfunction, Inflammation and	Jennifer Frontera, M.D. Professor, NYU Grossman School of Medicine, NY	
	Neurodegeneration	or modicine, re-	
	Neurodegeneration	or medicine, rer	
17:00	Neurodegeneration Panel Discussion: Hanzhang Lu (Lead) & all invite		
17:00 17:20			

^{*:} Please review Maps and Guides section of the program for detailed instructions

Day 2: Friday, July 22

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07:30	Check-In & Breakfast		
C7 Advanced Imaging for Neurovaccular Disease			
	S7 – Advanced Imaging for Neurovascular Disease Moderator: Gene S. Kim, Ph.D., Weill Cornell Medical College		
08:30	Seeing is Believing: Ultra-high Field MRI in Vascular and Neurodegeneration Research	Yulin Ge, M.D. Professor, NYU Grossman School of Medicine, NY	
08:50	Incorporating VCID Imaging Biomarkers in AD/ ADRD Studies	Prashanthi Vemuri, Ph.D. Professor, Mayo Clinic, Rochester, MN	
09:10	Mapping Subtle BBB Changes with Contrast and Noncontrast MRI	Danny JJ Wang, Ph.D. Professor, University of Southern California, CA	
09:30	Imaging the Vascular Elasticity in Vivo- Effects of Aging, Hypertension and Atherosclerosis	Elisa E. Konofagou, Ph.D. Professor, Columbia University, NY	
	S8 – Diabetes, Stroke, TBI 8		
	Moderator: Arjun Masurkar, M.D., Ph.D., NYU	Grossman School of Medicine	
09:50	Epidemiological Trends in Strokes	Cen Zhang, M.D. Assistant Professor, Vascular Neurology, NYU Grossman School of Medicine, NY	
10:10	The Association of Diabetes with Dementia	Zoe Arvanitakis, M.D, M.S. Professor, Rush University Medical Center, IL	
10:30	Multi-Modal Neuroimaging of Traumatic Brain Injury and Chronic Traumatic Encephalopathy	Cyrus Raji, M.D., Ph.D. Assistant Professor, Washington University in St. Louis, MO	
10:50	Coffee Break		
S9 – Advanced Imaging for Neurodegenerative Disease			
	Moderator: Danny JJ Wang, Ph.D., Unive	ersity of South California	
11:10	Applications of STAGE Imaging in Neurodegenerative Diseases	E. Mark Haacke, Ph.D. Professor, Wayne State University, MI	

11:30	Detailed Morphometry of the Human Medial Temporal Lobe in Neurodegenerative Disease	Paul Yushkevich, Ph.D. Professor, University of Pennsylvania, PA
11:50	White Matter Hyperintensities Are a Core Feature of Alzheimer's Disease: Evidence from Late Onset and Genetic Forms	Adam Brickman, Ph.D Professor, Columbia University, NY
10.10		
12:10	S10 – Poster Se	ession
12:30	Lunch Break	
	S11 – CSF Dynamics and Glym	
	Moderator: Henry Rusinek, Ph.D., NYU Gro	ssman School of Medicine
13:30	Human CSF Clearance Egress Pathways and Clinical Significance in Alzheimer's Disease	Mony de Leon, Ed.D. Professor, Weill Cornell Medicine, NY
13:50	Glymphatic System Transport Changes in Animal Dodels of Cerebral Small Vessel Disease	Helene Benveniste, Ph.D. Professor, Yale School of Medicine, CT
14:10	Probing CSF Mobility for Human Brain Clearance MRI: Water Transport across the Blood-CSF Barrier and Mobility of CSF in Perivascular Spaces	Matthias van Osch, Ph.D. Professor, Leiden University Medical Center, The Netherlands
	S12 – YIA Presentat	ions
	Moderator: Dejan Jakimovski, M.D., Ph.	D, University of Buffalo
14:30	Age Dependent Changes of Water Exchange Rate across the Blood Brain Barrier (BBB)	Xingfeng Shao, Ph.D. Assistant Professor, Keck School of Medicine of USC, CA
14:40	In Vivo Mapping of Hippocampal Venous Vasculature and Oxygen Saturation Using Dual- Echo SWI/QSM on 7T: A Potential Marker for Neurodegeneration	Chenyang Li, M.S. Ph.D. Student, NYU Grossman School of Medicine, NY
14:50	Early-Stage MRI Volumetric Differences in White Matter Hyperintensity and Temporal Lobe Volumes between Autopsy-Confirmed Alzheimer's Disease, Cerebral Small Vessel Disease, and Mixed Pathologies	Dixon Yang, M.D. Vascular Neurology Fellow, Columbia University Irving Medical Center, NY

Day 2: Friday, July 22

15:00	MRI Assessment of Cerebral Oxygen Extraction Fraction in the Medial Temporal Lobe	Dengrong Jiang, Ph.D. Instructor, Johns Hopkins University, MD
15:10	Optoacoustic Imaging of the Glymphatic System	Sarah Shaykevich, B.S. Ph.D. Student, NYU Grossman School of Medicine, NY
15:20	Predicting Animal Behavior from Multichannel Neuroimaging Data with Deep Learning	Subhrajit Das Ph.D. Student, Johns Hopkins University, MD
15:30	Coffee Break	
	Plenary Keynote Lec	cture
	Moderator: Yulin Ge, M.D., NYU Grossn	nan School of Medicine
16:00	Neurovascular Risk Factors and Dysfunction in Aging and Dementia	Constantino ladecola, M.D. Professor of Neurology at Weill Cornell Medicine, NY
	S13 – Scientific Abstract P	resentation
	Moderator: Yongxian Qian, Ph.D., NYU Gro	essman School of Medicine
16:30	A Miniaturized Multicontrast Microscope for Neurovascular Imaging in Awake Animals	Janaka Senarathna, Ph.D. Postdoc, Johns Hopkins University School of Medicine
16:38	Age-related Cerebral Medullary Artery Tortuosity Revealed by USPIO-Enhanced 7T MRI	Zhe Sun, M.S. Ph.D. Student, NYU Grossman School of Medicine
16:46	Mapping of Meningeal Vasculature in Non- Human Primates.	Liudmila Romanova, Ph.D. Rush University Medical Center, Chicago, IL
16:54	Cerebral Blood flow Dependency on Systemic Arterial Circulation in Progressive Multiple Sclerosis	Dejan Jakimovski, M.D., Ph.D. Buffalo Neuroimaging Analysis Center, NY
17:04	Improving the Estimation of Subtle Blood-Brain Barrier Permeability Changes in Aging Using a Deep Learning Approach	Jonghyun Bae, M.S. Ph.D. Student, NYU Grossman School of Medicine, NY
17:12	Structural and Morphological Remodeling of the Mural and Vascular Network in the aged Mouse Brain	Hannah C. Bennett Graduate student, Penn State University, PA

17:20	<u>Virtual:</u> Abnormal Jugular Valves are not the Sole Explanation of an Impaired Outflow from the Cranial Cavity through the Internal Jugular Veins: Eesults of in Silico Studies	Marian Simka, M.D., Ph.D. Professor, University of Opole, Opole, Poland	
17:28	<u>Virtual:</u> Plethysmography System to Monitor the Jugular Venous Pulse in Static and Dynamic Activities	Antonino Proto, Ph.D. Assistant Professor, University of Ferrara, Ferrara, Italy	
17:36	<u>Virtual:</u> Eagle Jugular Syndrome: A Morphometric Computed Study on Styloid Process Orientation	Giorgio Mantovani, M.D. University of Ferrara, Ferrara, Italy	
17:50	7:50 Panel Discussion: E Mark Haacke (Lead) & all invited speakers on Day 2.		
18:10	Adjourn		

Day 3: Saturday, July 23

07:30	07:30 Check-In & Breakfast		
	S14 – Invited Zoom Lectures		
	Moderator: Marco Muccio, NYU Grossm	nan School of Medicine	
08:30	<u>Virtual:</u> Venous Abnormalities in Neurodegenerative Diseases	Paolo Zamboni, M.D. Professor, University of Ferrara, Ferrara, Italy	
08:50	<u>Virtual:</u> ARTS: A marker of arteriolosclerosis	Konstantinos Arfanakis, Ph.D. Professor, Rush University Medical Center, IL	
09:10	<u>Virtual:</u> The Advancement of MRI in Stroke	Meiyun Wang, M.D. Professor, Henan Provincial People's Hospital, China	
09:30	<u>Virtual:</u> Neurofluid Dynamics and Neuropathologies in a Holistic Framework	Eleuterio F. Toro, Ph.D. Professor, University of Trento, Trento, Italy	
S15 – Imaging Methods for Neurodegenerative Diseases			
Moderator: Jiani Hu, Ph.D., Wayne State University			
09:50	Dynamic Contrast Enhanced MRI for Assessment of BBB: Challenges and New Opportunities	Gene S Kim, Ph.D. Professor, Weill Cornell Medical College, NY, USA	

Day 3: Saturday, July 23

10:10	In Vivo Vascular Mapping of the Human Hippocampus Using MICRO Imaging Emerging Metabolic Imaging and Spectroscopic Methods to Study Neurodegenerative Diseases	Sagar Buch, Ph.D. Assistant Professor, Wayne State University, MI, USA. Sanjeev Chawla, Ph.D.,DABMP Assistant Professor, University of	
		Pennsylvania, PA, USA	
10:50	Coffee Break		
	S16 – Imaging Methods for Neur	ofluid Dynamics	
	Moderator: Youssef Zaim Wadghiri, Ph.D., NYU	Grossman School of Medicine	
11:10	The Influence of Body Position on Cerebrospinal Fluid Circulation	David Chu, Ph.D. Chief Scientist for Advanced Applications, FONAR Corporation, NY	
11:30	Measuring Respiratory and Cardiac Influences on Blood and Cerebrospinal Fluid Flow with Real- Time MRI	Maria Marcella Laganà, Ph.D. IRCCS Fondazione Don Carlo Gnocchi ONLUS, Milan, Italy	
11:50	New Quantitative Results for the Direct Participation of the Parenchymal Vascular System in Cerebral Waste Removal	Jiani Hu, Ph.D. Professor and Co-Director of MR Research Facility, Wayne State University, MI	
12:10	CSF Bulk Flow in the Human Brain via Dynamic Sodium (23Na) MRI	Yongxian Qian, Ph.D. Assistant Professor, NYU Grossman School of Medicine	
12:30	2:30 Panel Discussion: Yulin Ge (Lead) & all invited speakers on Day 3.		
12:50	Closing Remarks & Award Ceremony (Yulin Ge, E Mark Haacke)		
13:00	Adjournment		

POSTER PRESENTATIONS

Day 1 (Thursday, July 21)	
Effects of Tortuous Geometry on the Local Hemodynamic Features: A Flow Phantom Study	Zhe Sun, M.S. PhD Student, NYU Grossman School of Medicine
The Role of TGF in Hypertension-Induced Cerebrovascular Remodeling	Randa Eshaq, Ph.D. Postdoc, LSU Health Shreveport
Relationship of Grey Matter and White Matter Changes to Visibility of Perivascular Space Across Normative Lifespan	Chenyang Li, M.S. PhD Student, NYU Grossman School of Medicine
Synthesis of the Evidence Base Relevant to the Space Radiation Environment: Exploring Vascular and Neurovascular Contributions to Dementia	Kathleen B. Miller, Ph.D. Postdoc, National Institute of Aerospace, Hampton, VA
Association between High Blood Pressure and Hippocampal Microstructural integrity in Healthy Young Adults	Junyeon Won, Ph.D. Posdoc, UT Southwestern Medical Center
Effect of Microvascular Transit on Oxygen Extraction and White Matter Lesion Burden in Older Adults	Meher R. Juttukonda, Ph.D. Assistant Professor, Harvard Medical School
Day 2 (Friday, July 22) a	at 12:10
Plasma 24-Hydroxycholesterol is Associated with Narrower Common Carotid Artery and Greater Flow Velocities in Relapsing Multiple Sclerosis	Dejan Jakimovski, M.D., Ph.D. Assistant Professor, Buffalo Neuroimaging Analysis Center
Real-Time and Cumulative Changes in Brain Blood Flow and Oxygen Metabolism in Multiple Sclerosis	Marco Muccio, M.S. NYU Grossman School of Medicine
Simultaneous Hemodynamic and Structural Imaging of Ischemic Stroke with MR Fingerprinting ASL	Hongli Fan PhD Student, Johns Hopkins University
Hyperlipidemia Decreases Neurogranin Expression in the Vasculature	Ashton Jorgensen, BS LSU Health Shreveport, LA
Plasma Sulfide Dysregulation is Associated with Decreased White Matter Integrity	Tyler H. Reekes, LSU Health Shreveport, LA
Retinal Blood Vessel Analysis Using Optical Coherence Tomography (OCT) in Multiple Sclerosis	Nicholas Young, MS University at Buffalo
Radiography-Imaging Based 3D Sacrificial Printing for Cerebrovascular Defects: Planning and Training Approaches	Nhi Dao, HS LSU Health Shreveport, LA

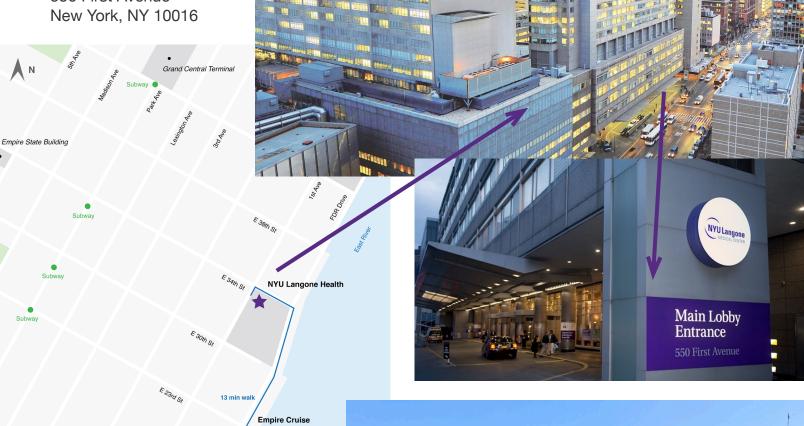
MAPS AND GUIDES

Event Location

The conference will be held at the main campus of NYU Grossman School of Medicine. Located in midtown Manhattan, the campus is easily accessible from all points in the greater New York area through the city's comprehensive public transport system (subway, buses and ferries). NYU medical campus has a long history of being the host of numerous medical conferences, workshops, and symposium.

Address:

NYU Langone Health Schwartz Lecture Hall 550 First Avenue New York, NY 10016



Empire Cruises Skyport Marina 2430 FDR Dr New York, NY 10010

Check-In and COVID-19 Policies

When you arrive at the lobby of NYU Langone Health, you are required to check in at the front desk to receive a visitor pass. At the entry, you will need to show either proof of completed vaccination, or a negative PCR test within a 72 hour period. After you receive the visitor pass, you may follow the direction for Schwartz Lecture Hall. You will then check in with the ISNVD meeting staff and receive your badge. Masks are required at clinical areas, but not required at Schwartz Lecture Hall conference rooms.

Group Photo

All in-person attendees are welcome to have a group photo taken at the conference. Please dress accrodingly (business casual). The group photo is scheduled at 5:20 pm on the first day. You will receive a digital copy of the photo after the meeting.

Opening Reception Event

After the group photo, all in-person attendees are welcome to join the opening reception event. The event will be a dinner cruise, operated by Empire Cruises, to sail along East River across lower Manhattan. Your badge is served as one (1) admission ticket to the cruise, and the company would request \$105 per one extra guest. Please note that the event includes an open bar, and only adults 21 years or older are permitted to be on board.

The boarding time starts at 6 pm, and the boat will sail at 6:30 pm. The boat will return and dock at about 9:30 pm after a three-hour sail. The port is about 13 min walk away from NYU, and there is a bus station near by to allow late night traffic.

The boat will sail rain or shine, unless advised as dangerous. Please plan your attire according to the weather.

Stay tuned for our next Annual Meeting in Zhengzhou, China



International Society for Neurovascular Disease





View the Webinar Online

While most of the activities will focus on the in-person component, you can still view the presentations, watch the lectures, and ask questions online, using Zoom webinar.

There are three separate registrations, one for each event day. The webinars will open at 8 am each day for online audience to join. Scan the QR code for webinar registration. You will receive the webinar viewing link after completing the registration.

Webinar Registration







Digital Meeting Program



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