

The International Society of Neurogastronomy

S Y M P O S I U M

Nov. 7, 2015

UK HealthCare
Pavilion A Auditorium
Lexington, Kentucky



MISSION

The International Society of Neurogastronomy (ISN) is a professional organization for culinary professionals, agriculture professionals, and scientists of gastronomy in the context of brain and behavior. The concept of Neurogastronomy casts a wide net over all disciplines that are relevant to what we eat, why we like what we eat, and how we eat. The mission of ISN is to advance Neurogastronomy as a craft, science, and health profession, to enhance quality of human life, and to generate and disseminate knowledge of brain-behavior relationships in the context of gastronomy.

P R O G R A M

7:45 a.m. – 8:30 a.m.

Registration & Refreshments

8:30 a.m. – 8:35 a.m.

Welcome Address

Dan Han, PsyD, University of Kentucky

8:35 a.m. – 8:40 a.m.

Opening Remarks

Frederick de Beer, MD, University of Kentucky

S E S S I O N 1

8:40 a.m. – 9:05 a.m.

Receptor Identification: The Future of Flavor Development

Tim McClintock, PhD, University of Kentucky

9:05 a.m. – 9:30 a.m.

Eat! It's Good for You!

Fred Morin, Joe Beef

9:30 a.m. – 9:55 a.m.

Yields and Flavors of Heritage Hog Breeds

Bob Perry, University of Kentucky

9:55 a.m. – 10:30 a.m.

Taste Profile Break

S E S S I O N 2

10:30 a.m. – 10:40 a.m.

ISN Award of Excellence

10:40 a.m. – 11:05 a.m.

Neurogastronomy: Expanding the Brain's World of Flavor (Keynote)

Gordon Shepherd, MD, DPhil, Yale University

11:05 a.m. – 11:30 a.m.

Museum of Modern Protein (MOMP): Seeing Protein through the Kaleidoscope with a Different Design

Jehangir Mehta, Graffiti

11:30 a.m. – 11:55 a.m.

Culinary Medicine: Bridging the Gap between Kitchen and Clinic

Leah Sarris, Tulane University

11:55 a.m. – 1 p.m.

Lunch

SESSION 3

1 p.m. – 1:30 p.m.

Clinical Neurogastronomy: Combating Brain Problems with Flavor

Dan Han, PsyD, University of Kentucky

1:30 p.m. – 2 p.m.

Disease, Recovery, the Pleasure Principle, and a New Anti-Inflammatory Cuisine

Ed Lee, 610 Magnolia

2 p.m. – 2:30 p.m.

The Ketogenic Diet in Epilepsy

Sid Kapoor, MD, University of Kentucky

2:30 p.m. – 3 p.m.

Taste Profile Break

SESSION 4

3 p.m. – 3:30 p.m.

The Perfect Meal: On the Multisensory Science of Food and Dining

Charles Spence, PhD, Oxford University

3:30 p.m. – 4 p.m.

Food and the Cancer Patient: Psychology and Nutrition – A Chef's Perspective

Ouita Michel, Ouita Michel Enterprises

4 p.m. – 4:30 p.m.

The Brain's Control of Eating, Energy Balance, and Metabolism

Bret Smith, PhD, University of Kentucky

4:30 p.m. – 4:50 p.m.

Applied Neurogastronomy Challenge:

2015 challenge – chemotherapy dysgeusia

4:50 p.m. – 5 p.m.

Closing Remarks

Michael Karpf, MD, UK HealthCare

Tim McClintock, PhD

Dr. Tim McClintock is the Louis Boyarsky Professor of Physiology at the University of Kentucky. He is passionate about the neurobiology of olfaction, service to his profession, fly fishing, kayaking and biologically themed neckties. He has served the Society for Neuroscience as chair of its Membership and Chapters Committee. He is an Executive Editor for the journal *Chemical Senses*. He has been president and program chair of the Association for Chemoreception Sciences, and received this organization's Young Investigator Award. His research accomplishment most pertinent to neurogastronomy is the invention of a way to identify which odorant receptor proteins respond to odors *in vivo*. This invention is expected to be useful for developing better flavors and fragrances toward the goal of enhancing and modifying sensory experiences.



Fred Morin

Chef Fred Morin is behind the internationally renowned Joe Beef, named one of the world's 100 best restaurants by S. Pellegrino & Acqua Panna. He and his partners were featured in the Travel Channel's *The Layover* and CNN's *Parts Unknown* by chef Anthony Bourdain. Known for his unapologetic stance on gustatory decadence, Morin brings to the field of neurogastronomy his expertise in the exploration of why we like what we eat. Morin is one of the co-founders of ISN and aims to propel ISN's amalgam of art, craft and science in the context of brain and behavior.



Bob Perry

Bob Perry has been a chef in a wide variety of restaurant operations for over 30 years and is a past board member of Chefs Collaborative and many other sustainable agriculture organizations. He now conducts food system research and teaches “Quantity Food Production” and “CSA Gastronomy: Our Local Food System” at the University of Kentucky. He has scripted local food segments and appeared on the KET program *KY Life* many times. He also

wrote and hosted the weekly *Farmers Market Report* on University of Kentucky’s NPR station WUKY. Perry’s hope is that examining high umami foods through the lens of neurogastronomy will help with appetites of cancer patients undergoing treatment.



Gordon Shepherd, MD, DPhil

Dr. Gordon M. Shepherd grew up in Iowa, and received his B.S. at Iowa State College in 1955, his MD at Harvard in 1959, and DPhil at Oxford in 1962. After postdoctoral training at NIH, MIT and the Karolinska Institute, he joined the faculty at Yale Medical School, where he is Professor of Neurobiology. He introduced the olfactory system as a model for analyzing the properties of neurons and synapses in the brain and the formation of neural images of olfactory molecules. His research has contributed to properties of neuronal dendrites and spines, olfactory processing, and development of the new fields of computational neuroscience, brain microcircuits, neuroinformatics and neurogastronomy. His books include *The Synaptic Organization of the Brain*; *Neurobiology*; *Handbook of Brain Microcircuits*; *Neurogastronomy*; *Foundations of the Neuron Doctrine*; *Creating Modern Neuroscience*; and *Mosso’s Circulation of Blood in the Human Brain*. He served as a Deputy Provost of Yale University, received honorary degrees from the Universities of Copenhagen and Pavia, and is a member of the American Academy of Arts and Sciences and past president of the Association for Chemoreception Sciences and the Cajal Club.



Jehangir Mehta

Chef Jehangir Mehta is the chef/owner of Graffiti, Me and You, and Graffiti Earth and was a *Next Iron Chef* runner-up. Known for his signature eclectic style, he uses an array of ingredients and spices to create an interesting juxtaposition of temperatures, textures and tastes. The popularity of his distinctive style led to a Zagat food rating of 28 out of 30 for Graffiti in 2015. Mehta is the chef ambassador for the National Foundation of Celiac Awareness and the Mushroom Board, and a council member for Menus of Change, an initiative of the Culinary Institute of America and Harvard T.H. Chan School of Public Health. Fifteen years ago, Mehta was a pioneer in ushering in the idea of children's cooking with his "Candy Camp" class, and has since launched a national promotion with Whole Foods for inculcating healthy eating in children with the "Kids Food Adventure with Chef Jehangir" initiative. Mehta was the highly acclaimed pastry chef at some of New York City's finest restaurants including Aix, Union Pacific, Mercer Kitchen, Compass and Jean-Georges, and is the author of *Mantra: The Rules of Indulgence* (Harper Collins).



Leah Sarris

Chef Leah Sarris has worked in diverse areas of the foodservice and related industries from restaurants, to instructing culinary arts at a prestigious university, foodservice consulting, farming and community outreach to improve school nutrition. Currently, she is the Program Director for the Goldring Center for Culinary Medicine at Tulane University in New Orleans. She has built and developed the first interdisciplinary program between culinary science, nutrition and a medical school, teaching future doctors and those currently in the medical field how to cook and prescribe healthier foods and lifestyles to their patients. This program is the first of its kind, and she has worked from its inception to build and run the daily operations; however, in three short years over 10 other medical schools around the nation have licensed the curriculum. Sarris' passion lies in teaching everyone from medical students, to community members taking free cooking classes at the center, to professional chefs, how to make delicious food that is also good for you. She strives to teach people that nutritious food should be tasty, easy to make and affordable, while arming them with the knowledge and skills to bring that vision into their kitchens. Sarris is excited to blend her understanding of food and nutrition with advancements in science to enhance the eating experience for those with clinical deficits and the public at large.



Dan Han, PsyD

Dr. Dan Han is the Chief of University of Kentucky Neuropsychology Service's clinical section, the director of the UK Multidisciplinary Concussion Program, and an Associate Professor of Neurology, Neurosurgery, and Physical Medicine & Rehabilitation at the University of Kentucky College of Medicine. He is the past president of the Lexington Board of Directors of the Brain Injury Alliance of Kentucky, founding member of the International Society of Neurogastronomy, founding member of the Scientific and Medical Advisory Board for Bill McMillan-Bluegrass Chapter of the Association of the United States Army, and is on the council of the Kentucky Stroke Affiliate Network, University of Kentucky Stroke Leadership Council, Saddle Up SAFELY committee, Neurology Resident Training committee, and the University of Kentucky Physician Advisory Committee. Dr. Han is a funding recipient from sources such as the NIH, foundational grants and clinical trials involving studies of brain-behavior relationships. His interests in neurogastronomy involve clinical manifestation, assessment, and treatment of smell/taste changes in the context of quality of life.



Ed Lee

Edward Lee is chef/owner of 610 Magnolia and MilkWood in Louisville, Ky., and Succotash in National Harbor, Md. A multiple finalist for the James Beard Foundation Award for Best Chef: Southeast, he is the author of *Smoke & Pickles*, published by Artisan Books, and appears regularly on television, most recently as the host for Season 3 of the Emmy-winning series *Mind of a Chef*. His signature bourbon with Jefferson's Reserve, Chef's Collaboration Blend, has garnered praise from the nation's top publications. He resides in Louisville, and is an avid karaoke singer. His interest in neurogastronomy focuses on the recovery time of patients suffering from diseases of inflammation and the relationship this has with the brain.



Sid Kapoor, MD

Dr. Siddharth Kapoor trained in neurology at the NYU School of Medicine in New York and in epilepsy at the University of Michigan Hospitals. He is an Assistant Professor of Neurology at the University of Kentucky College of Medicine, and serves as the Chief of University of Kentucky Headache Program, Program Director for the fellowship training program in headache medicine, and as the director of the UK Epilepsy Care Network. He serves as the Chair of the Neurology Resident Clinical Competency committee and also directs the Neurology Grand Rounds, an ongoing CME event. He has served on multiple education and clinical care committees at the American Epilepsy Society and the American Headache Society. He is an Abraham Flexner Award winning medical educator. His activities in the field of headache medicine have led to the recognition as a Fellow of the American Headache Society. He has been involved as a principal investigator with multiple clinical trials looking at innovative medical treatments for epilepsy. He considers himself a patient advocate dedicated to improving the life of patients affected by multiple neurological disorders and is a recognized advocate leader by the American Academy of Neurology. He is one of the founding members of the International Society of Neurogastronomy, and his interests in neurogastronomy involve the impact of the ketogenic, low glycemic diets in the control of epilepsy and the widely recognized role of dietary triggers in precipitating headaches. He focuses on the role of the vegetarian diet in impacting the gastric microbiome and its secondary impact on neurological diseases.



Charles Spence, PhD

Professor Charles Spence is a prize-winning experimental psychologist whose research lies at the interface between modernist cuisine and commercial food and beverage design. He has worked with many of the world's largest food and beverage companies/brands and Michelin-starred chefs. Professor Spence has published more than 600 articles as well as authoring and editing eight books. He is a passionate advocate of the application of the latest insights from experimental psychology and cognitive neuroscience to the design of better-tasting, more stimulating, more memorable, and healthier food and drink experiences – an approach that comes under the banner of gastrophysics. He has recently published his new book, *The Perfect Meal*, which was awarded the 2015 Prose Prize for popular science.



Ouita Michel

Since 2001, when Chef Ouita Michel and her husband, Chris, opened the Holly Hill Inn in Midway, Ky., she has made locally grown ingredients a priority in her world-class cuisine. Her restaurants have purchased more than \$2 million of Kentucky-grown meats, dairy products, fruits and vegetables over the last 14 years. Ouita and Chris are graduates of the Culinary Institute of America in New York. Ouita is a member of Slow Food USA; congregational coordinator of Kids in the Kitchen and free community supper programs for Midway Christian Church; board member of FoodChain, a non-profit food incubator in Lexington, Ky.; and is a member of the Prichard Committee for Academic Excellence, a statewide citizens group working to improve education for Kentuckians. She, Chris and their daughter, Willa, live in a 200-year-old cabin with an expansive garden adjacent to the Holly Hill Inn.



Bret Smith, PhD

Dr. Bret Smith is the Thomas L. Skinner Professor of Physiology, and the director of the University of Kentucky Epilepsy Research Center. He is an expert in the studies of neuronal interactions in the mammalian brain. Research in this laboratory is aimed at understanding the mechanisms underlying functional synaptic connectivity, modulation, and plasticity of neuronal systems. Using whole-cell electrophysiological techniques in acute slice preparations combined with immunochemical, histochemical, behavioral, neuropharmacological, and molecular biological methods, he is conducting studies to determine how synaptic function in central autonomic control areas regulates visceral sensory-motor integration as well as how neural circuit organization and remodeling contribute to development of epilepsy. His interest in neurogastronomy involves the brain's control of eating, energy balance and metabolism.



Special thanks
to our distinguished presenters



Frederick de Beer, MD
University of Kentucky



Michael Karpf, MD
UK HealthCare

Neurogastronomy symposium partners



**The Food Connection at
The University of Kentucky**





Culinary Breaks

Flavor profile breakout sessions

Chefs Ouita Michel, Cooper Vaughn, and Bob Perry

9:55 a.m. – 10:30 a.m.

2:30 p.m. – 3 p.m.

Flavor profile stations

Olfactory food identification

Smell and taste Interaction

Sensory deprivation - is taste enough?

Color confusion in food identification

Food confusion and appetite suppression

Salt as a sweetener

Can cutlery affect taste?

Sonic seasoning with a splash of color confusion

Heritage hogs

11:55 a.m. – 1 p.m.

Bento box lunch

Chefs Cooper Vaughan and Ouita Michel

4:30p.m. – 4:50 p.m.

Applied Neurogastronomy Challenge: 2015 challenge – chemotherapy dysgeusia

Chefs will be paired with scientists and clinicians to come up with a dish for people with taste-impairing conditions. The dishes will be judged by real patients with a history of cancer, as related treatment conditions can induce taste changes.