

2010 Joint International  
Neurogastroenterology and Motility  
Meeting

August 26–August 29, 2010

Westin Copley Place  
Boston, Massachusetts



# NGM 2010



ANMS 5th Biennial Course on  
Gastrointestinal Motility and  
Neurogastroenterology in  
Clinical Practice

Thursday, August 26, 2010

Live demonstrations and  
interactive meeting with experts

## Thursday, August 26, 2010

3:00–6:00 pm	Registration
6:00–8:00 pm	Welcome Reception Warm-up lecture on society histories

## Friday, August 27, 2010

7:00–7:45 am	Registration & Continental Breakfast
7:45 am	<b>Welcome</b>
8:00 am–12:00 pm	<b>Opening Plenary Session</b>
8:00–8:30 am	<b>Regenerative Medicine</b> <i>Jay Pasricha</i>
8:30–9:00 am	<b>Clinical Review</b> <i>Jan Tack</i>
9:00–9:30 am	<b>Basic Science Review</b> <i>Keith Sharkey</i>
9:30–10:00 am	Break
10:00 am–12:00 pm	<b>6 Abstracts</b> (3 clinical, 3 basic science)
12:00–1:30 pm	European Steering Committee Meeting
<b>12:00–2:30 pm</b>	<b>Lunch and Poster Session</b> All posters up for 2 days of viewing
<b>2:45–6:15 pm</b>	<b>Concurrent Parallel Sessions</b>
<b>2:45–4:30 pm</b>	<b>Session 1</b>
	<b>Peripheral Biomolecular Factors in Functional Gastrointestinal Diseases Reflect Organic Change</b> Chairs: <i>Robin Spiller and Lionel Bueno</i>
2:45	Chemical and bacteriological luminal factors <i>Yehuda Ringel</i>
3:10	Cytokines and local effector mechanisms <i>Lin Chang</i>
3:35	Immunology and neurobiology <i>Nathalie Vergnolle</i>
4:00	Barrier function <i>Johan Söderholm</i>
<b>2:45–4:30 pm</b>	<b>Session 2</b>
	<b>How Does Aging Affect the Gastrointestinal Tract?</b> Chairs: <i>Satish Rao and Beverley Greenwood van Meerveld</i>
2:45	Neurodegeneration <i>Robert Phillips</i>

3:10	Regulation of ICC numbers in aging <i>Simon Gibbons</i>
3:35	Sensory and motor degeneration with aging <i>Rick Saad</i>
4:00	Constipation and incontinence with aging <i>Charlene Prather</i>

### 2:45–4:30 pm **Session 3**

#### **Novel Imaging for Pathophysiology of Gastrointestinal Sensorimotor Dysfunction**

Chairs: *Reza Shaker and Fernando Azpiroz*

2:45	Imaging human enteric nerves <i>Michael Schemann</i>
3:10	Upper GI tract <i>Luca Marciani</i>
3:35	Lower GI tract <i>Adil Bharucha</i>
4:00	Brain <i>Emeran Mayer</i>
4:30–4:45 pm	Break
4:45–6:15 pm	Topic-Specific Oral Abstract Presentations
4:45–6:15 pm	Topic-Specific Oral Abstract Presentations
4:45–6:15 pm	Topic-Specific Oral Abstract Presentations
6:15–6:45 pm	American Neurogastroenterology and Motility Society – Business Meeting
5:30–6:30 pm	European Society of Neurogastroenterology and Motility – General Assembly
7:00 pm	<i>Dinner on your own</i>
7:00–8:30 pm	Theme-based Symposium
7:00–8:30 pm	Theme-based Symposium
7:00–8:30 pm	Theme-based Symposium

## Saturday, August 28, 2010

7:00 am – 8:00 am	Registration & Continental Breakfast
7:00 am – 8:00 am	All Society Committee Meeting
<b>8:00 am–12:00 pm</b>	<b>Concurrent Parallel Sessions</b>
<b>8:00–9:45 am</b>	<b>Session 1</b>
	<b>Diagnosis and Management of Esophageal Motor Disorders</b> Chairs: <i>Raj Goyal and Daniel Sifrim</i>

8:00 Pathogenesis and symptom genesis of functional and motor disorders  
*André Smout*

8:25 High resolution esophageal pressure topography: how does it contribute in clinical practice?  
*Mark Fox*

8:50 The pediatric patient: Just a mini version of the adult in terms of esophageal motor disorders?  
*Nathalie Rommel*

9:15 New therapy: what, when, and how?  
*Peter Kahrilas*

### **8:00–9:45 am Session 2**

#### **Overlap IBS–IBD**

Chairs: *William Chey and Doug Drossman*

8:00 Animal models of inflammation and relation to IBS  
*Terez Shea Donohue*

8:25 IBD in remission: hypersensitivity or hyposensitivity  
*Satish Rao*

8:50 Clinical overlap IBS–IBD and treatment with antiinflammatories  
*Magnus Simrén*

9:15 Psychosocial basis  
*Bruno Bonaz*

### **8:00–9:45 am Session 3**

#### **The Vagus Nerve and Taste Receptors in the Gut**

Chairs: *Yvette Taché and Hans Rudi Berthoud*

8:00 Sensory mechanisms  
*Helen Raybould*

8:25 Central synaptic connections of vagal afferents and glucose  
*Kirsteen Browning*

8:50 Vagus in sensation: mediation and modulation  
*David Grundy*

9:15 Macronutrient detection  
*Christine Feinle-Bisset*

9:45–10:15 am *Break*

### **10:15 am–12:00 pm Concurrent Parallel Sessions**

10:15 am–12:00 pm Topic-Specific Oral Abstract Presentations

10:15 am–12:00 pm Topic-Specific Oral Abstract Presentations

10:15 am–12:00 pm Topic-Specific Oral Abstract Presentations

### **12:00–2:30 pm Lunch and Poster Session**

All posters up for 2 days of viewing

1:00 pm – 2:00 pm FBG Board Meeting

### **2:45–5:30 pm Concurrent Sessions**

#### **2:45–4:30 pm Session 1**

#### **Advances in Clinical Trials**

Chairs: *Shin Fukudo and Max Schmulson*

2:45 Advances in trial methodology/end points: binary

end points, GCSI, PRO guidance  
*Brennan Spiegel*

3:10 Placebo response  
*Sigrid Elsenbruch*

3:35 New approaches to psychological interventions  
*Jeffrey Lackner*

4:00 New drugs  
*Michael Camilleri*

### **2:45–4:30 pm Session 2**

#### **Esophageal Sensation**

Chairs: *Hiroto Miwa and Miguel Valdovinos*

2:45 Afferent innervation of the esophagus  
*Marian Kollarik*

3:10 CNS evaluation of esophageal pain  
*Qasim Aziz*

3:35 Sensory testing  
*Ronnie Fass*

4:00 Potential targets  
*Frank Zerbib*

### **2:45–4:30 pm Session 3**

#### **Sensory Transmission and Transduction in the Gut**

Chairs: *Sumei Liu and Kenton Sanders*

2:45 Synaptic mechanisms  
*Jim Galligan*

3:10 Enteric glia in control of neuronal and intestinal barrier homeostasis  
*Michel Neunlist*

3:35 Muscle and ICC  
*Sean Ward*

4:00 Visceral afferents  
*Simon Brookes*

4:30–4:45 pm *Break*

4:45–6:15 pm Topic-Specific Oral Abstract Presentations

4:45–6:15 pm Topic-Specific Oral Abstract Presentations

4:45–6:15 pm Topic-Specific Oral Abstract Presentations

Poster boards down by 5:00 pm

### **6:30–10:00 pm Banquet**

## **Sunday, August 29, 2010**

7:00–8:00 am Registration & Continental Breakfast

8:00 am–12:00 pm **Concurrent Parallel Sessions**

### **8:00–9:45 am Session 1**

#### **The Pediatric Enteric Nervous System: From Animal Models to the Pediatric Patient**

Chairs: *Mark Benninga and Hayat Mousa*

8:00 Long-term effects of maternal separation and neonatal injury on ENS and gut function  
*Rene van den Wijngaard*

- 8:25 Functional maturation  
*Xiaochun Bian*
- 8:50 What is the role of food allergy in childhood constipation?  
*AnnaMaria Staiano*
- 9:15 Abdominal motility disorders in children (including intestinal transplantation)  
*Carlo Di Lorenzo*

**8:00–9:45 am Session 2**

**Neuropathic Pain: Sodium Channels and Other Mechanisms**

Chairs: *Ashley Blackshaw and David Grundy*

- 8:00 Na channel genetics, biology, and Rx  
*Mohammed Nassar*
- 8:25 Na channel visceral sensitivity: animal hypersensitivity  
*Mike Beyak*
- 8:50 Pharmacology  
*Michael Jarvis*
- 9:15 Clinical implications of Na channel blockers  
*Gianrico Farrugia*

9:45–10:15 am *Break*

**10:15 am–12:00 pm Concurrent Parallel Sessions**

**10:15 am–12:00 pm Session 1**

**Development of Gut Innervation**

Chairs: *Michael Gershon and Maria-Adelaide Micci*

- 10:15 Vagus  
*Edward Fox*
- 10:40 Guidance cues: Netrin/DCC  
*Elyanne Ratcliffe*

- 11:05 Molecular and cellular mechanisms  
*Heather Young*
- 11:30 Potential therapeutics  
*Alan Burns*

**10:15 am–12:00 pm Session 2**

**Ileus, Sepsis, Critical Care, and Dysmotility and Peripheral Opioid Antagonists**

Chairs: *Aiping Zhao and Jay Pasricha*

- 10:15 Inflammation, macrophages and POI in animal models  
*Anthony Bauer*
- 10:40 Mast cells and vagus: animals and humans  
*Guy Boeckstaens*
- 11:05 Mu opiate antagonists and other Rx in POI  
*Anthony J. Senagore*
- 11:30 Delayed gastric emptying in the ICU  
*Robert Fraser*

**10:15 am–12:00 pm Session 3**

**Functional Food for Functional Disorders?**

Chairs: *Peter Whorwell and Stephen M. Collins*

- 10:15 Pre- and probiotics  
*Eammon Quigley*
- 10:40 Tryptophan and melatonin  
*Kok-Ann Gwee*
- 11:05 Fiber  
*Larry Schiller*
- 11:30 Trial designs for food testing  
*Paul Enck*

**12:00 Adjourn**

**Program Overview**

The purpose of this meeting is to provide a forum for the presentation, discussion, and debate of translational and clinical research in the area of neurogastroenterology and motility so that physicians and health care professionals diagnosing and managing patients in this area will be able to draw on the latest evidence-based methods for promoting effective patient outcomes. These conditions are multifactorial in origin; alterations in brain–gut interactions, as well as in the absorptive, sensory, secretory, and motor functions of different regions of the gastrointestinal tract are considered key underlying pathophysiological mechanisms that constitute more or less accessible targets for therapy. It is important that research scientists and clinicians work together in an interactive and supportive collaboration as new data become available. The activity addresses the needs expressed by the memberships of the American Neurogastroenterology and Motility Society and the joint societies of neurogastroenterology and motility.

**Statement of Need**

Functional gastrointestinal and motility disorders are prevalent conditions diagnosed in both children and adults. Although these are common disorders, the underlying pathophysiology and mechanisms that result in these conditions are not well understood indicating that more research and dialogue into the diagnosis and management of these diseases is needed.

**Meeting Goals**

The overall goal of this activity is to improve patient care by increasing learner competence and performance in diagnosing functional gastrointestinal and motility disorders and providing appropriate strategies for effective and efficient management of disease based on the research and clinical data. Participants will interact with current concepts to develop increased knowledge of the mechanisms and a framework for improving their competence in optimizing diagnosis and treatment. These scientific approaches will be aligned to the art of medical management to enhance holistic treatment for patients, including education in the skills to identify those with increased vulnerability to develop functional gastrointestinal and motility disorders. In addition, the adoption by learners of the consensus guidelines on diagnosis will increase their competence and performance and improve patient care.

**Intended Audience**

Primarily, gastroenterologists but also psychiatrists and other clinicians; physicians in training such as gastroenterology fellows, biochemists, molecular and cell biologists, physiologists, neurophysiologists, immunologists, pharmacologists, and behavioral psychologists, doctoral level researchers, and nurses.

## Meeting Objectives

At the conclusion of this educational activity, the participant should be better able to

1. discuss the most up-to-date and relevant basic science, translational and clinical research findings in the field of neurogastroenterology and motility
2. describe the role of brain–gut communication and signaling in functional gastrointestinal and motility disorders, such as functional dyspepsia, irritable bowel syndrome, and obesity in the elderly, adults, and children
3. discuss current concepts of peripheral mechanisms within the gastrointestinal tract including the enteric nervous system, ingestive, sensory, motor, secretory and absorptive mechanisms that are relevant to upper and lower gastrointestinal disorders
4. summarize the diagnostic criteria, diagnostic tools and outcome measures used in clinical treatment trials
5. compare and contrast the non-pharmacologic and pharmacologic treatment approaches in functional gastrointestinal and motility disorders, incontinence and obesity
6. evaluate the role of the microbiome, pre- and probiotics and the effect of antibiotics in diseases such as diarrhea, irritable bowel syndrome, abdominal bloating, and obesity
7. address advances in the understanding of the risk–benefit ratio of approved medications and devices, as well as state-of-the-art information about novel approved or as yet non-approved medications and devices.

## Accreditation Statement

This activity has been planned and implemented in accordance with the Essentials and Standards of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Tulane University Health Sciences Center and the American Neurogastroenterology and Motility Society. Tulane University Health Sciences Center is accredited by the ACCME to provide continuing medical education for physicians.

## Designation

Tulane University Health Sciences Center designates this educational activity for a maximum of 17.25 *AMA PRA Category 1 Credits™*. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Tulane University Health Sciences Center presents this activity for educational purposes only and does not endorse any product, content of presentation or exhibit. Participants are expected to use their own expertise and judgment while engaged in the practice of medicine. The content of the presentations is provided solely by presenters, who have been selected because of their recognized expertise.

## Procedure for CME Credit

To receive the appropriate number of CME credits, it is important to do the following:

1. On your arrival, pick up your verification form at the Registration Desk.
2. On your departure, turn in your completed verification form at the Registration Desk.

A listing of the number of credits available each day will be included with the verification form. Program hours that run simultaneously or overlap are not included in the total credits available each day.

## Disclosure

It is the policy of the Center for Continuing Education at Tulane University Health Sciences Center to plan and implement all of its educational activities in accordance with the ACCME's Essential Areas and Policies to ensure balance, independence, objectivity and scientific rigor. In accordance with the ACCME's Standards for Commercial Support, everyone who is in a position to control the content of an educational activity certified for *AMA PRA Category 1 Credit™* is required to disclose all relevant financial relationships with any commercial interests within the past 12 months that create a real or apparent conflict of interest. Individuals who do not disclose are disqualified from participating in a CME activity. Individuals with potential for influence or control of CME content include planners and planning committee members, authors, teachers, educational activity directors, educational partners, and others who participate, e.g. facilitators and moderators. This disclosure pertains to relationships with pharmaceutical companies, biomedical device manufacturers or other corporations whose products or services are related to the subject matter of the presentation topic. Any real or apparent conflicts of interest related to the content of the presentations must be resolved prior to the educational activity. Disclosure of off-label, experimental or investigational use of drugs or devices must also be made known to the audience.

The ACCME does not allow CME credit to be awarded for presentations given by employees of commercial interests (as defined by the ACCME); i.e., pharmaceutical, medical device, or biotech companies, etc. If the focus of your presentation is a commercially funded study, please list the funding company or source and your affiliation with the funding company or source on the CME Disclosure Form when submitting an abstract.

## Exhibitor Information

Exhibiting is an integral part of the Joint International Neurogastroenterology and Motility meetings. This meeting is jointly sponsored by four societies – American Neurogastroenterology and Motility Society (ANMS), Functional Brain–Gut Research Group, European Society of Neurogastroenterology and Motility, and International Neurogastroenterology and Motility Group. Please see exhibitor information and complete the Exhibitor Form online at [www • motilitysociety • org](http://www.motilitysociety.org).

**Please note:** The exhibition schedule includes the American Neurogastroenterology and Motility Society 5th Biennial Course on Gastrointestinal Motility and Neurogastroenterology in Clinical Practice, August 26, which immediately precedes NGM 2010. The exhibition venue is the same for both meetings.

### Steering Committee

Michael Camilleri, *Chair*  
Fernando Azpiroz  
Ashley Blackshaw  
Lin Chang  
Roberto Dantas  
Gianrico Farrugia  
Emeran Mayer  
Henry Parkman  
Michael Schemann  
Vincenzo Stanghellini

### Meeting Coordinator

Lori Ennis

### Scientific Committee

Michael Camilleri, *Chair*  
Xiucai Fang  
Ronnie Fass  
James Galligan  
David Grundy  
Peter Kahrilas  
Magnus Simrén  
André Smout  
Yvette Taché

### Tulane Joint Sponsor Liaison

Robert Bulat, MD

# Invited Speakers

**Qasim Aziz, FRCP, PhD**

Barts and The London, London, United Kingdom

**Mike Beyak, MD, FRCPC**

Queen's University, Canada

**Adil E. Bharucha, MD**

Mayo Clinic College of Medicine

**Anthony J. M. Bauer, PhD**

University of Pittsburgh

**Xiaochun Bian, PhD, MD**

Michigan State University

**Guy E. Boeckxstaens, MD, PhD**

Katholieke Universiteit Leuven, Belgium

**Bruno Bonaz, MD, PhD**

Grenoble Faculty of Medicine and Hospital, France

**Simon J. H. Brookes, PhD**

Flinders University, South Australia

**Kirsteen Browning, PhD**

Pennington Biomedical Research Center, Louisiana State University

**Alan Burns, PhD**

Institute of Child Health, University College, London, United Kingdom

**Michael Camilleri, MD**

Mayo Clinic College of Medicine

**Lin Chang, MD**

David Geffen School of Medicine at UCLA

**Carlo Di Lorenzo, MD**

Nationwide Children's Hospital

**Sigrid Elsenbruch, PhD**

University of Duisburg-Essen, Germany

**Paul Enck, PhD**

University of Tuebingen, Germany

**Gianrico Farrugia, MD**

Mayo Clinic College of Medicine

**Ronnie Fass, MD**

Southern Arizona VA Health Care System

**Christine Feinle-Bisset, PhD**

University of Adelaide and Royal Adelaide Hospital, Australia

**Edward A. Fox, PhD**

Purdue University

**Mark Fox, MD**

University Hospital Zürich, Switzerland

**Rob Fraser, MBBS, PhD, FRACP**

University of Adelaide, Australia

**Jim Galligan, PhD**

Michigan State University

**Simon J. Gibbons, PhD**

Mayo Clinic College of Medicine

**David Grundy, PhD**

The University of Sheffield, United Kingdom

**Kok Ann Gwee, FRCP, PhD**

Gleneagles Hospital and National University of Singapore

**Michael Jarvis, PhD**

Abbott Laboratories

**Peter Kahrilas, MD**

Feinberg School of Medicine, Northwestern University

**Marian Kollarik, MD, PhD**

The Johns Hopkins School of Medicine

**Jeffrey Lackner, PsyD**

University at Buffalo School of Medicine

**Luca Marciari, PhD**

The University of Nottingham, United Kingdom

**Emeran A. Mayer, MD**

David Geffen School of Medicine at UCLA

**Mohammed Nassar, PhD**

The University of Sheffield, United Kingdom

**Michel Neunlist, PhD**

INSERM U913, Nantes, France

**Jay Pasricha, MD**

Stanford University, California

**Robert Phillips, PhD**

Purdue University

**Charlene Prather, MD, MPH**

Saint Louis University

**Eammon Quigley, MD**

University College Cork, Ireland

**Satish Rao, MD, PhD**

University of Iowa

**Elyanne M. Ratcliffe, MD, FRCPC**

McMaster University, Canada

**Helen Raybould, PhD**

University of California Davis School of Veterinary Medicine

**Yehuda Ringel, MD**

University of North Carolina at Chapel Hill

**Nathalie Rommel, PhD**

Katholieke Universiteit Leuven, Belgium

**Richard J. Saad, MD**

University of Michigan Health System

**Michael Schemann, PhD**

Technische Universität München, Germany

**Lawrence R. Schiller, MD**

Baylor University Medical Center

**Anthony Senagore, MD**

Spectrum Health, Michigan

**Keith Sharkey, PhD**

University of Calgary, Canada

**Terez Shea Donohue, PhD**

University of Maryland School of Medicine

**Magnus Simrén, MD**

Sahlgrenska University Hospital, Gothenburg, Sweden

**André J. P. M. Smout, MD, PhD**

University Medical Center, Utrecht, The Netherlands

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**Nathalie Vergnolle, PhD**

INSERM U563, Toulouse, France

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University of Nevada School of Medicine

**Heather M. Young, PhD**

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