### Clinical Course • Providing the best clinical care for our patients

#### Thursday, August 12, 2021
- 4:00–6:00 pm Registration
- 4:00–6:00 pm Exhibitor Setup

#### Friday, August 13, 2021
- 7:00 am–5:30 pm Registration
- 7:00–7:50 am Breakfast • Visit Exhibits
- 7:50–8:00 am Welcome • Introduction • John Pandolfino, Braden Kuo
- **8:00–9:20 am** What's New in the Treatment of Esophageal Disorders
  - Moderators: Walter Chan, Christopher Velez
  - 8:00–8:20 am Pediatric and Adult Perspective
    - LPR in children: Novel treatments
      - Rachel Rosen
    - Adult issues in extraesophageal reflux: A case-based review
      - Wai-Kit Lo
      - includes 4-minute Q & A
  - 8:20–8:35 am Provocative testing
    - Reena Chokshi
  - 8:35–9:05 am Point • Counterpoint
    - Incorporating endo-FLIP as routine assessment of esophageal disorders
      - C. Prakash Gyawali and Marcelo Vela
      - includes 4-minute Q & A
  - 9:05–9:20 am Approach to EGJOO and spastic disorders
    - Sravanya Gavini

**program continued**
**Friday, August 13, 2021**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 9:20–10:20 am | **Gastric and Small Bowel Motility: Bridging the Gap**  
Moderators: Jennifer Cai, Allen Lee |
| 9:20–9:40 am  | **Point • Counterpoint**  
Functional dyspepsia & gastroparesis: Identical or different beasts?  
*Linda Nguyen and David Kunkel*  
includes 2-minute Q & A |
| 9:40–10:00 am | **Pediatric and Adult Perspective**  
Gastric and small bowel motility testing: What are the options and is it necessary – Pediatric perspective  
*Samuel Nurko*  
Gastric and small bowel motility testing: What are the options and is it necessary – Adult perspective  
*Braden Kuo*  
includes 4-minute Q & A |
| 10:00–10:20 am | **Gastroparesis therapy development pipeline: Are we optimistic or doomed to fail?**  
*P. Jay Pasricha* |
| 10:20–10:40 am | **Break • Visit Exhibits** |
| 10:40 am–12:20 pm | **Bridging the Gap: Pediatric to Adult**  
Moderators: Sarah Ballou, Claire Zar-Kesslar |
| 10:40–11:00 am | **Pediatric and Adult Perspective**  
Cyclic vomiting syndrome: The pediatric version  
*Desale Yacob*  
Cyclic vomiting syndrome: Pediatric versus adult  
*Thangam Venkatesan*  
includes 4-minute Q & A |
| 11:00–11:20 am | **Developmental considerations for psychogastroenterology integration: Kids are not just mini adults**  
*Bradley Jerson* |
| 11:20–11:40 am | **Feeding and eating disorders in the gastroenterological setting**  
*Jennifer Thomas* |
| 11:40 am–12:00 pm | **RN and APP Perspective**  
Building a support system around the GI motility patient: The role of the triage RN and APP  
*Maria Grifone and Andrea Thurler*  
includes 4-minute Q & A |
| 12:00–12:20 pm | **Psychological interventions in functional GI disease**  
*Helen Burton-Murray* |

**Parallel Lunches • Choose one • Visit Exhibits**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>12:20–1:25 pm</td>
<td><strong>Lunch • no speaker • Visit Exhibits</strong></td>
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</table>
| 12:20–1:25 pm | **Lunch Symposium • Alnylam sponsored • Visit Exhibits**  
Diagnostic Dilemmas: Gastrointestinal manifestations in rare disease  
*Baha Moshiree, Linda Nguyen* |

*program continued*
### Scientific Program

**Friday, August 13, 2021  continued**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter/references</th>
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</thead>
</table>
| 1:30–2:30 pm | **ANMS Chung Owyang Distinguished Lecture**                  | **Introduction:** John Wiley, John Pandolfino  
**Microbial–host interaction modulates serotonin signaling in the gut**  
Chung Owyang |
| 2:30–3:30 pm | **The Colon – Where do we go from here?**                    | Moderators: Kyle Staller, Johanna Iturrino |
| 2:30–2:50 pm | **Anorectal manometry and pelvic floor testing in a clinical practice: Essential tools in the management of constipation and fecal incontinence?** | Amol Sharma |
| 2:50–3:10 pm | **Constipation pharmacotherapy**                             | Judy Nee |
| 3:10–3:30 pm | **Point • Counterpoint**  
**IBS-C vs CIC: Should I test or treat differently?**  
Baha Moshiree  
**IBS-C vs CIC: Do not test or treat differently!**  
Greg Sayuk | includes 2-minute Q & A |
| 3:30–3:50 pm | **Break • Visit Exhibits • Grand Ballroom Foyer**           | |
| 3:50–4:30 pm | **Clinical Research: Factors to Consider in Trial Design**  | Moderator: Hiroshi Mashimo  
**From bench to bedside: How to translate motility innovations to clinical care?**  
Eric Shah  
**State-of-the-Art Lecture**  
**The power of placebo**  
Anthony Lembo |
| 4:30–6:00 pm | **Women in Neurogastroenterology**  
Open to all women working in neurogastroenterology and motility.  
Moderator: Linda Nguyen | 4:30 pm Welcome • Beverley Greenwood-Van Meerveld  
4:35 pm Highlights of ANMS survey  
Lin Chang  
4:40 pm ANMS – Where are we now and where are we going?  
John Pandolfino  
4:45 pm Promoting a culture of diversity, inclusion and equity: Investing in our future  
John Pandolfino  
5:00 pm **Skills Development**  
• Personal Branding • Linda Nguyen  
• Mentoring and Beyond • Lin Chang  
• The Art of Negotiating • Beverley Greenwood-Van Meerveld |
| 5:15 pm | **Small group discussions about the topics discussed in Skills Development**  
• Break up into three groups  
• Discuss plans to use new skills |
| 5:45 pm | **Mix and Mingle • then go to Welcome Reception**            | |

**Scientific Program • begins next page**
## Scientific Program • Advancing patient care through cutting-edge research

### Friday, August 13, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:00 am–5:00 pm</td>
<td>Registration</td>
</tr>
<tr>
<td>6:00–7:30 pm</td>
<td>Welcome Reception • Poster Session</td>
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### Saturday, August 14, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:00 am–5:00 pm</td>
<td>Registration</td>
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<tr>
<td>7:00–7:50 am</td>
<td>Breakfast • Visit Exhibits</td>
</tr>
<tr>
<td>7:50–8:00 am</td>
<td>Welcome • John Pandolfino</td>
</tr>
</tbody>
</table>
| 8:00–9:00 am   | Distinguished Investigator Award for Women in Neurogastroenterology  
Introduction: Beverley Greenwood-Van Meerveld  
The role of brain peptides in the regulation of gut function: A 40 year journey  
Yvette Taché |
| 9:00–10:30 am  | Session 1  
Basic Advances Making an Impact in Understanding GI Pathophysiology  
Moderators: Lin Chang, John Wiley |
| 9:00–9:20 am   | Gastroparesis omics                             
Madhu Grover |
| 9:20–9:40 am   | Parkinson’s disease, its GI effects, and new treatments from top to bottom  
William Hasler |
| 9:40–10:00 am  | Microbiome in IBS and visceral hypersensitivity  
David Reed |
| 10:00–10:15 am | Gastric motility characterization from GI-MRI using a deep-learning–based automatic method  
X Wang, J Cao, M Choi, Z Liu  
Ann Arbor, MI, University of Michigan  
Abstract 1 |
| 10:15–10:30 am | Intracolonic administration of guanylate cyclase C agonist linaclotide inhibits chronic psychological stress-induced activation of central nociceptive pathways to relieve visceral pain in rats  
C O Ligon, G Hannig, B Greenwood-Van Meerveld  
Oklahoma City, OK, University of Oklahoma Health Sciences Center  
Abstract 2 |
| 10:30–11:00 am | Break • Visit Exhibits                        |
| 10:00 am–12:00 pm | Allied Health Professionals • Parallel Session  
GI Physiology Laboratory and Testing  
Moderators: Jason Baker, Erik Reilly |
| 10:00–10:20 am | Esophageal manometry: Interpretation and pitfalls  
Hilary Urgas |
| 10:20–10:40 am | Anorectal manometry: Interpretation and pitfalls  
Barbara Brien |
| 10:40–11:00 am | Discussion                                    |
| 11:00–10:20 am | Minor variations: A primary on pediatric motility testing  
Claire Zar-Kessler |
| 11:20–11:40 am | Breath testing: Preparation, performance, and interpretation  
Jason Baker |
<p>| 11:40 am–12:00 pm | Discussion                                  |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Parallel Session 1</th>
<th>Parallel Session 2</th>
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<tbody>
<tr>
<td>11:00 am–12:30 pm</td>
<td><strong>Parallel Session 1</strong>&lt;br&gt;Does the Model Matter? Insights into ENS Development using Different Animal Models&lt;br&gt;Moderators: Robert Heuckeroth, M. Maya Kaelberer</td>
<td><strong>Parallel Session 2</strong>&lt;br&gt;Beyond the Gut in Functional GI Disorders&lt;br&gt;Moderators: Joseph Croffie, Shanthi Srinivasan</td>
</tr>
<tr>
<td>11:00–11:20 am</td>
<td>ENS development in zebrafish&lt;br&gt;Julia Ganz</td>
<td>FGIDs, autonomic dysfunction, and EDS: What’s the connection?&lt;br&gt;Miguel Saps</td>
</tr>
<tr>
<td>11:20–11:40 am</td>
<td>ENS development in chick, mouse, and human: Variations on a theme&lt;br&gt;Allan Goldstein</td>
<td>Electroceutical therapy: What’s the latest?&lt;br&gt;Katja Kovacic</td>
</tr>
<tr>
<td>11:40 am–12:00 pm</td>
<td>Stem cell therapies for enteric neuropathies&lt;br&gt;Alan Burns</td>
<td>Virtually better: VR as a new clinical tool in neurogastroenterology&lt;br&gt;Brennan Spiegel</td>
</tr>
<tr>
<td>12:00–12:15 pm</td>
<td>Dysfunctional enteric and autonomic neurons innervating proximal colon in Hirschsprung’s disease mouse models&lt;br&gt;KM Smith-Edwards, BS Edwards, BM Davis&lt;br&gt;Pittsburgh, PA, University of Pittsburgh</td>
<td>Evaluation of bidirectional gut and brain axis in patients with dyssynergic defecation&lt;br&gt;Y Yan, J Remes-Troche, K Tantiphlachiva, E Coss-Adame, A Erdogan, SC Rao&lt;br&gt;Augusta, GA, Augusta University Medical Center</td>
</tr>
<tr>
<td>12:15–12:30 pm</td>
<td>Cell-autonomous loss of retinoic acid receptor signaling causes diverse stage-specific enteric nervous system defects in mice&lt;br&gt;RO Heuckeroth, T Gao, E Wright-Jin, R Sengupta, JB Anderson, CL Mendelsohn&lt;br&gt;Philadelphia, PA, St. Louis, MO, New York, NY&lt;br&gt;The Children's Hospital of Philadelphia</td>
<td>Modulation of visceral pain by the prefrontal cortex-bed nucleus of the stria terminals pathway&lt;br&gt;AC Johnson, CO Ligon, B Greenwood-Van Meerveld&lt;br&gt;Oklahoma City, OK, Veterans Affairs Health Care System</td>
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<tr>
<td>12:30–2:00 pm</td>
<td>Lunch · Poster Session · Visit Exhibits</td>
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<tr>
<td>2:00–3:30 pm</td>
<td><strong>Parallel Session 3</strong>&lt;br&gt;Enteric Neural Neuroimmune Signaling&lt;br&gt;Moderator: Tamas Ordog, Meenakshi Rao</td>
<td><strong>Parallel Session 4</strong>&lt;br&gt;Latest Innovations in Esophageal Physiology Testing and Treatment&lt;br&gt;Moderators: Joan Chen, Abraham Khan</td>
</tr>
<tr>
<td>2:00–2:20 pm</td>
<td>Role of mast cells in early-life stress-related GI dysfunction&lt;br&gt;Adam Moeser</td>
<td>The role of ICC in the esophagus: Is there an esophageal pacemaker?&lt;br&gt;Kenton Sanders</td>
</tr>
<tr>
<td>2:20–2:40 pm</td>
<td>Neuro-immune crosstalk and enteric nervous system remodeling in inflammatory bowel disease&lt;br&gt;Milena Bogunovic</td>
<td>How does foregut surgery alter peristalsis and LES function?&lt;br&gt;Walter Chan</td>
</tr>
<tr>
<td>2:40–3:00 pm</td>
<td>Regulation of enteric immunity: A cytokine’s cellular stratification of function&lt;br&gt;Ruaidhri Jackson</td>
<td>Using mathematics and mechanics to study esophageal function: Using in-silico models&lt;br&gt;Dustin Carlson</td>
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<tr>
<td>3:00–3:15 pm</td>
<td>Enteric glia sensitize nociceptor TRPV1 during acute inflammation through connexin-43-dependent prostaglandin-E2 release&lt;br&gt;W Morales-Soto, J McClain, BD Gulbransen&lt;br&gt;East Lansing, MI, Michigan State University</td>
<td>Esophagogastric junction compliance in pediatric eosinophilic esophagitis and achalasia&lt;br&gt;J Barsamian, AJ Benitez, S Budhu, AB Muir, A Ghariabans, KN Fiorino, P Mamula, H Mousa&lt;br&gt;San Diego, CA, Philadelphia, PA, Hauraki Plains, New Zealand&lt;br&gt;Children's Hospital, San Diego</td>
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<tr>
<td>Time</td>
<td>Session/Theme</td>
<td>Description</td>
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<tr>
<td>3:15–3:30 pm</td>
<td>Parallel Session 5</td>
<td>Role of enteric glia in colonic motility</td>
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<td>Role of muscularis macrophages in delayed gastric emptying</td>
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<tr>
<td>4:00–4:25 pm</td>
<td>Parallel Theme Symposium</td>
<td>Role of ICCs and PDGFα⁺ cells in the regulation of neuromuscular transmission in the internal anal sphincter</td>
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<td>4:25–4:50 pm</td>
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<td>Mitochondrial dysfunction in interstitial cells of Cajal predisposes female diabetic mice to gastroparesis</td>
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<tr>
<td>4:50–5:15 pm</td>
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<td>Cystic fibrosis and other CFTR channelopathies’ impact on gut function crisis: Microbiome and opioid tolerance</td>
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<tr>
<td>5:15–5:30 pm</td>
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<td>Functional and regional heterogeneity of glial cells in the enteric nervous system</td>
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<td>5:30–5:45 pm</td>
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<td>α-synuclein gene knockout disrupts cholinergic neuromuscular transmission causing colonic dysmotility</td>
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<tr>
<td>6:00–7:00 pm</td>
<td>Parallel Theme Symposium</td>
<td>Abdominal Pain: The role of visceral organ cross talk</td>
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<td></td>
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<td>Vendors will display or perform live or video demonstrations of anorectal and esophageal manometry, pH testing, and additional adjunct technology</td>
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<tr>
<td>6:05–6:30 pm</td>
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<td>Bowel–bladder interactions in IBS</td>
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<td>6:30–6:55 pm</td>
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<td>Mechanisms of visceral organ crosstalk</td>
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<tr>
<td>6:55–7:20 pm</td>
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<td>Gastrointestinal and bladder co-morbidities in children: Is there a role for visceral organ cross-talk?</td>
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<tr>
<td>7:20–7:40 pm</td>
<td>Parallel Theme Symposium</td>
<td>Allied Health + Hands-On Session</td>
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<tr>
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<td></td>
<td>Anorectal and esophageal manometry, pH testing, and additional adjunct technology</td>
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<tr>
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<td></td>
<td>Vendors will display or perform live or video demonstrations of anorectal and esophageal manometry, pH testing, and additional adjunct technology</td>
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<td>Vendors will pose 3 to 5 questions related to their equipment for the attendees to answer.</td>
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<td>A raffle will be held for the most correct answers. The winner will receive an Apple watch.</td>
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<tr>
<td>7:40–7:55 pm</td>
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<td>Panel Discussion</td>
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## Sunday, August 15, 2021 • 8:00 am – 12:00 pm

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00–10:00 am</td>
<td>Registration</td>
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<tr>
<td>7:00–8:00 am</td>
<td>Breakfast • Visit Exhibits</td>
</tr>
<tr>
<td>8:00–9:00 am</td>
<td><strong>W. Jerry Dodds, MD and Sushil K. Sarna, PhD Lectureship</strong></td>
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<tr>
<td></td>
<td><strong>Introduction:</strong> John Pandolfino</td>
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<tr>
<td></td>
<td><strong>IBS From Crib to Adulthood: Novel Clinical and Physiologic Insights</strong></td>
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<td><strong>Lin Chang</strong></td>
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<tr>
<td>9:00–10:00 am</td>
<td><strong>Plenary Abstract Session</strong></td>
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<td><strong>Moderators:</strong> Tijl Louwies, Maria Vazquez Roque</td>
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<tr>
<td>9:00–9:15 am</td>
<td>Symptoms improve more by combining diet or neuromodulator therapy with prokinetics vs. prokinetics alone in suspected gastroparesis</td>
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<tr>
<td></td>
<td>WL Hasler, Y Bai, A Lee, B Moshiree, SC Rao, RW McCallum, HP Parkman, L Nguyen, J Wo, I Sarosiek, M Schulman, B Kuo</td>
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<td></td>
<td>Ann Arbor, MI, Minneapolis, MN, Charlotte, NC, Augusta, GA, El Paso, TX, Philadelphia, PA, Palo Alto, CA, Indianapolis, IN, Largo, FL, Boston, MA, University of Michigan</td>
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<tr>
<td></td>
<td><strong>Abstract 15</strong></td>
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<tr>
<td>9:15–9:30 am</td>
<td>Spectrum of gastrointestinal disorders in patients with eating disorders and relationship to eating disorder remission</td>
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<td>MN Almeida, CJ Silvernale, A Samad, F Rao, HB Murray, K Staller</td>
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<td>Boston, MA, Massachusetts General Hospital</td>
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<td><strong>Abstract 16</strong></td>
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<tr>
<td>9:30–9:45 am</td>
<td>Altered gut afference-related brain connectivity in functional dyspepsia is linked to slower gastric peristalsis – A multimodal gut–brain axis MRI study</td>
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<td>RS Sclocco, H Fisher, R Staley, K Han, C Nguyen, A Mendez, V Napadow, B Kuo</td>
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<td>Boston, MA, Massachusetts General Hospital</td>
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<td><strong>Abstract 17</strong></td>
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<tr>
<td>9:45–10:00 am</td>
<td>A monoclonal anti-CGRP antibody decreases visceral hypersensitivity in experimental models of stress-induced irritable bowel syndrome</td>
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<td>EN Noor-Mohammadi, C Ligon, K Mackenzie, J Stratton, S Shnider, B Greenwood-Van Meerveld, Oklahoma City, OK, Redwood City, CA, University of Oklahoma Health Sciences Center</td>
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<tr>
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<td><strong>Abstract 18</strong></td>
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<tr>
<td>10:00–10:30 am</td>
<td>Break • Visit Exhibits</td>
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<tr>
<td>10:30 am–12:00 pm</td>
<td><strong>ANMS Distinguished Lectures</strong></td>
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<td><strong>Moderators:</strong> John Pandolfino, G. Nicholas Verne</td>
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<tr>
<td>10:30–11:00 am</td>
<td>30 years in neurogastroenterology: Lessons learned</td>
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<tr>
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<td>Carlo Di Lorenzo</td>
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<tr>
<td>11:00–11:30 am</td>
<td>Central nervous system plasticity in experimental models of stress-Induced visceral pain</td>
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<td>Beverley Greenwood-Van Meerveld</td>
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<tr>
<td>11:30 am–12:00 pm</td>
<td>The role of the brain–gut axis in inflammatory bowel disease</td>
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<td>Keith Sharkey</td>
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<td>12:00 pm</td>
<td>Adjourn</td>
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</tbody>
</table>

**Poster Session** • begins next page
## Poster Session - All posters will be up Friday and Saturday

### Biliary, Pancreatic and Small Intestinal Physiology, Pathophysiology, and Clinical Disorders

**Poster No.**

1. Symptomatic response to rifaximin monotherapy in intestinal methanogen overgrowth  
   B Zoll, R Hernandez, T Keo, HN Ryan, E Toto, JC Reynolds, NK Ahuja  
   Philadelphia, PA, The Hospital of the University of Pennsylvania  
   Abstract 19

2. Clinical associations with lactulose breath test results in a retrospective single-center cohort  
   B Zoll, R Hernandez, T Keo, MD, HN Ryan, E Toto, JC Reynolds, NK Ahuja  
   Philadelphia, PA, The Hospital of the University of Pennsylvania  
   Abstract 20

### Brain Gut Axis in Health and Disease

3. Individuals with irritable bowel syndrome in the general population report increased sensitivity to foods, caffeine and medications  
   S Ballou, K Scarlata, OS Palsson  
   Boston, MA, Medway, MA, Chapel Hill, NC, Beth Israel Deaconess Medical Center  
   Abstract 21

4. Withdrawn

5. Withdrawn

6. Brain fMRI activity follows the gastric rhythm and encodes the power fluctuations of gastric electrical activity in rats  
   J Cao, X Wang, Y Zhang, Z Liu  
   Ann Arbor, MI, University of Michigan  
   Abstract 24

7. 3D imaging and computational quantitation of extrinsic and intrinsic cholinergic innervation in the enteric nervous system (ENS) of the pig colon: Implications in the cholinergic anti-inflammatory pathway (CAP)  
   PQ Yuan, T Li, M Mulugete, M Larauche, JP Bellier, Y Tache  
   Los Angeles, CA, Otsu, Shiga, Japan, University of California, Los Angeles  
   Abstract 25

### Colon and Anorectum: Physiology, Pathophysiology, and Clinical Disorders

8. Clinical impact of incremental balloon inflation volumes during simulated defecation in anorectal manometry: Analysis of the London classification for disorders of anorectal function  
   JR Baker, M Jarvis, E Thakur, P Grier, B Moshiree  
   Charlotte, NC, Atrium Health  
   Abstract 26

9. Functional dyspepsia overlap syndromes in patients with refractory functional constipation  
   T Boyd, M Paz, I Ahmad, F Rao, A Samad, C Silvernale, H Burton Murray, K Staller  
   Boston, MA, Harvard Medical School  
   Abstract 27

10. Shallow contraction waves in the canine colon  
    H Gregersen, Y Wang, M Wang, X Guo, F Field, M Nelson, W Combs, G Kassab  
    San Diego, CA, California Medical Innovations Institute  
    Abstract 28

11. Biofeedback efficacy assessed using the Fecobionics device  
    H Gregersen, A Chen, WW Leung, C Wong, T Mak, S Ng, K Futaba  
    San Diego, CA, Shatin, Hong Kong, California Medical Innovations Institute  
    Abstract 29

    A Hudgi, Y Yan, R Wang, B Inman, A Sharma, SC Rao  
    Augusta, GA, Augusta University Medical Center  
    Abstract 30

13. Rectal sensation in patients with chronic constipation: What factors are associated with rectal hyposensitivity?  
    E Koo, B Nojkov, WD Chey, G Ezell, J Chen  
    Ann Arbor, MI, University of Michigan  
    Abstract 31

14. Withdrawn

15. Withdrawn

16. Long-term impact of constipation drug therapies on upper gastrointestinal symptom profiles and quality of life of patients with suspected gastroparesis with normal versus delayed colonic transit  
   Charlotte, NC, Ann Arbor, MI, Boston, MA, Augusta, GA, Buffalo, NY, New York, NY, Palo Alto, CA, Philadelphia, PA, El Paso, TX, Indianapolis, ID, Largo, FL, Atrium Health  
   Abstract 34

17. Joint hypermobility, autonomic dysfunction, gastrointestinal dysmotility and autoimmunity (JAG-A) – Clinical associations and the response to intravenous immunoglobulin therapy  
   J Pasricha, M McKnight, R Burns, L Villaloro, G Barahona, K Hui, R Bulat, G Treisman, G Yenokyan  
   Baltimore, MD, Johns Hopkins University  
   Abstract 35

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**Poster Session, continued**
### Enteric Nervous System Neurobiology and Circuitry:
*Neurons, Glia, Smooth Muscle Cell, ICC*

<table>
<thead>
<tr>
<th>Poster No.</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
<th>Abstract No.</th>
</tr>
</thead>
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<td>J Pasricha, L Villatoro, G Barahona, M McKnight, R Burns, J Koshorek, S Newsome</td>
<td>Baltimore, MD, Johns Hopkins University</td>
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<td>Higher Fabry’s disease deposition level is associated with diarrhea and faster colonic transit</td>
<td>B Surjanhata, I Guerrero López, LR Zukerberg, F Rao, H Burton Murray, C Zar-Kessler, B Kuo</td>
<td>Boston, MA, Barcelona, Spain, Boston Medical Center</td>
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<td>Gastrointestinal symptom burden and quality of life in patients with anorectal spastic motor disorders and irritable bowel syndrome (IBS)</td>
<td>EA Terry, GS Sayuk, RV Chokshi, VM Kushnir, MK Rude, CP Gyawali</td>
<td>St. Louis, MO, Washington University/Barnes-Jewish Hospital</td>
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<td>Abnormalities of the enteric nervous system may contribute to post pull-through dysmotility in Hirschsprung disease</td>
<td>S Bhave, R Guyer, M Omer, A Rahman, R Hotta, A Goldstein</td>
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<td>A population of mouse small intestine intrinsic primary afferent neurons are advillin positive and mechanosensitive</td>
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34 Manometric esophagogastric junction barrier metric as predictors of gastroesophageal reflux
S Babbar, A Khan, R Knotts
New York, NY, New York University School of Medicine

35 Use of the EsoFLIP dilator in a pediatric achalasia cohort
AJ Benitez, S Budhu, H Mousa, K Fiorino, P Mamula
Philadelphia, PA, Children's Hospital of Philadelphia

36 Sars-CoV-2 (COVID-19) prospective quality control project: Exploring a patient profile relative to scheduling a motility laboratory procedure related to Sars-CoV-2 anxiety
M Jarvis, B Moshiree, E Thakur, P Grier, JR Baker
Charlotte, NC, Atrium Health

37 Pneumatic dilation is safe in elderly patients with achalasia: A multicenter cross-sectional study
N Bar, TS Pasricha Boston, K Staller, CD Velez, T Thurm, SD Ben-Ami, R Dekel, Y Ron Y, B Kuo
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38 Utility of baseline impedance ratio measured during high resolution impedance manometry in identification of erosive esophagitis and/or Barrett’s esophagus
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Lexington, KY, Cairo, Ad Daqahlityah, Egypt, University of Kentucky

39 Paraneoplastic achalasia in the setting of a neuroendocrine tumor, a case report
S Sarvepalli, N Husain, Nisreen
Houston, TX, Baylor College of Medicine

40 Decreased distal esophageal impedance in Barrett’s esophagus: Variations with dysplasia
SS Shah, D Shahsavari, MS Smith, HP Parkman, Z Malik
Philadelphia, PA, New York, NY, Temple University Hospital

41 Cannabis use is associated with esophageal motility disorders characterized by impaired inhibition
KY Song, DL Snyder, MD Crowell, MF Vela
Scottsdale, AZ, Mayo Clinic Arizona

42 Clinical and demographic variables among patients with ineffective esophageal motility using Chicago Classification v4.0
AW Tuan, N Syed, R Panganiban, RY Lee, S Dalessio, S Pradhan, J Zhu, A Ouyang
Hershey, PA, Penn State Hershey Medical Center

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43 Implications of esophageal contractility in post-lung transplant patients
PS Um, MQ Chan, K Polacek, A Hinton, BC Keller, DR Nunley, G Balasubramanian
Columbus, OH, The Ohio State University College of Medicine

44 Early life factors in eosinophilic esophagitis: A systematic review and meta-analysis
E Wilder, C Winskill, Y Jia, P He, R Betensky, A Khan, F Francois, R Knotts
New York, NY, NYU Langone Health

45 Proximal reflux on impedance-pH, not patient-reported symptoms, predicts worse pulmonary function in interstitial lung disease
JC Zhou, WK Lo, WW Chan
Boston, MA, Harvard Medical School

46 Nutritional deficiencies and predictors of mortality in gastroparesis patients
W Amjad, W Qureshi, MA Shabbir, R Singh, S Richter
Menands, NY, Worcecher, MA, Albany, NY, Fort Wayne, ID, Albany Medical Center

47 Clinical predictors of failure of symptom improvement in gastroparesis
W Amjad, A Malik, MA Shabbir, A Batool, S Richter
Menands, NY, Chicago, IL, Albany, NY, Albany Medical Center

48 Tradipitant, a novel neurokinin-1 receptor antagonist, showed continued improvement in nausea and other symptoms associated with gastroparesis in an open-label extension of a phase II clinical trial
JL Carlin, MA Fisher, MS Bagger, DS Madonick, CQ Kupersmith, M Lopez Lascurain, C Xiao, G Birznieks, MH Polymeropoulos
Washington, DC, Vanda Pharmaceuticals

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50 Can gastric half emptying time (T½) in gastric emptying scintigraphy replace conventional retention values for evaluating gastroparesis?
R Gardella, P Silver, D Shahsavari, AH Maurer, HP Parkman
Philadelphia, PA, Lewis Katz School of Medicine at Temple University

51 Systematic assessment of the quality of smartphone applications for gastroesophageal reflux disease
MJ Gould, C Lin, CM Walsh
Toronto, Ontario, Canada, The Hospital for Sick Children

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**Meal eating characteristics of patients with gastroparesis**
GG Hagopian, KP Johnson, D Shahsavari, HP Parkman
Philadelphia, PA, Temple University School of Medicine

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53 **Frequency of GLP-1 analogs use in diabetic patients with delayed gastric emptying (GE): A retrospective study**
MA Kalas, GM Galura, A Deoker, RW McCallum
El Paso, TX, Texas Tech University Health Sciences Center

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54 **Subtypes of gastroparesis (GP) and functional dyspepsia (FD) based on gastric myoelectrical activity (GMA) in response to the water load satiety test (WLST)**
Winston-Salem, NC, Baltimore, MD, Philadelphia, PA, El Paso, TX, Boston, MA, Louisville, KY, Rochester, MN, Houston, TX, Bethesda, MD, Wake Forest School of Medicine

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55 **A new antibody assay may help identify abnormalities in patients with gastroparesis**
P Mathur, A Kedar, A Stocker, L McElmurray, BD Rogers, A Tansel, C Pinkston, GL Norman, T Abell
Louisville, KY, Pittsburgh, PA, University of Louisville

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56 **Patient treatment pathway patterns at an academic tertiary motility referral center**
S Condon, W Cai, P Mathur, A Stocker, L McElmurray, BD Rogers, T. Abell, A Tansel
Louisville, KY, Pittsburgh, PA, University of Louisville

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57 **Longer acidification time on wireless motility capsule (Smartpill™) correlates with gastroesophageal reflux disease**
SJ Rodriguez, JW Blackett, D Jordokovsky
New York, NY, Columbia University Medical Center

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58 **Withdrawn**

59 **Withdrawn**

60 **Pyloric diameter and distensibility profiles of patients unresponsive to G-POEM who sought further botulinum toxin injection after myotomy**
L Watts, G Ezell, JR Baker, N Bowers, R Law, WL Hasler
Ann Arbor, MI, Charlotte, NC, Rochester, MN, Michigan Medicine

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61 **Performance characteristics of scintigraphic measurement of gastric emptying of solids in diabetes with gastroduodenal symptoms or gastroparesis**
T Zheng, K Vosoughi, D Burton, M Camilleri
Rochester, MN, Mayo Clinic

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62 **Abdominal trauma in children and the incidence of disorders of gut brain interaction**
T Adamos, A Chogle, E Ornelas, A Raibovsky, K Visnagra
Orange, CA, Children's Hospital of Orange County (CHOC)

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63 **Withdrawn**

64 **A case report: Gut directed hypnotherapy in resolution of refractory IBS in a pediatric patient**
A Bapatla, P Luttig, M Serrano
Washington, DC, MedStar Georgetown University Hospital

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65 **Improvement in quality of life after auricular percutaneous electrical nerve field stimulation treatment in functional abdominal pain disorders**
A Chogle, A Raibovsky, E Ornelas
Orange, CA, Children's Hospital of Orange County (CHOC)

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66 **Withdrawn**

67 **Determining the placebo response in randomized controlled trials for pediatric constipation: A systematic review and meta-analysis**
MJ Gould, K Huysentruyt, Y Vandenplas, MA Marcon
Toronto, Ontario, Canada, Brussels, Belgium, The Hospital for Sick Children

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68 **Behavioral factors and gastric electrical stimulation in children with nausea and vomiting**
K Hawa, N Hurwitz, J Sabella, K Ryan, S Janse, A Kroon Van Diest, N Bali, D Yacob, C Di Lorenzo, P L Lu
Columbus, OH, Nationwide Children's Hospital

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69 **ERK1/2 activation preserves gastric pacemaker stem cells in aging**
Y Hayashi, DR Linden, GB Gajdos, SA Saravanaperumal, T Ordog, Rochester, MN, Mayo Clinic

**Abstract 87**

70 **Prevalence of gastrointestinal symptoms in cystic fibrosis: Results of a prospective multicenter study – GALAXY**
B Moshiree, JA Freeman, P Vu, U Khan, SL heltsh, SJ Schwartzenberg, S Freeman, D Riva, CH Goss, M Sathe, GALAXY Investigators†
Charlotte, North NC, Atlanta, GA, Seattle, WA, Minneapolis, MN, Boston, MA, Bethesda, MD, Dallas, TX, †26 other study sites, Atrium Health

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W Pan, R Stavely, S Bhave, R Guyer, A Rahman, M Omer, N Bousquet, AM Goldstein, R Hotta
Boston, MA, Massachusetts General Hospital  
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Poster No. 72 Motility in Parkinson’s disease: Is a multidisciplinary approach the best move?
S Rao, M Jarvis, J Baker, E Thakur, M Hirsch, B Moshiree
Charlotte, NC, Atrium Health  
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Poster No. 76 Efficacy of transcutaneous posterior tibial nerve stimulation in children with functional constipation
M Saps, G Hungria, A Linero, M Mendez, E Villamarin, C Velasco-Benitez
Miami, FL, Cali, Colombia, University of Miami  
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Poster No. 77 Jejunostomy tubes in patients with gastroparesis does not protect against readmission for lower respiratory infection
S Sarvepalli, SM Sarvepalli
Houston, TX, Mt. Pleasant, MI, Baylor College of Medicine  
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Poster No. 78 Significant temporal association of esophageal air events (supragastric belches, gastric belches, and air swallows) with hiccups: A case study in an adolescent
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Columbus, OH, Nationwide Children’s Hospital  
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FW Woodley, S Ciciora, K Vaz, Karla, K Williams, C Di Lorenzo
Columbus, OH, Nationwide Children’s Hospital  
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Poster No. 80 Increased occurrence of high amplitude propagating contractions on next day colon manometry for refractory pediatric constipation
GM Zacur, L Watts, G Ezell, L Wild, M Ralls, JR Baker, WL Hasler
Ann Arbor, MI, Charlotte, NC, Michigan Medicine  
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SY Li, P Moussalli, H Zhu, J Chen
Ann Arbor, MI, University of Michigan  
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Poster No. 82 Efficacy of gastric electrical stimulation (GES) in gastroparesis (GP): A systematic review and meta-analysis
A Malik, U Farooq, M Nadeem, W Amjad, K Zakharia
Villa Park, IL, Berwyn, IL, Oklahoma City, OK, Albany, NY, Iowa City, IA, Loyola University Medical Center  
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Poster No. 83 Response of bioelectric therapy for abdominal pain may be related to gastric tissue cell counts
W Cai, S Diamond, P Tirumanisetty, A Stocker, L McElmurray, P Mathur, A Tansel, BD Rogers, W Starkebaum, C Pinkston, T Abell
Louisville, KY, Minneapolis, MN, Pittsburgh, PA, University of Louisville  
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K Han, F Rao, B Kuo, K Staller, H Khalili
Boston, MA, Massachusetts General Hospital  
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Poster No. 86 Diagnostic yield and microbial characteristics of duodenal aspirate and culture for SIBO or SIFO
PP Uy, MM Asfari, J Sun, AL Cartelle, E Jimenez, T Karunaratne, S Arshad, SC Rao
Augusta, GA, Augusta University Medical Center  
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M Aggarwal, J McMichael, SL Gabbard
Cleveland, OH, Cleveland Clinic  
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Poster No. 88 Catechol-O-methyltransferase drives cell-specific nociceptive signaling via the enteric mir-155/TNF-α axis
L Yang, Q Zhou, L Yang, M Verne, B Zhang, J Fields, GN Verne
Memphis, TN, University of Tennessee Health Science Center (UTHSC)  
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New Methods and Approaches to Understanding Neurogastroenterology and Motility

Poster No. 89 Healthy vs Hirschsprung: Bringing clarity to visualizing the enteric nervous system in children
JD Eisenberg, KD Graham, A Lemke, R Cerón, BJ Wilkins, A Naji, RO Heuckeroth
Philadelphia, PA, Cincinnati, OH, Children’s Hospital of Philadelphia  
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F Gao, KH Kim, GB Gajdos, SA Saravanaperumal, Y Hayashi, JH Lee, AE Bharucha, T Ordog
Rochester, MN, Mayo Clinic  **Abstract 108**

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Improved Fecobionics test for anorectal function assessment
H Gregersen, Y Wang, M Wang, X Guo, F Field, M Nelson, W Combs, G Kassab
San Diego, CA, California Medical Innovations Institute  **Abstract 109**

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First case report using anal irrigation system to treat constipation in a visually impaired patient
M Jarvis, J Baker, M Kennelly, A Herr, E Thakur, B Moshiree
Atrium Health, Charlotte, NC, Atrium Health  **Abstract 110**

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Development and implementation of a novel hybrid model for neurogastroenterology and motility fellowship
S Javed, JC Reynolds, EL Toto, PK Kapavarapu, KN Fiorino, H Moussa, DA Piccoli, NK Ahuja
Philadelphia, PA, University of Pennsylvania  **Abstract 111**

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Chronic intestinal pseudo-obstruction is associated with methane overproduction
MZ Khan, R Lyu, S Gabbard
Cleveland, OH, Cleveland Clinic  **Abstract 112**

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R McCallum, K Espino, I Sarosiek
El Paso, TX, Texas Tech University Health Sciences Center
El Paso  **Abstract 113**

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Accelerated contrast-enhanced gastrointestinal MRI captures whole-stomach motor events in rats
X Wang, J Cao, U Scheven, Z Liu
Ann Arbor, MI, University of Michigan  **Abstract 114**

**Pharmacotherapy and Pharmacogenomics**

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Treatment satisfaction and improvement in quality of life with plecanatide among patients with chronic idiopathic constipation and irritable bowel syndrome with constipation: Analyses from four phase 3 trials*
DM Brenner, C Chang, E Shah, K Chong, SM Lorenzen, GS Sayuk
Chicago, IL, Albuquerque, NM, Lebanon, NH, Bridgewater, NJ, St. Louis, MO, Northwestern University Feinberg School of Medicine  **Presenting on Saturday**  **Abstract 115**

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Plecanatide is effective in severely constipated patients with chronic idiopathic constipation and irritable bowel syndrome with constipation
B Cash, A Sharma, SM Lorenzen, L Chang
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RR Sharma, C Ramos Rivers, DJ Levinthal, E Szigethy, F Koutoumpakis, M Ahsan, MD, J Duerer, ER Johnston, AM Barrie, JR Harrison, MB Schwartz, J Hashash, D Babiechenko, G Tang, DG Binion, A Tansel
Pittsburgh, PA, University of Pittsburgh Medical Center  **Abstract 118**

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Pittsburgh, PA, University of Pittsburgh Medical Center  **Abstract 119**

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DJ Kuter, S Keel, CJ Parker, DC Rees, U Stözel, P Ventura, M Balwani, L Gouya, A Simon, S Liu, JJ Ko, S Rhyee, SM Silver
Boston, MA, Seattle, WA, Salt Lake City, UT, London, United Kingdom, Chemnitz, Germany, Modena, Italy, New York, NY, Paris, France; Cambridge, MA, Ann Arbor, MI, Massachusetts General Hospital  **Abstract 120**

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QT Yu, ED Shah, NE Slatkin, N Stambler, RJ Israel
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ANMS Travel Award
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<td>Environmental enrichment prevents stress-induced epigenetic changes in gene expression at the central nucleus of the amygdala to inhibit visceral hypersensitivity</td>
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<td>Stress-induced visceral pain in female rats is associated with epigenetic remodeling in the central nucleus of the amygdala</td>
<td>T Louwies, B Greenwood-Van Meerveld</td>
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<td>El Paso, TX, Texas Tech University Health Sciences Center</td>
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