



## Nielsen Fernandez-Becker

Clinical Associate Professor, Medicine - Gastroenterology & Hepatology

 NIH Biosketch available Online

 Curriculum Vitae available Online

### CLINICAL OFFICES

- **Stanford Gastroenterology and Digestive Health Clinic**

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### ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

Cynthia Cruise - Administrative Associate

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### Bio

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#### BIO

I am the director of the Celiac Disease Program at Stanford and I am highly experienced in diagnosis and management of celiac disease and gluten associated disorders. My objective is to provide excellent and compassionate clinical care for my patients while seeking a better understanding of diseases I treat, particularly Celiac disease (CeD), eosinophilic esophagitis (EoE). My top priorities are patient care and translational research to make new discoveries and improve the care my patients.

#### CLINICAL FOCUS

- Gastroenterology
- Celiac Disease
- Gluten Sensitivity
- Esophageal Motility Disorders
- Eosinophilic esophagitis
- Eosinophilic Gastrointestinal Disorders
- Gastroesophageal reflux disease
- Scleroderma
- Enterology

#### ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Medicine - Gastroenterology & Hepatology

#### PROFESSIONAL EDUCATION

- Medical Education: Albert Einstein College of Medicine (2002) NY
- Residency: Massachusetts General Hospital (2005) MA
- Board Certification: Gastroenterology, American Board of Internal Medicine (2009)
- Fellowship: Beth Israel Deaconess Medical Center (2009) MA

- Internship: Massachusetts General Hospital (2003) MA

## LINKS

- Video Story: <https://stanfordhealthcare.org/stanford-health-care-now/why-i-got-into-medicine/why-medicine-nielsen-fernandez-becker-md.html>

## Research & Scholarship

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### CLINICAL TRIALS

- PTG-100 for Patients With Celiac Disease, Recruiting
- Functional Luminal Imaging Probe (FLIP) Topography Use in Patients With Scleroderma and Trouble Swallowing, Not Recruiting

## Publications

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### PUBLICATIONS

- **Baclofen and gastroesophageal reflux disease: seeing the forest through the trees.** *Clinical and translational gastroenterology*  
Clarke, J. O., Fernandez-Becker, N. Q., Regalia, K. A., Triadafilopoulos, G.  
2018; 9 (3): 137
- **Clinical examinations: a medical student's perspective reply** *ADVANCES IN MEDICAL EDUCATION AND PRACTICE*  
Shields, H. M., Fernandez-Becker, N. Q., Flier, S. N., Vaughn, B. P., Tukey, M. H., Pelletier, S. R., Horst, D. A.  
2018; 9: 3–4
- **Multi-Organ RNA-Sequencing of Patients with Systemic Sclerosis (SSc) Finds That Intrinsic Subsets Are Conserved across Organ Systems**  
Mehta, B. K., Franks, J., Cai, G., Toledo, D., Wood, T. A., Archambault, K. A., Kosarek, N., Kolstad, K., Stark, M., Valenzuela, A., Fiorentino, D., Fernandez-Becker, N., Becker, et al  
WILEY.2017
- **Efficacy of Video Capsule Endoscopy in the Management of Suspected Small Bowel Bleeding in Patients With Continuous Flow Left Ventricular Assist Devices.** *Gastroenterology research*  
Zikos, T. A., Pan, J. n., Limketkai, B. n., Banerjee, D. n., Fernandez-Becker, N. n.  
2017; 10 (5): 280–87
- **Hiding in Plain Sight: Localized Ulcerative Jejunitis in a Patient with Celiac Disease.** *Digestive diseases and sciences*  
Zhou, W., Triadafilopoulos, G., Fernandez-Becker, N.  
2022
- **KIR+CD8+ T cells suppress pathogenic T cells and are active in autoimmune diseases and COVID-19.** *Science (New York, N.Y.)*  
Li, J., Zaslavsky, M., Su, Y., Guo, J., Sikora, M. J., van Unen, V., Christophersen, A., Chiou, S., Chen, L., Li, J., Ji, X., Wilhelmy, J., McSween, et al  
2022: eabi9591
- **An efficient urine peptidomics workflow identifies chemically defined dietary gluten peptides from patients with celiac disease.** *Nature communications*  
Palanski, B. A., Weng, N., Zhang, L., Hilmer, A. J., Fall, L. A., Swaminathan, K., Jabri, B., Sousa, C., Fernandez-Becker, N. Q., Khosla, C., Elias, J. E.  
2022; 13 (1): 888
- **Gastrointestinal ## T cells reveal differentially expressed transcripts and enriched pathways during peanut oral immunotherapy.** *Allergy*  
Zhang, W., Krishna Dhondalay, G., Liu, T. A., Kaushik, A., Hoh, R., Kwok, S., Kambham, N., Fernandez-Becker, N. Q., Andorf, S., Desai, M., Galli, S. J., Boyd, S. D., Nadeau, et al  
2022
- **The Effects of Intermittent Fasting on Gastroesophageal Reflux Disease**  
Jiang, Y., Goodman, S., Sonu, I., Garcia, P., Fernandez-Becker, N., Kamal, A., Zikos, T., Singh, S., Neshatian, L., Triadafilopoulos, G., Clarke, J.  
LIPPINCOTT WILLIAMS & WILKINS.2021: S214
- **Gastric Mucosal Immune Profiling and Dysregulation in Idiopathic Gastroparesis.** *Clinical and translational gastroenterology*  
Gottfried-Blackmore, A. n., Namkoong, H. n., Adler, E. n., Martin, B. n., Gubatan, J. n., Fernandez-Becker, N. n., Clarke, J. O., Idoyaga, J. n., Nguyen, L. n., Habtezion, A. n.  
2021; 12 (5): e00349

- **Eosinophilic Esophagitis: Incidence, Diagnosis, Management, and Future Directions.** *Gastroenterology clinics of North America*  
Fernandez-Becker, N. Q.  
2021; 50 (4): 825-841
- **Achalasia: physiology and diagnosis.** *Annals of the New York Academy of Sciences*  
Rieder, E., Fernandez-Becker, N. Q., Sarosiek, J., Guillaume, A., Azagury, D. E., Clarke, J. O.  
2020
- **Not in the Same Vein: Inflammatory Bowel Disease, Malignancy, and Enterocolic Lymphocytic Phlebitis.** *Digestive diseases and sciences*  
Farber, O. N., Weingarden, A., Lee, C., Braxton, D. R., Bingham, D., Scott, G., Fernandez-Becker, N., Goff, D., Shelton, A., Kin, C.  
2020
- **Marijuana, Ondansetron, and Promethazine Are Perceived as Most Effective Treatments for Gastrointestinal Nausea.** *Digestive diseases and sciences*  
Zikos, T. A., Nguyen, L., Kamal, A., Fernandez-Becker, N., Regalia, K., Nandwani, M., Sonu, I., Garcia, M., Okafor, P., Neshatian, L., Grewal, D., Garcia, P., Triadafilopoulos, et al  
2020
- **Clinical and immunomodulatory effects of transcutaneous vagal nerve stimulation for idiopathic gastroparesis**  
Gottfried-Blackmore, A., Namkoong, H., Adler, E. P., Fernandez-Becker, N., Clarke, J., Habtezion, A., Nguyen, L.  
WILEY.2020
- **RNA-Seq of Gastrointestinal Biopsies During Oral Immunotherapy Reveals Changes in IgA Pathway**  
Zhang, W., Dhondalay, G., Hoh, R., Tupa, D., Bunning, B., Fernandez-Becker, N., Kambham, N., Boyd, S., Galli, S., Andorf, S., Manohar, M., Chinthrajah, S., Nadeau, et al  
MOSBY-ELSEVIER.2020: AB132
- **Peanut oral immunotherapy induces gastrointestinal eosinophilia in a longitudinal randomized controlled trial**  
Wright, B., Fernandez-Becker, N., Kambham, N., Purington, N., Cao, S., Tupa, D., Zhang, W., Rank, M., Kita, H., Katzka, D., Shim, K., Bunning, B., Doyle, et al  
MOSBY-ELSEVIER.2020: AB84
- **Gastric antral vascular ectasia in systemic sclerosis: Association with anti-RNA polymerase III and negative anti-nuclear antibodies.** *Seminars in arthritis and rheumatism*  
Serling-Boyd, N. n., Chung, M. P., Li, S. n., Becker, L. n., Fernandez-Becker, N. n., Clarke, J. n., Fiorentino, D. n., Chung, L. n.  
2020; 50 (5): 938–42
- **Eosinophilic esophagitis: updates on key unanswered questions.** *Annals of the New York Academy of Sciences*  
Fernandez-Becker, N. Q., Raja, S. n., Scarpignato, C. n., Lynch, K. L., Ahuja, N. K., Horsley-Silva, J. L.  
2020
- **The functional lumen imaging probe in gastrointestinal disorders: the past, present, and future.** *Annals of the New York Academy of Sciences*  
Clarke, J. O., Ahuja, N. K., Fernandez-Becker, N. Q., Gregersen, H. n., Kamal, A. N., Khan, A. n., Lynch, K. L., Vela, M. F.  
2020
- **Origins and clonal convergence of gastrointestinal IgE+ B cells in human peanut allergy.** *Science immunology*  
Hoh, R. A., Joshi, S. A., Lee, J. Y., Martin, B. A., Varma, S. n., Kwok, S. n., Nielsen, S. C., Nejad, P. n., Haraguchi, E. n., Dixit, P. S., Shutthanandan, S. V., Roskin, K. M., Zhang, et al  
2020; 5 (45)
- **Gastrointestinal Eosinophil Responses in a Longitudinal, Randomized Trial of Peanut Oral Immunotherapy.** *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*  
Wright, B. L., Fernandez-Becker, N. Q., Kambham, N. n., Purington, N. n., Cao, S. n., Tupa, D. n., Zhang, W. n., Sindher, S. B., Rank, M. A., Kita, H. n., Katzka, D. A., Shim, K. P., Bunning, et al  
2020
- **Baseline impedance via manometry and ambulatory reflux testing are not equivalent when utilized in the evaluation of potential extra-esophageal gastroesophageal reflux disease.** *Journal of thoracic disease*  
Zikos, T. A., Triadafilopoulos, G. n., Kamal, A. n., Podboy, A. n., Sonu, I. S., Regalia, K. A., Nandwani, M. C., Nguyen, L. A., Fernandez-Becker, N. Q., Clarke, J. O.  
2020; 12 (10): 5628–38

- **Open-label pilot study: Non-invasive vagal nerve stimulation improves symptoms and gastric emptying in patients with idiopathic gastroparesis.** *Neurogastroenterology and motility : the official journal of the European Gastrointestinal Motility Society*  
Gottfried-Blackmore, A., Adler, E. P., Fernandez-Becker, N., Clarke, J., Habtezion, A., Nguyen, L.  
2019; e13769
- **Ninety-Six Hour Wireless Esophageal pH Study in Patients with GERD Shows that Restrictive Diet Reduces Esophageal Acid Exposure.** *Digestive diseases and sciences*  
Triadafilopoulos, G., Korzilius, J. W., Zikos, T., Sonu, I., Fernandez-Becker, N. Q., Nguyen, L., Clarke, J. O.  
2019
- **Human Intestinal Enteroids Model MHC-II in the Gut Epithelium** *FRONTIERS IN IMMUNOLOGY*  
Wosen, J. E., Ilstad-Minnihan, A., Co, J. Y., Jiang, W., Mukhopadhyay, D., Fernandez-Becker, N. Q., Kuo, C. J., Amieva, M. R., Mellins, E. D.  
2019; 10
- **Human Intestinal Enteroids Model MHC-II in the Gut Epithelium.** *Frontiers in immunology*  
Wosen, J. E., Ilstad-Minnihan, A., Co, J. Y., Jiang, W., Mukhopadhyay, D., Fernandez-Becker, N. Q., Kuo, C. J., Amieva, M. R., Mellins, E. D.  
2019; 10: 1970
- **RPC4046, a Monoclonal Antibody Against IL13, Reduces Histologic and Endoscopic Activity in Patients With Eosinophilic Esophagitis** *GASTROENTEROLOGY*  
Hirano, I., Collins, M. H., Assouline-Dayana, Y., Evans, L., Gupta, S., Schoepfer, A. M., Straumann, A., Safroneeva, E., Grimm, M., Smith, H., Tompkins, C., Woo, A., Peach, et al  
2019; 156 (3): 592+
- **Esophageal Eosinophilia is Present in Some Peanut Allergic Patients**  
Fernandez-Becker, N., Wright, B. L., Kambham, N., Shim, K. P., Purington, N., Long, A. J., Tsai, M., Boyd, S., Galli, S. J., Nadeau, K. C., Chinthrajah, R.  
MOSBY-ELSEVIER.2019: AB310
- **An Unexpected Colonic Mass** *AMERICAN JOURNAL OF GASTROENTEROLOGY*  
Li, A. A., Cholankeril, G., Berry, G. J., Fernandez-Becker, N.  
2019; 114 (1): 180-81
- **Double Threat: Interplay of Celiac Disease with Inflammatory Bowel Disease.** *Digestive diseases and sciences*  
Gubatan, J. n., Triadafilopoulos, G. n., Fernandez-Becker, N. Q.  
2019
- **A Positive Correlation Between Gastric and Esophageal Dysmotility Suggests Common Causality** *DIGESTIVE DISEASES AND SCIENCES*  
Zikos, T. A., Clarke, J. O., Triadafilopoulos, G., Regalia, K. A., Sonu, I. S., Fernandez-Becker, N. Q., Nandwani, M. C., Nguyen, L. A.  
2018; 63 (12): 3417-24
- **Baseline Gastrointestinal Eosinophilia Is Common in Oral Immunotherapy Subjects With IgE-Mediated Peanut Allergy** *FRONTIERS IN IMMUNOLOGY*  
Wright, B. L., Fernandez-Becker, N. Q., Kambham, N., Purington, N., Tupa, D., Zhang, W., Rank, M. A., Kita, H., Shim, K. P., Bunning, B. J., Doyle, A. D., Jacobsen, E. A., Boyd, et al  
2018; 9
- **An Unexpected Colonic Mass.** *The American journal of gastroenterology*  
Li, A. A., Cholankeril, G., Berry, G. J., Fernandez-Becker, N.  
2018
- **Use of Esophageal pH Monitoring to Minimize Proton-Pump Inhibitor Utilization in Patients with Gastroesophageal Reflux Symptoms** *DIGESTIVE DISEASES AND SCIENCES*  
Triadafilopoulos, G., Zikos, T., Regalia, K., Sonu, I., Fernandez-Becker, N. Q., Nguyen, L., Nandwani, M. R., Clarke, J. O.  
2018; 63 (10): 2673-80
- **Multi-Organ RNA-Sequencing of Patients with Systemic Sclerosis (SSc) Finds That Intrinsic Subsets Are Conserved across Organ Systems**  
Mehta, B. K., Franks, J., Wang, Y., Cai, G., Toledo, D. M., Wood, T. A., Archambault, K. A., Kosarek, N., Kolstad, K. D., Stark, M., Valenzuela, A., Fiorentino, D., Fernandez-Becker, et al  
WILEY.2018
- **Identification of Risk Factors for Gastric Antral Vascular Ectasia (GAVE) Among Systemic Sclerosis Patients**  
Serling-Boyd, N., Li, S., Fiorentino, D., Becker, L., Fernandez-Becker, N., Clarke, J., Chung, L.

WILEY.2018

- **Use of Esophageal pH Monitoring to Minimize Proton-Pump Inhibitor Utilization in Patients with Gastroesophageal Reflux Symptoms.** *Digestive diseases and sciences*  
Triadafilopoulos, G., Zikos, T., Regalia, K., Sonu, I., Fernandez-Becker, N. Q., Nguyen, L., Nandwani, M. C., Clarke, J. O.  
2018
- **A Positive Correlation Between Gastric and Esophageal Dysmotility Suggests Common Causality.** *Digestive diseases and sciences*  
Zikos, T. A., Clarke, J. O., Triadafilopoulos, G., Regalia, K. A., Sonu, I. S., Fernandez-Becker, N. Q., Nandwani, M. C., Nguyen, L. A.  
2018
- **Baclofen and gastroesophageal reflux disease: seeing the forest through the trees** *CLINICAL AND TRANSLATIONAL GASTROENTEROLOGY*  
Clarke, J. O., Fernandez-Becker, N. Q., Regalia, K. A., Triadafilopoulos, G.  
2018; 9
- **Outcomes of Endoscopic Procedures on Patients With Left-Ventricular Assist Devices: Experiences From a Single-Center Retrospective Case Series**  
Pan, J. Y., Zikos, T., Chang, M. S., Limketkai, B., Banerjee, D., Fernandez-Becker, N.  
MOSBY-ELSEVIER.2017: AB207-AB208
- **Multi-Organ RNA-Sequencing of Systemic Sclerosis (SSc) Patients Shows Reproducible Gene Expression Profiles Across Organ Systems**  
Mehta, B. K., Johnson, M. E., Archambault, K. A., Wood, T. A., Valenzuela, A., Crawford, A., Fiorentino, D., Fernandez-Becker, N., Becker, L., Nguyen, L., Boin, F., Wolters, P., Chung, et al  
WILEY.2016
- **Intestinal pseudo-obstruction in patients with systemic sclerosis: an analysis of the Nationwide Inpatient Sample.** *Rheumatology*  
Valenzuela, A., Li, S., Becker, L., Fernandez-Becker, N., Khanna, D., Nguyen, L., Chung, L.  
2016; 55 (4): 654-658
- **Colonic plasmacytomas: a rare complication of plasma cell leukemia.** *Endoscopy*  
Hang, C. T., Perumpail, R. B., Huang, R. J., Fernandez-Pol, S., Fernandez-Becker, N. Q.  
2015; 47: E77-8
- **Intestinal Pseudo-Obstruction in Patients with Systemic Sclerosis: An Analysis of the Nationwide Inpatient Sample.**  
Valenzuela, A., Li, S., Becker, L., Fernandez-Becker, N., Khanna, D., Linda Nguyen, Chung, L.  
WILEY-BLACKWELL.2014: S1310
- **Dietary gluten triggers concomitant activation of CD4(+) and CD8(+) alpha beta T cells and gamma delta T cells in celiac disease** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Han, A., Newell, E. W., Glanville, J., Fernandez-Becker, N., Khosla, C., Chien, Y., Davis, M. M.  
2013; 110 (32): 13073-13078
- **In silico analysis of T-bet activity in peripheral blood mononuclear cells in patients with inflammatory bowel disease (IBD).** *In silico biology*  
Fernandez-Becker, N. Q., Moss, A. C.  
2009; 9 (5-6): 355-363
- **Separable and redundant regulatory determinants in Cactus mediate its dorsal group dependent degradation** *DEVELOPMENT*  
Fernandez, N. Q., Grosshans, J., Goltz, J. S., Stein, D.  
2001; 128 (15): 2963-2974

## PRESENTATIONS

- Control of drosophila embryonic dorsal-ventral polarity by the Cactus protein - Albert Einstein College of Medicine (9/2001)
- A Pilot Study of Therapeutic Vaccination with Envelope Protein E1 in 35 patients with Chronic Hepatitis C - Massachusetts General Hospital Noon Conference Journal Clu (11/2004)
- H.pylori's inside Job - Massachusetts General Hospital Noon Conference (6/2005)
- Discussion of a patient with fulminant Liver failure - Medical Surgical Conference Beth Israel Deaconess/ Harvard Medical School Boston (8/2005)
- Focal Cholestatic Hepatitis - Longwood Inter-Hospital Conference/Harvard Medical School (10/2005)
- Beta blockers to Prevent Gastroesophageal varices in patients with Cirrhosis - Journal Club Beth Israel Deaconess Medical Center/Harvard Medical School (12/2005)

- A patient with Gastric Lymphoma - Longwood Inter-Hospital Conference/Harvard Medical School (1/2006)
- Ulcerative Colitis - Longwood Inter-Hospital Conference/Harvard Medical School (1/2006)
- Endogenous Opioids Inhibit Early-Stage Pancreatic Pain in a Mouse Model of Pancreatic Cancer - Journal Club Beth Israel Deaconess Medical Center/Harvard Medical School (10/2006)
- Hepatic Cyst infection: a rare cause of Cardiac Tamponade - Intercity Conference Boston (9/2006)
- Intra-ductal Oncocytic Papillary Neoplasm (IOPN) presenting as Pancreatic Panniculitis - Intercity Conference Boston (9/2007)
- In silico analysis of T-bet regulatory networks in peripheral blood mononuclear cells in patients with inflammatory bowel disease IBD - Beth Israel Deaconess Research Seminar (1/2008)
- Hepatitis C - Harvard Medical School GI Physiology Course Boston (3/2008)
- Molecular response of activated peripheral blood lymphocytes to anti-TNF therapy in patients with Crohn's Disease - Beth Israel Deaconess Research Seminar (4/2009)
- Lipopolysaccharide signaling through the Toll-like receptors downregulates an inhibitory pseudoreceptor of TGF- $\beta$ , enhancing hepatic fibrosis and liver injury - Hepatology Journal Club Beth Israel Deaconess Medical Center/Harvard Medical School (11/2007)
- Communicable ulcerative colitis induced by T-bet Deficiency in the innate immune system - Gastroenterology Journal Club Beth Israel Deaconess Medical Center/Harvard Medical School Boston (12/2010)
- Celiac Sprue - Stanford University Tressider Union Medical Library (2010)
- Eosinophil Biology - Stanford University (10/2010)
- Catapult-Like Release of Mitochondrial DNA by Eosinophils Contributes to Antibacterial Defense - Stanford University Digestive Disease Conference Journal Club
- Malabsorption and Diarrhea - Stanford University Residency Program Noon Conference (5/2011)
- Celiac Disease - Stanford University Gastroenterology Fellows (4/2011)
- The Diagnosis and Management of Celiac Disease - Stanford University Gastroenterology Fellows (10/2011)
- A Single Conformational Transglutaminase 2 Epitope Contributed by Three Domains is Critical for Celiac Antibody Binding and Effects - Stanford University Digestive Disease Conference (2/2012)
- FODMAPs and GI Disease - Stanford University Vaden Health Center (5/2012)
- Malabsorption, Diarrhea and Celiac Disease - Stanford University Residency Program (5/2012)
- Microscopic Colitis - Stanford University Gastroenterology Fellows (12/2012)
- Celiac Disease and Other Look-Alikes - Stanford University Primary Care Program (4/2013)
- Malabsorption Syndromes - Primary Care Associate Program (10/11/2013)
- Celiac Disease: Diagnosis and Management - Stanford School of Medicine (10/24/2013)
- Eosinophilic Esophagitis - Stanford University Gastroenterology Fellows (9/2013)
- Celiac Disease Clinical Case Discussions - Stanford University Gastroenterology Fellows (12/2013)
- Chronic Diarrhea - Stanford University Gastroenterology Fellows (10/2015)
- Capsule Endoscopy Workshop: Indications, Contraindications, Diagnostic Yield - Stanford University Gastroenterology Fellows (10/2015)
- Understanding the Role of Intestinal Epithelial Cell Responses in Celiac Disease Pathogenesis: A Work in Progress - Stanford University Digestive Disease Clinical Conference Research Update (3/2016)
- A Whirlwind Tour of Gastroenterology - Stanford University Clinical Research Coordinator Science Series (5/2016)
- Celiac Disease and Gluten Associated Disorders - Stanford University Medical Library Speaker (5/2016)
- Celiac Disease and Wheat Disorders - GI Symposium (9/2016)