I am honored to be nominated for the position of NASPGHAN Councilor. I have been fortunate to be a NASPGHAN member for the past 21 years and have seen the many ways that NASPGHAN can affect our professional lives including grant funding, professional education, career development and advocacy just to name a few. I am excited by the opportunity to continue to work on the expansion of the diversity and vigor of our society and I hope to be a part of continuing and building our society.

I graduated from the University of Illinois-Chicago with my MD and PhD in 2001 and began my pediatric residency at Children's Hospital Colorado that year. While there, I was fortunate to be in the inaugural Teaching and Tomorrow program and received my first glimpse of the role that NASPGHAN can play in our professional life. I next moved to the Children's Hospital of Philadelphia where I completed my fellowship and remained there as an attending physician for 3 years, providing me the opportunity to expand and develop my research in pediatric IBD. I returned to the University of Colorado and The Children's Hospital Colorado in 2010 to continue my research and to develop the pediatric IBD center. I remain at Children's Colorado to this day. Throughout this time, I have been a dedicated member of NASPGHAN. I feel indebted to our society for all that it has given me, and I want to help assure that our society remains strong and can continue to provide similar support to current and future members. I have made efforts to remain active in our society participating in the Research committee, the IBD committee (including as vice chair and chair of this committee) and the fecal transplant SIG. Through these I have been active in advocacy for our patients and our society members by meeting with legislators and insurance medical directors on the topic of prior authorization for IBD medications and biosimilar mandates. I have been involved in the development of multiple publications (guidelines) for the society. In addition, I have had an active part in education of our Pediatric GI fellows as faculty and co-director of the 1st and 2nd year fellow's conferences. NASPGHAN has afforded me many opportunities to develop my career and participate as an advocate for our society. I bring my experience as a leader, basic scientist and clinician to this position. My vision for this position would be to be an ardent supporter of the engagement with external parties, governmental agencies, pharmaceutical companies, other GI societies and patient focused organizations. I would look to define novel ways to engage junior faculty in pursuit of research, while providing support for senior scientists in this challenging time. In addition, I want to support any effort to continue expansion of the diversity of our society. Finally, I would support any engagement in advocacy for all our patients and providers around prior authorization and insurance mandates.

The NASPGHAN community provided me the opportunity to have a successful career as a basic scientist and clinician focused on pediatric IBD. I hope, in my work as a councilor for our society, to assure that we continue to support all NASPGHAN members and the patients that we care for.

Edwin de Zoeten, MD, PhD

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: de Zoeten, Edwin

eRA COMMONS USER NAME (credential, e.g., agency login): dezoeten

POSITION TITLE: Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
University of Wisconsin, Madison, WI	BS	05/1992	Bacteriology
University of Illinois-Chicago, Chicago, IL	PHD	05/2001	Immunology
University of Illinois-Chicago, Chicago, IL	MD	05/2001	Medicine
University of Colorado SOM, Denver, CO	Resident	05/2004	Pediatrics
University of Pennsylvania, Philadelphia, PA	Fellow	06/2007	Pediatric Gastroenterology, Hepatology and Nutrition

A. Personal Statement

I am a pediatric inflammatory bowel disease specialist, having worked in the field since 2007. As a physician scientist, I have studied basic immunologic mechanisms in the lab for the past 20 years. My work has focused on the evaluation of regulatory processes and specifically how the immune system regulates itself in the intestine. Our greatest contribution has been in identifying a regulatory role of cell stress on T cells and defining new ways to harness this regulatory effect to develop novel targets for treatment of immune dysregulatory diseases. We have analyzed cell stress pathways including heat shock, endoplasmic reticulum stress and hypoxia. In addition, we are working on assessing the effect of the protein lactoferrin on the modulation of the T cell mediated immune response and defined methods to utilize its activity against inflammation. From these studies we have identified microbiome and metabolite effects that we are currently analyzing. My position as a physician scientist allows me to straddle two overlapping worlds providing expertise in both. I am the Director of the University of Colorado Anschutz School of Medicine, GI and Liver Innate Immune Program Biorepository, which has over a thousand adult and Pediatric tissue samples including PBMC's, Serum, Stool, intestinal biopsies and surgical samples for use in research studies. As the director of the Children's Hospital Colorado IBD Center, I am perpetually assessing methods to improve clinical care for our patients. I have been actively involved in NASPGHAN since my fellowship and hope to continue this in the councilor position. My leadership, clinical and research experience give me the background to be an active councilor for the NASPGHAN executive committee.

Ongoing and recently completed projects that I would like to highlight include:

W81XWH-21-1-0312
de Zoeten, Edwin (PI)
6/2021-7/2025
Department of Defense PRMRP, Investigator-Initiated Research Award
DEFINING A NOVEL THERAPEUTIC APPLICATION OF LACTOFERRIN FOR INTESTINAL INFLAMMATION

T32DK067009-21
de Zoeten, Sokol (MPI)
01/13/18-01/01/24
NIH-NIDDK
INSTITUTIONAL TRAINING GRANT IN PEDIATRIC GASTROENTEROLOGY
07/2025-6/2030

CAPTURE IBD
de Zoeten (PI)
1/2021-12/2026

Crohn's and Colitis Foundation

Recently completed:
1R01DK111856-01A1
de Zoeten, Edwin (PI)
01/13/18-01/01/24
NIH-NIDDK
MICRORNA-DEPENDENT REGULATION OF INTESTINAL T-CELLS

1. Czopik AK, McNamee EN, Vaughn V, Huang X, Bang IH, Clark T, Wang Y, Ruan W, Nguyen T, Masterson JC, Tak E, Frank S, Collins CB, Li H, Rodriguez-Aguayo C, Lopez-Berestein G, Gerich ME, Furuta GT, Yuan X, Sood AK, **de Zoeten EF***, Eltzschig HK*. HIF-2α-dependent induction of miR-29a restrains T(H)1 activity during T cell dependent colitis. Nat Commun. 2024 Sep 14;15(1):8042. PubMed Central PMCID: PMC11399416. *co-senior author
2. Collins CB, Nguyen TT, Leddy RS, Alula KM, Yeckes AR, Strassheim D, Aherne CM, Luck ME, Karoor V, Jedlicka P, Pierce A, **de Zoeten EF**. Heat shock factor 1 drives regulatory T-cell induction to limit murine intestinal inflammation. Mucosal Immunol. 2024 Feb;17(1):94-110. PubMed Central PMCID: PMC10953693.
3. **deZoeten EF**, Battista KD, Colson SB, Lovell MA, Kessler BE, Isfort RW, Fennimore BP, Onyiah JC, Kao DJ, Yeckes A, Keely S, Murray M, Hoffenberg EJ, Colgan SP, Gerich ME. Markers of Hypoxia Correlate with Histologic and Endoscopic Severity of Colitis in Inflammatory Bowel Disease. Hypoxia (Auckl). 2020; 8:1-12. PubMed Central PMCID: PMC7026141.
4. Collins CB, Puthoor PR, Nguyen TT, Strassheim D, Jedlicka P, Friedman JE, **de Zoeten EF**. C/EBPβ Deletion Promotes Expansion of Poorly Functional Intestinal Regulatory T Cells. J Crohns Colitis. 2018 Nov 28;12(12):1475-1485. PubMed Central PMCID: PMC8877170.

B. Positions, Scientific Appointments and Honors

Current Positions and Scientific Appointments

2021-	Professor, University of Colorado SOM, Aurora, CO
2021-	Hoover Family Endowed Chair for Digestive Health and Nutrition
2021 -	Associate Editor, Journal of Pediatric Gastroenterology and Nutrition
2018 -	Director, University of Colorado GI and Liver Biorepository, Aurora, CO
2016 -	Director, Children's Hospital Colorado IBD Center, Aurora, CO
2015 -	Director-Pediatric Physician Scientist Training Program, University of Colorado, Aurora, CO

Honors in the past 10 years(total N=19)

2023-present	5280 Magazine Top Doctor in Colorado (Pediatric Gastroenterology)
2022	Patient-Family Experience, Excellence in Clinical Care Award, Top 10%
2021	Hoover Family Endowed Chair in Digestive Health and Nutrition, Children's Hospital Colorado
2017	National Excellence in Health Care Award 5 Star, PRC

Selected Committee Participation (total N=50)

2011-present	Round-up River Ranch (Seriousfun Children's Network) Medical Volunteer
2012-2016	Crohn's and Colitis Foundation- Rocky Mountain Chapter Board Member
2011-2015	National Pediatric Affairs Committee, Crohn's and Colitis Foundation of America- Research Initiatives, Co-Chair
2010-2013	NASPGHAN Inflammatory Bowel Disease Committee-Member
2013-2015	NASPGHAN 2nd Year Fellows Conference Scottsdale AZ-Course Director
2013-2025	American Gastroenterological Association–Pediatric Gastroenterology and Developmental Biology Committee member
2015-2018	NASPGHAN Research Committee-Member
2016-2022	National Scientific Advisory Committee, Crohn's and Colitis Foundation of America Committee member

2017-2018	NASPGHAN Inflammatory Bowel Disease Committee-Vice Chairperson
2018-2021	NASPGHAN Inflammatory Bowel Disease Committee-Chairperson
2018-2021	Crohn's and Colitis Foundation IBD Plexus Selection Committee-Co-Chairperson
2019-2021	NASPGHAN) Annual Meeting Organizing Committee-Member
2021	Pediatric Research Innovation I-ACT for Children - Pediatric IBD: Extrapolation group Member and speaker
2021- 2023	Crohn's & Colitis Congress Organizing Committee Chair for Pediatric IBD
2021- 2025	Crohn's & Colitis Congress Organizing Committee-Member
2022-2024	NASPGHAN 1st Year Fellows Conference; Orlando FL- Course Co-Director

C. Contribution to Science

1. My laboratory's focus has been on targeting the regulation of T cells in immune mediated disease in order to activate this immune regulatory cell type and treat disease. We have been one the first to show that innate conserved stress responses can be targeted to modulate the inflammatory response in the intestine. Specifically, our laboratory has identified responses to heat shock, endoplasmic reticulum and hypoxic stress that activate Tregs and other T cells. We continue to work on methods to harness these responses to drive a response that will be helpful in disease.

    a. Czopik AK, McNamee EN, Vaughn V, Huang X, Bang IH, Clark T, Wang Y, Ruan W, Nguyen T, Masterson JC, Tak E, Frank S, Collins CB, Li H, Rodriguez-Aguayo C, Lopez-Berestein G, Gerich ME, Furuta GT, Yuan X, Sood AK, **de Zoeten EF***, Eltzschig HK*. HIF-2α-dependent induction of miR-29a restrains T(H)1 activity during T cell dependent colitis. Nat Commun. 2024 Sep 14;15(1):8042. PubMed Central PMCID: PMC11399416. *co-senior author

    b. Collins CB, Nguyen TT, Leddy RS, Alula KM, Yeckes AR, Strassheim D, Aherne CM, Luck ME, Karoor V, Jedlicka P, Pierce A, **de Zoeten EF**. Heat shock factor 1 drives regulatory T-cell induction to limit murine intestinal inflammation. Mucosal Immunol. 2024 Feb;17(1):94-110. PubMed Central PMCID: PMC10953693.

    c. **de Zoeten EF**, Battista KD, Colson SB, Lovell MA, Kessler BE, Isfort RW, Fennimore BP, Onyiah JC, Kao DJ, Yeckes A, Keely S, Murray M, Hoffenberg EJ, Colgan SP, Gerich ME. Markers of Hypoxia Correlate with Histologic and Endoscopic Severity of Colitis in Inflammatory Bowel Disease. Hypoxia (Auckl). 2020;8:1-12. PubMed Central PMCID: PMC7026141.

    d. Collins CB, Strassheim D, Aherne CM, Yeckes AR, Jedlicka P, **de Zoeten EF**. Targeted inhibition of heat shock protein 90 suppresses tumor necrosis factor-α and ameliorates murine intestinal inflammation. Inflamm Bowel Dis. 2014 Apr;20(4):685-94. PubMed Central PMCID: PMC4418437.

2. In the past 20 years I have focused on the mucosal immune response and the role that T cells play in the development of inflammatory conditions of the intestine. T cells are a critical component of the adaptive arm of the intestinal immune response and play an important role in inflammatory bowel diseases. A subset of T cells, Regulatory T cells, provide the control over hyperactivation that is required in an environment of constant activation by antigens. Without Treg cells, inflammation lacks control. T cells have been a focus of investigation for me since 2005. My work has been seminal in our understanding of Histone Deacetylases their role in regulation of the Treg cells and the downstream events associated with cell stress. In addition, we have shown that targeting of Treg regulation is a viable strategy for treatment of inflammatory bowel diseases.

    a. Collins CB, Puthoor PR, Nguyen TT, Strassheim D, Jedlicka P, Friedman JE, **de Zoeten EF**. C/EBPβ Deletion Promotes Expansion of Poorly Functional Intestinal Regulatory T Cells. J Crohns Colitis. 2018 Nov 28;12(12):1475-1485. PubMed Central PMCID: PMC8877170.

    b. MacManus CF, Collins CB, Nguyen TT, Alfano RW, Jedlicka P, **de Zoeten EF**. VEN-120, a Recombinant Human Lactoferrin, Promotes a Regulatory T Cell [Treg] Phenotype and Drives Resolution of Inflammation in Distinct Murine Models of Inflammatory Bowel Disease. J Crohns Colitis. 2017 Sep 1;11(9):1101-1112. PubMed Central PMCID: PMC5881664.

c. **de Zoeten EF**, Hancock WW. Strategies to cure experimental autoimmune colitis using antigen-specific Foxp3+ regulatory T cells. Gastroenterology. 2008 Jun;134(7):2171-4. PubMed PMID: 18482583.

d. Tao R, **de Zoeten EF**, Ozkaynak E, Chen C, Wang L, Porrett PM, Li B, Turka LA, Olson EN, Greene MI, Wells AD, Hancock WW. Deacetylase inhibition promotes the generation and function of regulatory T cells. Nat Med. 2007 Nov;13(11):1299-307. PubMed PMID: 17922010.

3. As member of collaborative groups, I have continued to focus on the mucosal immune response and contributed to our understanding of the immune response associated with inflammatory bowel disease. This work has improved not only our understanding of targets for the treatment of IBD but also basic understanding of immune cell function.

   a. Steiner CA, Koch SD, Evanoff T, Welch N, Kostelecky R, Callahan R, Murphy EM, Nguyen TT, Hall CHT, Lu S, **de Zoeten EF**, Weiser-Evans MCM, Cartwright IM, Colgan SP. The TNF(ΔARE) Mouse as a Model of Intestinal Fibrosis. Am J Pathol. 2023 Aug;193(8):1013-1028. PubMed Central PMCID: PMC10433691.

   b. Constant BD, Dutmer CM, Arnold MA, Hall C, Abbott JK, **de Zoeten EF**. Cytotoxic T-Lymphocyte-Associated Antigen 4 Haploinsufficiency Mimics Difficult-to-Treat Inflammatory Bowel Disease. Clin Gastroenterol Hepatol. 2022 Apr;20(4):e696-e702. PubMed Central PMCID: PMC8572315.

   c. Fernandez IZ, Baxter RM, Garcia-Perez JE, Vendrame E, Ranganath T, Kong DS, Lundquist K, Nguyen T, Ogolla S, Black J, Galambos C, Gumbart JC, Dawany N, Kelsen JR, **de Zoeten EF**, Quinones R, Eissa H, Verneris MR, Sullivan KE, Rochford R, Blish CA, Kedl RM, Dutmer CM, Hsieh EWY. A novel human IL2RB mutation results in T and NK cell-driven immune dysregulation. J Exp Med. 2019 Jun 3;216(6):1255-1267. PubMed Central PMCID: PMC6547857.

   d. Aherne CM, Saeedi B, Collins CB, Masterson JC, McNamee EN, Perrenoud L, Rapp CR, Curtis VF, Bayless A, Fletcher A, Glover LE, Evans CM, Jedlicka P, Furuta GT, **de Zoeten EF**, Colgan SP, Eltzschig HK. Epithelial-specific A2B adenosine receptor signaling protects the colonic epithelial barrier during acute colitis. Mucosal Immunol. 2015 Nov;8(6):1324-38. PubMed Central PMCID: PMC4598274.

4. Clinically, I have carried over my interest in the immune response in the intestine and have actively developed studies in patients and helped to develop of appropriate care guidelines for children with inflammatory bowel disease.

   a. Hall CHT, **de Zoeten EF**. Understanding very early onset inflammatory bowel disease (VEOIBD) in relation to inborn errors of immunity. Immunol Rev. 2024 Mar;322(1):329-338. PubMed Central PMCID: PMC11044353.

   b. Constant BD, Albenberg L, Mitchel EB, **de Zoeten EF**, Clapp JT, Scott FI. Prior Authorizations Delay Therapy, Impact Decision-making, and Lead to Adverse Events in Inflammatory Bowel Disease: 2022 Provider Survey. Clin Gastroenterol Hepatol. 2024 Feb;22(2):423-426. PubMed PMID: 37394025; NIHMSID: NIHMS1949072.

   c. Constant BD, **de Zoeten EF**, Weinman JP, Albenberg L, Scott FI. Early Anti-Tumor-Necrosis-Factor Therapy for Crohn's Disease-Related Abdominal Abscesses and Phlegmon in Children. Dig Dis Sci. 2023 Mar;68(3):877-888. PubMed PMID: 35790702; NIHMSID: NIHMS1888359.

   d. Constant BD, **de Zoeten EF**, Stahl MG, Vajravelu RK, Lewis JD, Fennimore B, Gerich ME, Scott FI. Delays Related to Prior Authorization in Inflammatory Bowel Disease. Pediatrics. 2022 Mar 1;149(3) PubMed Central PMCID: PMC10234594.