

## **Current Position**

**Full Professor and Head of Department, Department of Medical Psychology and Medical Sociology, Faculty of Medicine, Ruhr University Bochum**

## **Professional Experience**

- 2021-present Member, International Graduate School of Neuroscience (IGSN), Ruhr University Bochum
- 2020-present Principle Investigator, Research Department of Neuroscience (RDN), Ruhr University Bochum
- 2020-present Co-opted Faculty Member, Faculty of Psychology, Ruhr University Bochum
- 2020-present Guest-Professor and Faculty Member, Faculty of Medicine, Clinic of Neurology, Translational Pain Research Unit, University of Duisburg-Essen
- 2020-present Steering Committee Member and Coordinator of Early Career Support and Diversity Management, Collaborative Research Center SFB/TRR 289 'Treatment Expectation'
- 2020-present Principle Investigator, project A04, SFB/TRR 289 'Treatment Expectation'
- 2017-present Principle Investigator, project A10, SFB 1280 'Extinction Learning'
- 2017-present Principle Investigator, project A12, SFB 1280 'Extinction Learning'
- 2016-2020 Vice Dean for Career Development & Diversity, Faculty of Medicine, University of Duisburg-Essen
- 2018-2020 Co-Applicant and Vice Chair, DFG-funded University Medicine Essen Clinician Scientist Academy (UMEA), Faculty of Medicine, University of Duisburg-Essen
- 2011-2020 Full Professor of Experimental Psychobiology & Gender Research (W3), Institute of Medical Psychology & Behavioural Immunobiology, Faculty of Medicine, University of Duisburg-Essen
- 2014-2018 Elected Member of the University Senate, University of Duisburg-Essen
- 2016-2017 Visiting Guest Professor, Linköping University Medical Faculty, funded by Östergötland County, Sweden
- 2015-present Chair, Visceral Pain Committee, German Pain Society
- 2009 German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) Heisenberg-Stipend
- 2011 DFG Heisenberg-Professorship
- 2001 Visiting Postdoctoral Research Fellow, Intestinal Research Program, McMaster University, Canada
- 2000-2008 Assistant Professor (C1), Institute of Medical Psychology, Faculty of Medicine, University of Duisburg-Essen
- 2004-2007 Interim Director, Institute of Medical Psychology, Faculty of Medicine, University of Duisburg-Essen
- 1996-2000 Ph.D. student research assistant, Lynn Institute for Healthcare Research, University of Oklahoma Health Sciences Center, USA

## Academic Degrees

2004	Habilitation and Venia Legendi for Medical Psychology, Faculty of Medicine, University of Duisburg-Essen
2000	Doctor of Philosophy (Ph.D.), Biological Psychology Ph.D. Program, University of Oklahoma Health Sciences Center, USA
1998	Master of Science (M.Sc.), Biological Psychology Ph.D. Program, University of Oklahoma Health Sciences Center, USA
1996	Bachelor of Science (B.S.) in Psychology (Vordiplom), Heinrich-Heine University Düsseldorf

## Awards and Honours

2016-present	Recognition as a "ROME-Foundation Fellow", Rome-Foundation
2016-present	Editorial Board Member, Neurogastroenterology & Motility
2012	Oskar Medizin Prize, Oskar-Helene-Heim Foundation
2011	DFG Heisenberg-Professor
2009	DFG Heisenberg-Stipend
2009	Research Award for Psychosomatic Research, Graute & Graute Oppermann-Foundation
1999	Graduate Student Association Award for Outstanding Academic Achievement
1996-1997	Stipend "Integrated Studies Abroad", Deutscher Akademischer Auslandsdienst (DAAD)

## Funding (past 5 years)

German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) Project TP A10 "From Pavlov to pain: Extinction learning in visceral pain" (PIs S. Elsenbruch & A. Icenhour) within SFB 1280 "Extinction Learning". (2021-2025) Total ~544.000 €

DFG Project TP A12 "The impact of chronic inflammation on fear extinction" (PIs H. Engler & S. Elsenbruch) within SFB 1280 "Extinction Learning". (2021-2025) Total ~580.000 €

DFG Project TP04 „Effects of negative expectations on viscerosensation and visceral pain“ within SFB/TRR 289 "Treatment Expectation". (2020-2024) Total ~549.000 €

DFG Project TP A10 "From Pavlov to pain: Extinction learning in visceral pain" within SFB 1280 "Extinction Learning". (2017-2021) Total ~453.000 €

DFG Project TP A12 "The impact of inflammation on the extinction of pain-related fear in humans" (PIs H. Engler & S. Elsenbruch) within SFB 1280 "Extinction Learning". (2017-2021) Total ~509.000 €

DFG Project 7 "Neural mechanisms of learning and extinction in visceral pain" (EL 236/9-2 PIs S. Elsenbruch & S. Benson) within Research Unit FOR 1581 "Extinction Learning: Neural Mechanisms, Behavioral Manifestations, and Clinical Implications". (2014-2016): Total: ~237.000 €

DFG Project 5 "Placebo modulation of visceral pain processing: Effects of emotional context on placebo and nocebo responses in healthy volunteers" (EL 236/8-2 PIs S. Elsenbruch & S. Benson) within Research Unit FOR 1328 "Expectation and conditioning as basic processes of the placebo and nocebo response". (2014-2016) Total: ~291.000 €

Ministry for Innovation, Science, and Research of North Rhine-Westphalia (Ministerium für Innovation, Wissenschaft und Forschung des Landes NRW) Program for Gender Equality of Universities (Landesprogramm für Geschlechtergerechte Hochschulen, Programmstrang Förderung von Denominationen in der Genderforschung (2016-2019). Total: 225.000 €

## Recent publications (full list: <https://orcid.org/0000-0002-6528-2665>)

- Beckers A, van Oudenhove L, Weerts ZZ, Jacobs H, Priovoulos N, Poser B, Ivanov D, Gholamrezaei A, Aziz Q, **Elsenbruch S**, Masclee A, Keszthelyi D (2021): Evidence for engagement of the nucleus of the solitary tract in processing intestinal chemoreceptive input irrespective of conscious pain response in healthy humans. *Pain* (in press).
- Schlitt F, Schmidt K, Merz CJ, Wolf OT, Kleine-Borgmann J, **Elsenbruch S**, Wiech K, Forkmann K, Bingel U (2021): Impaired pain-related threat and safety learning in patients with chronic back pain. *Pain* (in press).
- Öhlmann H, Koenen LR, Labrenz F, Engler H, Theysohn N, Langhorst J, **Elsenbruch S** (2021): Altered brain structure in chronic visceral pain: Specific differences in gray matter volume and associations with visceral symptoms and chronic stress. *Front Neurol* (in press).
- Koch AK, Schöls M, Haller H, Anheyer D, Cinar Z, Eilert R, Kofink K, Engler H, **Elsenbruch S**, Cramer H, Dobos G, Langhorst J (2021): Comprehensive lifestyle modification influences medium-term and artificially induced stress in ulcerative colitis – A sub-study within a randomized controlled trial using the Trier Social Stress Test. *J. Clin. Med.* (in press).
- Kleine-Borgmann J, Schmidt K, Scharmach K, Zunhammer M, **Elsenbruch S**, Bingel U, Forkmann K (2021): Does pain modality play a role in the interruptive function of acute visceral compared to somatic pain? *Pain* (online ahead of print).
- Keefer L, Ballou SK, Drossman DA, Ringstrom G, **Elsenbruch S**, Ljótsson B (2021). A Rome working team report on brain-gut behaviour therapies for disorders of gut-brain interaction. *Gastroenterology* S0016-5085(21)03494-6.
- Icenhour A, Petrakova L, Hazzan N, Theysohn N, Merz CJ, **Elsenbruch S** (2021) When gut feelings teach the brain to fear pain: Context-dependent activation of the central fear network in a novel interoceptive conditioning paradigm. *Neuroimage* 238:118229.
- Koenen LR, Pawlik RJ, Icenhour A, Petrakova L, Forkmann K, Theysohn N, Engler H, **Elsenbruch S** (2021) Associative learning and extinction of conditioned threat predictors across sensory modalities. *Comm Biol.* 4(1):553.
- Bosman M, **Elsenbruch S**, Corsetti M, Tack J, Simrén M, Winkens B, Boumans T, Masclee A, Keszthelyi D (2021) The placebo response rate in pharmacological trials in patients with irritable bowel syndrome – a systematic review and meta-analysis. *Lancet Gastroenterol Hepatol.* S2468-1253(21)00023-6.
- Zunhammer M, Spisák T, Wager TD, Bingel U; **Placebo Imaging Consortium** (2021) Meta-analysis of neural systems underlying placebo analgesia from individual participant fMRI data. *Nat Commun.* 12(1):1391.
- Norlin AK, Walter S, Icenhour A, Keita AV, **Elsenbruch S**, Bednarska O, Jones MP, Simon R, Engström M (2021): Fatigue in irritable bowel syndrome is associated with plasma levels of TNF- $\alpha$  and mesocorticolimbic connectivity. *Brain Behav Immun.* 92:211-220.
- Labanski A, Langhorst J, Engler H, **Elsenbruch S** (2020) Stress and the brain-gut axis in functional and chronic-inflammatory gastrointestinal diseases: A transdisciplinary challenge. *Psychoneuroendocrinology* 111:104501.
- Benson S, Engler H, Wegner A, Schedlowski M, **Elsenbruch S** (2020) Elucidating vulnerability to inflammation-induced hyperalgesia: Predictors of increased musculoskeletal pain sensitivity during experimental endotoxemia. *Brain Behav Immun.* 88:302-307.
- Icenhour A, Labrenz F, Roderigo T, Benson S, **Elsenbruch S** (2020) The Role of Chronic Stress in Normal Visceroception: Insights From an Experimental Visceral Pain Study in Healthy Volunteers. *Front Psychiatry.* 11:107.
- Labrenz F, Knuf-Rtveliashvili S, **Elsenbruch S** (2020) Sex Differences Linking Pain-Related Fear and Interoceptive Hypervigilance: Attentional Biases to Conditioned Threat and Safety Signals in a Visceral Pain Model. *Front Psychiatry.* 11:197.
- Benson S, Rebernik L, Pastoors D, Brinkhoff A, Wegner A, **Elsenbruch S**, Engler H (2020) Impact of acute inflammation on the extinction of aversive gut memories. *Brain Behav Immun.* 88:294-301.
- Langhorst J, Schöls M, Cinar Z, Eilert R, Kofink K, Paul A, Zempel C, **Elsenbruch S**, Lauche R, Ahmed M, Haller D, Cramer H, Dobos G, Koch AK (2020): Comprehensive Lifestyle-Modification in Patients with Ulcerative Colitis – A Randomized Controll Trial. *J Clin Med.* 9(10):3087.
- Benson S, Engler H, Wegner A, Schedlowski M, **Elsenbruch S** (2020): Elucidating vulnerability to inflammation-induced hyperalgesia: Predictors of increased musculoskeletal pain sensitivity during experimental endotoxemia. *Brain Behav Immun.* 88:302-307.
- Schmidt K, Forkmann K, **Elsenbruch S**, Bingel U (2020): Enhanced pain-related conditioning for face compared to hand pain. *PLoS One.* 15(6):e0234160.
- Mayer EA, Labus J, Aziz Q, Tracey I, Kilpatrick L, **Elsenbruch S**, Schweinhardt P, Van Oudenhove L, Borsook D (2019) Role of brain imaging in disorders of brain-gut interaction: a Rome Working Team Report. *Gut.* 68:171-1715.

- Benson S, Siebert C, Koenen LR, Engler H, Kleine-Borgmann J, Bingel U, Icenhour A, **Elsenbruch S** (2019) Cortisol affects pain sensitivity and pain-related emotional learning in experimental visceral but not somatic pain: a randomized controlled study in healthy men and women. Pain. 160(8):1719-1728.
- Icenhour A, Tapper S, Bednarska O, Witt ST, Tisell A, Lundberg P, **Elsenbruch S**, Walter S (2019): Elucidating the putative link between prefrontal neurotransmission, functional connectivity, and affective symptoms in irritable bowel syndrome. Sci Rep. 9(1):13590.
- Benson S, **Elsenbruch S** (2019): No Reason to Feel Sick? Nocebo Responses in the Placebo Arms of Experimental Endotoxemia Studies. Front Psychiatry. 10:511.
- Icenhour A, Tapper S, Bednarska O, Witt ST, Tisell A, Lundberg P, **Elsenbruch S**, Walter S (2019): Elucidating the putative link between prefrontal neurotransmission, functional connectivity, and affective symptoms in irritable bowel syndrome. Sci Rep. 9(1):13590.
- Bednarska O, Icenhour A, Tapper S, Witt ST, Tisell A, Lundberg P, **Elsenbruch S**, Engström M, Walter S (2019): Reduced excitatory neurotransmitter levels in anterior insulae are associated with abdominal pain in irritable bowel syndrome. Pain. 160(9):2004-2012.
- Elsenbruch S**, Roderigo T, Enck P, Benson S (2019): Can a Brief Relaxation Exercise Modulate Placebo or Nocebo Effects in a Visceral Pain Model? Front Psychiatry. 10:144.
- Benson S, Hagen S, Hoffmann O, Pasler A, Bingel U, Schedlowski M, Peters J, **Elsenbruch S**, Frey UH (2019): Can a brief psychological expectancy intervention improve postoperative pain? A randomized, controlled trial in breast cancer patients. Pain. 160(7):1562-1571.
- Witt ST, Bednarska O, Keita ÅV, Icenhour A, Jones MP, **Elsenbruch S**, Söderholm JD, Engström M, Mayer EA, Walter S (2019): Interactions between gut permeability and brain structure and function in health and irritable bowel syndrome. Neuroimage Clin. 21:101602.
- Labrenz F, Ferri F, Wrede K, Forsting M, Schedlowski M, Engler H, **Elsenbruch S**, Benson S, Costantini M (2019): Altered temporal variance and functional connectivity of BOLD signal is associated with state anxiety during acute systemic inflammation. Neuroimage. 184:916-924.
- Böttcher B, Gizewski ER, Siedentopf C, Steiger R, Verius M, Riedl D, Ischebeck A, Schmid J, Wildt L, **Elsenbruch S** (2019): Behavioural and neural responses to aversive visceral stimuli in women with primary dysmenorrhoea. Eur J Pain. 23(2):272-284.
- Zunhammer M, Bingel U, Wager TD; **Placebo Imaging Consortium** (2018) Placebo effects on the neurologic pain signature – A meta-analysis of individual participant functional magnetic resonance imaging data. JAMA Neurol 75(11):1321-1330.
- Koenen LR, Icenhour A, Forkmann K, Theysohn N, Forsting M, Bingel U, **Elsenbruch S** (2018) From Anticipation to the Experience of Pain: The Importance of Visceral Versus Somatic Pain Modality in Neural and Behavioral Responses to Pain-Predictive Cues. Psychosom Med. 80(9):826-835.
- Enck P, Azpiroz F, Boeckstaens G, **Elsenbruch S**, Feinle-Bisset C, Holtmann G, Lackner JM, Ronkainen J, Schemann M, Stengel A, Tack J, Zipfel S, Talley NJ (2017) Functional dyspepsia. Nat Rev Dis Primers. 3:17081.
- Roderigo T, Benson S, Schöls M, Hetkamp M, Schedlowski M, Enck P, **Elsenbruch S** (2017) Effects of acute psychological stress on placebo and nocebo responses in a clinically relevant model of viscerosception. Pain. 158: 1489-98.
- Koenen LR, Icenhour A, Forkmann K, Pasler A, Theysohn N, Forsting M, Bingel U, **Elsenbruch S** (2017) Greater fear of visceral pain contributes to differences between visceral and somatic pain in healthy women. Pain. 158: 1599-1608.
- Benson S, Brinkhoff A, Lueg L, Roderigo T, Kribben A, Wilde B, Witzke O, Engler H, Schedlowski M, **Elsenbruch S** (2017) Effects of acute systemic inflammation on the interplay between sad mood and affective cognition. Transl Psychiatry 7:1281.
- Elsenbruch S** & Enck P (2015) Placebo effects and their determinants in gastrointestinal disorders. Nat Rev Gastroenterol Hepatol. 12: 472-85.
- Schmid J, Langhorst J, Gaß F, Theysohn N, Benson S, Engler H, Gizewski ER, Forsting M, **Elsenbruch S** (2015) Placebo analgesia in patients with functional and organic abdominal pain: A fMRI study in IBS, UC and healthy volunteers. Gut. 64: 418-27.
- Schmid J, Bingel U, Ritter C, Benson S, Schedlowski M, Gramsch C, Forsting M, **Elsenbruch S** (2015) Neural underpinning of nocebo hyperalgesia in visceral pain: A fMRI study in healthy volunteers. Neuroimage. 120: 114-22.