

## Report January – March 2023; Smell & Taste

### Peer-reviewed Original Publications

- High B, Jette M, Li M, Ramakrishnan V, Clary M, Prager J, Draf J, Hummel T, Finger T (2023) Variability in P2X Receptor Composition in Human Taste Nerves: Implications for Treatment of Chronic Cough. *Eur Resp J Open Res* (in press)
- Chen B, Stein A, Olesch FT, Hummel T (2023) Odor deprivation influences human olfactory function. *Physiol Behav* (in press)
- Gossrau G, Zaranek L, Klimova A, Sabatowski R, Koch T, Richter M, Haehner A (2023) Olfactory training reduces pain sensitivity in children and adolescents with primary headaches. *Front Pain Res* (in press) doi: 10.3389/fpain.2023.1091984
- Sabiniewicz A, Brandenburg M, Hummel T (2023) Odor threshold differs for some but not all odorants between older and younger adults. *J Gerontol: Psychol Sci* (in press)
- Hernandez AK, Wendler O, Mayr S, Iro H, Hummel T, Mueller S (2023) Predictors of olfactory improvement after endoscopic sinus surgery in chronic rhinosinusitis with nasal polyps. *J Laryngol Otol* (in press)
- Menzel S, Konstantinidis I, Valentini M, Battaglia P, Turri-Zanoni M, Sileo G, Monti G, Castelnuovo PGM, Hummel T, Macchi A (2023) Surgical approaches for possible positions of an olfactory implant to stimulate the olfactory bulb. *ORL* (in press)
- Mai Y, Klockow M, Haehner A, Hummel T (2023) Self-assessment of olfactory function using the “Sniffin’ Sticks”. *Eur Arch ORL* (in press)
- Whitcroft KL, Mancini L, Yousry T, Hummel T, Andrews P (2023) Functional septorhinoplasty alters brain structure and function: neuroanatomical correlates of olfactory dysfunction. *Frontiers Allergy* (in press)
- Hörberg T, Sekine R, Overbeck C, Hummel T, Olofsson JK (2023) A word-classification based anosmia severity index predicts olfactory abilities and impairment. *Eur Arch ORL* (in press)
- Li S, Yan C, Hummel T, Zou LQ (2023) Development and Validation of the Olfactory Memory Test Battery (OMTB) Based on Odors with High- and Low-Verbalizability. *J Neurosci Meth* (in press)
- Biswas K, Ramakrishnan VR, Hollemann E, Lorenz K, Wagner Mackenzie B, Frank DN, Douglas RG, Hummel T (2023) Bacterial communities in the nasal passage of post-viral olfactory dysfunction patients. *Int For Allerg Rhinol* (in press)
- Boscolo-Rizzo P, Hummel T, Invitto S, Spinato G, Tomasoni M, Emanuelli E, Tofanelli M, Cavicchia A, Grill V, Vaira LA, Lechien JR, Borsetto D, Polesel J, Dibattista M, Menini A, Hopkins C, Tirelli G (2023) Psychophysical Assessment of Olfactory and Gustatory Function in Post-Mild COVID-19 Patients: A Matched Case-Control Study with Two-year Follow-up. *Int For Allerg Rhinol* (in press)
- Oleszkiewicz A, Schmidt P, Smith B, Spence C, Hummel T (2023) Effects of blindness and anosmia on auditory discrimination of temperature and carbonation of liquids. *Food Qual Pref* (in press)
- Li Z, Abdul Manan H, Heitmann H, Witte V, Wirkner K, Riedel-Heller S, Villringer A, Hummel T (2023) The association between depth of the olfactory sulcus, age, gender and olfactory function: an MRI-based investigation in more than 1000 participants. *Neuroscience* (in press)
- Boichot V, Menetrier F, Saliou JM, Lirussi F, Canon F, Folia M, Heydel JM, Hummel T, Menzel S, Steinke M, Hackenberg S, Schwartz M, Neiers F (2023) Characterization of human oxidoreductase involved in aldehyde odorants metabolism. *Sci Reports* (in press)
- Zhu Y, Thaploo D, Han P, Hummel T (2023) Processing of Sweet, Astringent and Pungent Oral Stimuli in the Human Brain. *Neuroscience* (in press)
- Ai Y, Yang J, Nie H, Hummel T, Han P (2023) Increased sensitivity to unpleasant odor following acute psychological stress. *Horm Behav* 150:105325.

- Joshi A, Hornstein H, Thaploo D, Faria V, Warr J, Hummel T (2023) Neural processing of odors with different well-being association - findings from two consecutive neuroimaging studies. Brain Sci (in press)
- Hernandez AK, Wendler O, Mayr S, Iro H, Hummel T, Mueller SK (2023) Predictors of olfactory improvement after endoscopic sinus surgery in chronic rhinosinusitis with nasal polyps. J Laryngol Otol (in press)

## Other publications (Chapters, peer-reviewed reviews, letters)

- Hernandez AK, Zou L, Hummel T (2023) Olfactory and Gustatory Sensation-Perception. The SAGE Handbook of Cognitive and Systems Neuroscience (Ed Boyle GJ) : SAGE Publishing, London (in press)
- Stuck BA, Menzel S, Laudien M, Hintschich CA, Hummel T (2023) Mechanisms of COVID-19 induced olfactory loss. J Allergy Clin Immunol (in press)
- Hernandez AK, Landis BN, Altundag A, Fjaeldstad AW, Gane S, Holbrook EH, Huart C, Konstantinidis I, Lechner M, Macchi A, Portillo Mazal P, Miwa T, Philpott C, Pinto JM, Poletti SC, Vodicka J, Welge-Luessen A, Whitcroft KL, Hummel T (2023) Olfactory nomenclature: an orchestrated effort to clarify terms and definitions of dysosmia, anosmia, hyposmia, normosmia, hyperosmia, olfactory intolerance, parosmia, and phantosmia / olfactory hallucination. ORL (in press)
- Boscolo-Rizzo P, Hummel T, Invitto S, Spinato G, Vaira LA, Lechien JR, Menini A, Hopkins C, Tirelli G (2023) Reply to: It Is Necessary To Assess Olfactory And Gustatory Functions In Post Covid-19 Patients Due To The Omicron Variant Infection. Int For Allerg Rhinol (in press)

## Guests / Personnel / Visitors

- 10./11.1.2023: Dr. Maximilian Stolz-Fink and Dr. Jörg Nebel visit from the ENT Department of the Military Hospital in Konstanz
- 13./1.4.1.2023: Lisa Ruck and Jana Brauchmann visit (Pediatric Endocrinology, Charite, Berlin)
- 22.1.2023: Claudia Galvao from Sao Paulo visits
- 13.2.-17.2.2023: Ditte Gertz Mogensen, Ph.D. student at the ENT Dept., Rigshospitalet, København
- 22.2.2022: Prof. Hilmar Gudziol visits from the Dept. of ORL, University of Jena
- 23.2.2023: Camille Ferdenzi and Halina Stanley visit from the Dept. of Psychology of the University of Lyon
- 27.-29.2.2023: Niklas Menger, PhD student from the Dept. of Medical Psychology at the University of Tübingen
- 1.3.2023: May Matsuda starts here 1-month visit (student at the Hamamatsu University School of Medicine)
- 15.3.2023, 16.30h: **Lena Trost**, [PhD Student at Bauhaus-University Weimar, Fine Arts](#)
- 16.3.2023: Dr. Shuji Fujita, Tomotaka Takahashi, Yukito Inoue and Klaus Zimmermann visit from SONY Corp., Tokyo.
- 17.3.2023: Vanessa Hanschmann, HNO Zentrum am Ku'damm, Berlin, visits
- 18.3.2023: Claudia Galvao, NOAR, Sao Paulo, and Marcio Nakanishi, Department of Otorhinolaryngology, University Hospital of Brasília UnB-EBSERH, Brasilia, Federal District, visit
- 20.3.2023: Prof. Veronica Egger visits from the Institute of Zoology, Regensburg University
- 20.-22.3.2023: Dr. Arianna Di Stadio visits from the Department of Otolaryngology, University of Catania

- 27.3.2023-31.3.2023: [Charlotte Sinding](#), INRAE, Dijon, France
- 27.3.2023-31.3.2023: [Han-Seok Seo](#), Fayetteville, Arkansas, USA: Dale Bumpers College of Agricultural, Food and Life Sciences: Food Science
- 28.3.2023: Daria Nitz visits (student from Berlin – thesis topic: “Human Pheromones”)

## Grants/Awards

- At the #IEEE International Conference on e-Health and Bioengineering 2022, the best paper award went to the paper entitled "The Influence of Pleasant and Unpleasant Odours on the Acoustics of Speech". In this joint cooperation with Maurice Gerczuk, Andreas Triantafyllopoulos, Anton Batliner, Björn Schuller, we demonstrated the influence of odours on speech production. Paper: <https://lnkd.in/eMc7YwXw>

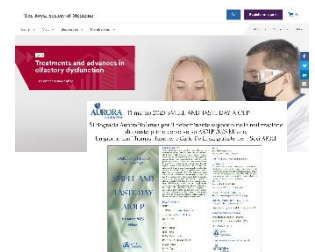


## Thesis

- 28.2.2023: Promotion Dr. med.: Georg Stupka: Ableitung von Elektroolfaktogrammen an Patienten mit Riechstörung und gesunden Probanden
- 14.3.2023: Promotion Dr. med.: Mareen Rudolph; Schmeckvermögen bei Sinusitis maxillaris
- 14.3.2023: Promotion Dr. med. dent.: Jan Hendrik Noltus; Einfluss von nasaler Polypenchirurgie bei chronischer Rhinosinusitis auf Struktur und Funktion des olfaktorischen Cortex - Eine fMRT-Studie
- 21.3.2023: Promotion Dr. med.: Franziska Heyne; Untersuchung der modulierenden Wirkung von Düften auf den emotionalen Ausdruck

## Presentations at Courses, Presentations etc.:

- Thomas Hummel presents on Jan 20 at the IFOS ENT World Congress 17-21 Jan 2023 in Dubai on “Recent advances in olfaction: Diagnosis and Management” and participate in panel discussion on “Olfaction in CRS: case based discussion”
- Hölscher T, Vogel C, Thiele J, Mai Y, Hummel T (2023) Eine prospektive Studie zur Erfassung optischer und olfaktorischer Sinneseindrücke unmittelbar während einer Strahlentherapie mit Protonen oder Photonen. Abstract zum 29. Kongress der Deutschen Gesellschaft für Radioonkologie (DEGRO2023) 22. bis 24. Juni 2023
- Thomas Hummel presents at the Royal Society of Medicine on Friday, 3<sup>rd</sup> of February, on “Treatment of olfactory loss: Past, present, future”
- 11.3.2023: Thomas Hummel presents at the Smell and Taste Day AIOLP organized by Orietta Caclinoni in Milano



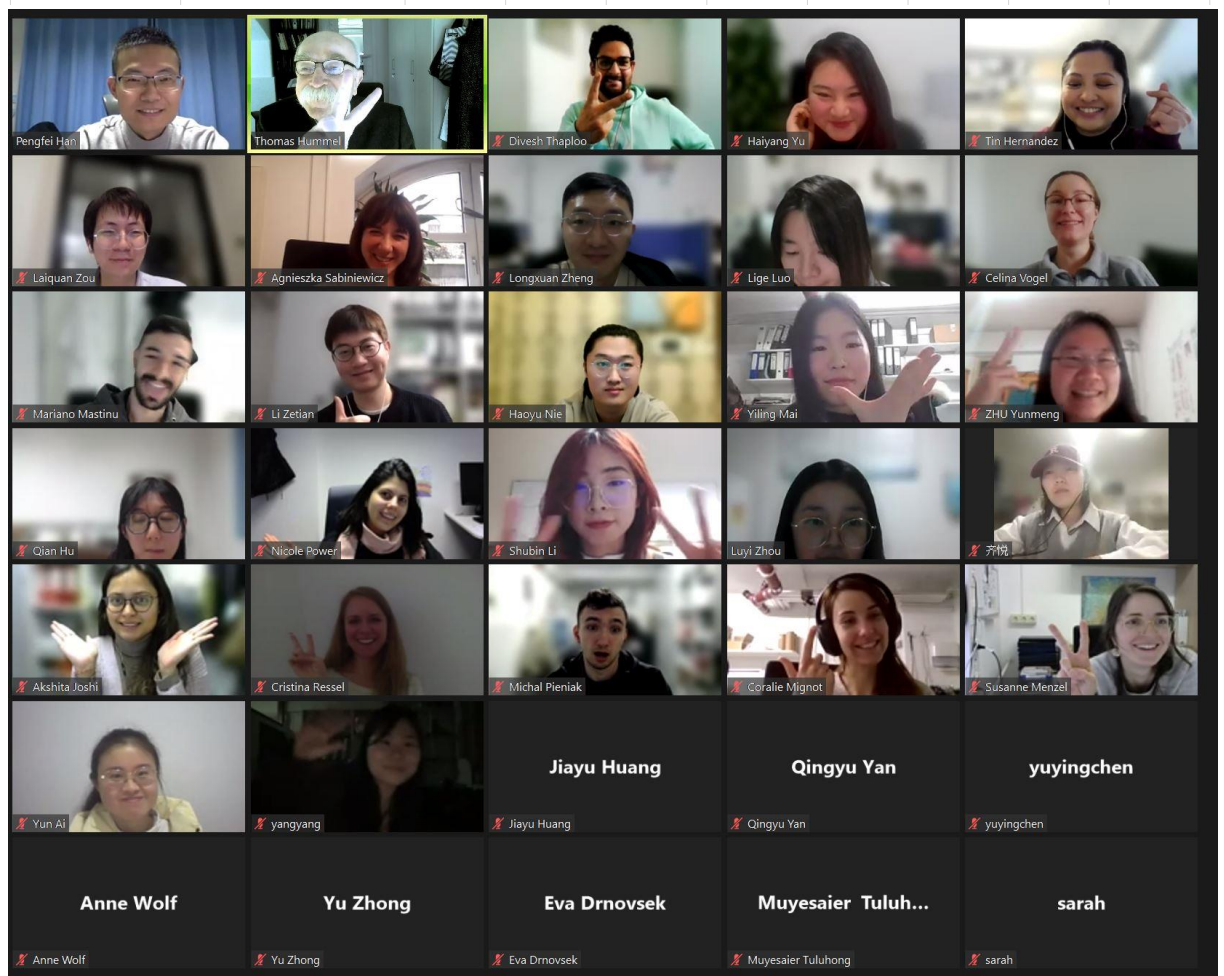
- 25.3.2023: Thomas Hummel presents at the [Alpine Nasal Course, Les Gets](#), France, on “trigeminal function”



## Presentations in the lab:

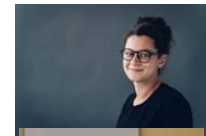
- Feb 10, 2023: The Dresden - Quongqing meeting (online)!

09:00	Introduction	Pengfei Han and Thomas Hummel
<b>Assessment of chemosensory function</b>		
09:05	Mariano Mastinu	New test for clinical assessment of taste and oral somatosensory function
09:15	Li Zetian	Patients with olfactory loss exhibit pronounced adaptation to chemosensory stimuli: an electrophysiological study
<b>Perception of odors</b>		
09:25	Haoyu Nie	Fasted state improves the sensitivity of non-food odors but not food odors: A meta-analysis
09:35	Michal Pieniak	Impact of olfactory training on olfactory functions and chemosensory event-related potentials in healthy adults
09:45	Yun Ai	Effect of acute stress on odor sensitivity for an unpleasant odor and neural activation for a pleasant odor
09:55	Muyesaier TuluHong	The exploration on chronic stress and olfactory metacognition
10:05	Akshita Joshi	Lateralized dominance of the nasal cycle is not reflected in Olfactory Bulb volumes and cerebral activations
<b>10:15 Break</b>		
<b>Olfactory loss and parosmia</b>		
10:30	Haiyang Yu	Impact of Chemosensory dysfunction on the importance of food sensory
10:40	Yling Mai	Abnormal visual and olfactory sensations during radiation therapy: a prospective study
10:50	Shubin Li	Orthonasal and retronasal odor identification in patients with olfactory loss, with and without parosmia
11:00	Divesh Thaploo	Resting state functional connectivity in different degrees of parosmia
<b>The extra study</b>		
11:15	Luyi Zhou	Habitual consumption and craving of spicy food correlates to differential regional brain morphology



- 14.2.2023, 16:15h: Journal Club - **Tin Hernandez** presents on Yan K et al., [Immune-related molecular changes in the olfactory epithelium, structural alteration in the olfactory bulb, and psychosis.](#)

- 16.2.2023, 16:00h: **Ditte Gertz Mogensen** from Copenhagen presents on “Quality of life and symptom management in patients with olfactory dysfunction after COVID-19”
- 17.2.2023, 15:00 h: **Rebecca Müller** from Regensburg presents on “Is loss of taste in chronic rhinosinusitis **with nasal polyps (CRSwNP) reversible?**”
- 21.2.2023, 15:30h [Vittoria Avaro](#) talks about “Activating a Reserve Neural Stem Cell Population In Vitro Enables Engraftment and Multipotency after Transplantation”
- 21.2.2023, 16:15h, [Michal Pieniak](#) talks about “Olfactory meta-cognition in individuals with depressive and anxiety symptoms: The differential role of common and social odors”
- 22.2.2023, 16:00h, **Agnieszka Sabiniewicz** talks about Wilson, C., Campbell, K., Petzel, Z., & Reeve, C. (2022). Dogs can discriminate between human baseline and psychological stress condition odours. *Plos one*, 17(9), e0274143.



- 23.2.2023, 15:00h: [Halina Stanley](https://www.linkedin.com/in/halina-stanley/?originalSubdomain=fr) from Lyon presents on her work
- **28.2.2023, 14:00h:** Niklas Menger, PhD student from the Dept. of Medical Psychology at the University of Tübingen presents some of his thoughts on his future and past studies
- 15.3.2023, 16:00h: **Nadine Gunder** will present on “Use of Platelet-rich Plasma for COVID-19 Related Olfactory Loss, A Randomized Controlled Trial” by Yan and colleagues
- 15.3.2023, 16.30h: **Lena Trost (PhD Student at Bauhaus-University Weimar, Fine Arts)** will present on “Embodiment of the volatile. The ability to notice that a substance is present. Or: how glass becomes odour”
- 20.3.2023, 13:00-18:00: Cells, Humans, and Robots  
<https://tu-dresden.de/cmcb/crtd/news-termine/termine/crtd-symposium-on-olfaction>  
Thomas Hummel presents on “The sense of Smell and Us”



Smell Symposium March 29, 2023:

- [Charlotte Sinding](#), INRAE, Dijon, France: **Odor-odor and odor-taste interactions**
- [Han-Seok Seo](#), Fayetteville, Arkansas, USA: Dale Bumpers College of Agricultural, Food and Life Sciences: Food Science: **Five factors to be further considered for better understanding consumer perception of flavors**
- Zetian Li: on the attached paper: **Smell-Based Memory Training: Evidence of Olfactory Learning and Transfer to the Visual Domain**. Jonas K. Olofsson, Ingrid Ekström, Joanna Lindström, Elmeri Syrjänen, Anna Stigsdotter-Neely, Lars Nyberg, Sara Jonsson and Maria Larsson. *Chemical Senses*, 2020, Vol 45, 593–600

What else:

- Thomas Hummel – „Buchrezension zu Riech und Schmeckstörungen richtig behandeln“ (Müller CA, Renner B) in: *HNO Informationen*, 2023, 48. Jhrg., S. 31

media:

- 12.1.2023: T. Hummel gives an interview to Johanna Irmer (Zeitschrift natur ([www.wissenschaft.de/natur/](http://www.wissenschaft.de/natur/))) for an article on the sense of smell
- 22.-23.2.2022: **Arte** is shooting a documentary on 'Smell'
- 13.03.2023: Official agreement of a collaboration between the Monell Chemical Senses Center, Philadelphia, PA, USA and the Smell and Taste Clinic, Dept. of ORL, TUD, to promote academic cooperation and exchanges in education and research, and collaborate between faculty members, trainees and staff

