

Meeting of the Working Group on Olfaction and Gustation of the German Society for Otorhinolaryngology, December 4-5, 2015, in Erlangen, Germany

Program

Overview

**Friday, 04. December 2015**

14:30 – 15.15	Registration and Industrial fair
15:15 – 15.30	Welcome - Prof. Hüttenbrink, Köln; PD Dr. Renner, Erlangen
15:30-15:45	Chair: PD Dr. Hähner
15:45-16:00	Smell and psychiatry disorders (Prof. Dr. Thürauf, Erlangen)
	Chair: Dr. Cuevas
16:00-16:15	Olfactory testing in PD diagnosis - European and German recommendations.
16:15-16:30	Administration of the "Sniffin' Sticks": Methodological Concerns
16:30-16:45	Phantosmia: Diagnostic and therapeutical considerations
16:45-17:00	A self-administered test of taste function using ‚taste-strips‘
17:00-17:15	Chair: PD Dr. Renner
17:15-17:30	The enigma of azelastine (Prof. Dr. Szelenyi, Erlangen)
17.30 – 20.00	Visit Nürnberger Christkindlesmarkt or Visit Felsenkeller
20.00 – 22.00	Dinner next to the Sankt Sebaldus Kirche Nürnberg (Goldenes Posthorn)

**Saturday, 05. December 2015**

8:30-9:00	Coffee and tea, Industrial fair
9:00-9:15	Chair: PD Dr. Landis
9:15-9:30	Smell and Pain (Prof. Dr. Reeh, Erlangen)
9:30-10:00	Coffee and tea, Industrial fair
	Chair: Dr. Hergen
10:00-10:15	fMRI in patients with normosmia and hyposmia
10:15-10:30	A case of olfactory meningioma
10:30-10:45	Olfactory function in patients w/o "aspirin exacerbated respiratory disease"
10:45-11:00	Hedonic hyperphagia: how smell and taste overrule intake control of palatable snack foods
11:00-11:15	Increased H <sub>2</sub> S-thresholds during exercises
11:15-11:30	Neural correlations of and interaction between homeostatic (thirst) and sensory-evoked emotions (olfactory disgust)
11:30-12:00	Break, Industrial fair
12:00-12:15	Chair: Prof. Dr. Müller - ArGe Olfaktologie / Gustologie
12:15-12:30	<i>Call for a multicentric study on the Questionnaire on Olfactory Dysfunction</i>
12:30-12:45	<i>Updated normative data for the "Sniffin' Sticks"</i>
12:45-13:00	<i>Elections; next meeting; etc.</i>
13:00-15:00	Lunch, Industrial fair
15:30-16:30	Siemens MedMuseum

## Detail

### Friday, 04. December 2015

14:30 – 15.15 *Registration and Industrial fair*

15:15 – 15.30 *Welcome - Prof. Hüttenbrink, Köln; PD Dr. Renner, Erlangen*

15:30-16:00 **Chair: PD Dr. Hähner**  
Smell and psychiatry disorders (Prof. Dr. Thürauf, Erlangen)

**Chair: Dr. Cuevas**  
16:00-16:15 Antje Hähner, Dresden:  
Olfactory testing in PD diagnosis - European and German recommendations.

16:15-16:30 Thomas Hummel and Shangwa Lee, Dresden:  
Administration of the "Sniffin' Sticks": Methodological Concerns

16:30-16:45 Basile Landis, Geneva:  
Phantosmia: Diagnostic and therapeutical considerations

16:45-17:00 Mueller CA, Wolf A, Varga L, Wittibschlager L, Renner B; Vienna, Graz, Erlangen:  
A self-administered test of taste function using 'taste-strips'

**Chair: PD Dr. Renner**  
17:00-17:30 The enigma of azelastine (Prof. Dr. Szelenyi, Erlangen)

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9:00-9:30 Smell and Pain (Prof. Dr. Reeh, Erlangen)

9:30-10:00 *Coffee and tea, Industrial fair*

**Chair: Dr. Hergen**  
10:00-10:15 Pellegrino R, Hähner A, Bojanowski V, Hummel C, Gerber J, Hummel T; Dresden:  
fMRI in patients with normosmia and hyposmia

10:15-10:30 Florian Uecker, Berlin:  
A case of olfactory meningeoma

10:30-10:45 Volker Gudziol, Claudia Sonnefeld, Daniel Koschel, Thomas Hummel; Dresden:  
Olfactory function in patients w/o "aspirin exacerbated respiratory disease"

10:45-11:00 A Hess, T Hoch, S Kress, S Kreitz, M Pischetsrieder; Erlangen:  
Hedonic hyperphagia: how smell and taste overrule intake control of palatable snack foods

11:00-11:15 Gudziol H, Schneider K, Seeber H, Bitter T, Guntinas-Lichius O; Jena:  
Increased H<sub>2</sub>S-thresholds during exercises

11:15-11:30 Hergen Friedrich, Lea Meier, Andreas Federspiel, Kay Jann, Yosuke Morishima, Roland Wiest, Werner Strik, Thomas Dierks, Basile Nicolas Landis; Bern, Geneva:  
Neural correlations of and interaction between homeostatic (thirst) and sensory-evoked emotions (olfactory disgust)

11:30-12:00 *Break, Industrial fair*

**Chair: Prof. Dr. Müller** - ArGe Olfaktologie / Gustologie

12:00-13:00

*Call for a multicentric study on the Questionnaire on Olfactory Dysfunction  
Updated normative data for the "Sniffin' Sticks"  
Elections; next meeting; etc.*

13:00-15:00 Lunch, Industrial fair

15:30-16:30 Siemens MedMuseum

Olfactory testing in PD diagnosis - European and German recommendations.

Antje Hähner, Dresden: [Antje.Haehner@uniklinikum-dresden.de](mailto:Antje.Haehner@uniklinikum-dresden.de)

Administration of the "Sniffin' Sticks": Methodological Concerns

Thomas Hummel and Shangwa Lee, Dresden: [thummel@mail.zih.tu-dresden.de](mailto:thummel@mail.zih.tu-dresden.de)

Phantosmia: Diagnostic and therapeutical considerations

Landis Basile Nicolas, Geneva: [Basile.Landis@hcuge.ch](mailto:Basile.Landis@hcuge.ch)

A self-administered test of taste function using "taste-strips"

<sup>1</sup>Mueller CA, <sup>1,2</sup>Wolf A, <sup>1</sup>Varga L, <sup>1</sup>Wittibschlager L, <sup>3</sup>Renner B

<sup>1</sup>Department of Otorhinolaryngology, Medical University of Vienna; <sup>2</sup>Department of Otorhinolaryngology, Medical University Graz; <sup>3</sup>Institute of Experimental and Clinical Pharmacology and Toxicology, University of Erlangen-Nuernberg.

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**Background:** Assessment of gustatory function with impregnated taste strips is an established and validated method. In clinical routine, application of the tests is often limited due to lack of time or costs associated with administering the test. **Objective:** The aim of the study was to develop a procedure suitable for self-administration of the 'Taste Strips' test. **Methods:** The investigated participants (n=65, 22 males and 43 females, mean age 36.7±19.2 years, range 20 to 83 years) were tested twice in a randomized cross-over procedure. On one occasion, an examiner administered the established and validated 'taste strips' test. On another occasion, test subjects administered the taste strips themselves. Results of both test-methods were compared. **Results:** The mean score (±SD) of the assisted taste test (11.6±2.6) was significantly lower compared to the mean self-administered taste test that yielded 12.3±2.6 points (Wilcoxon-Test: z=2.836, p<0.01). Comparison of mean values showed minimal difference of the tested procedures of 0.7±1.9 points with a significant positive correlation of test results ( $r_{65}=0.734$ , p<0.01). **Conclusion:** Although a small difference between test results was observed, the new test procedure seems to be an adequate screening tool for assessment of taste function with less personnel effort leading to improved management of patients with chemosensory disorders.

## Olfactory function in patients with hyposmia compared to healthy subjects - An fMRI study.

Pellegrino R, Hähner A, Bojanowski V, Hummel C<sup>1</sup>, Gerber J, Hummel T; Dresden: [pellegrino.robert@gmail.com](mailto:pellegrino.robert@gmail.com)

The aim of this fMRI-study was to investigate the central processing of odors in patients with hyposmia compared to healthy controls. Eleven hyposmic and 12 healthy, normosmic subjects participated in the study. Olfactory functionality was assessed using a standardised psychophysical test including odor threshold, odor discrimination and odor identification. During fMRI sessions subjects were exposed to two different food-related odors (coffee and peach); The activations of the normosmic group were localized in typical olfactory areas (insula, OFC, limbic lobe and amygdala). The hyposmic group showed similar regions of activation (insula, OFC, limbic system), however, less activation was found in the amygdala, but higher activation were shown in the right parahippocampal and both the left and right posterior cingulate gyrus which is assumed to play an important role in the processing and remembrance of memories. These results indicate similar central olfactory processing among groups, yet subjects with partial loss seem to attempt to compensate smell impairment with odor memory or higher motivation to smell.

## A case of olfactory meningioma

Florian Uecker, Berlin: [Fc.Uecker@charite.de](mailto:Fc.Uecker@charite.de)

## Riechvermögen von Patienten mit und ohne „aspirin exacerbated respiratory disease“ (AERD) - eine longitudinale Studie

V. Gudziol, C. Sonnefeld, D. Koschel, T. Hummel; Dresden; [volker.gudziol@uniklinikum-dresden.de](mailto:volker.gudziol@uniklinikum-dresden.de)

**Ziel und Methodik:** Das Riechvermögen ausgedrückt als SDI-Wert sollte bei Patienten mit chronisch polypöser Rhinosinusitis (CRS) mit und ohne Analgetikaintoleranz vor und 6 Monate nach Aspirin (ASS)-Intoleranz Testung bzw. Desaktivierung mithilfe der Sniffin' Sticks Testung bestimmt werden. **Ergebnisse:** Bei 15 Patienten wurden ein AERD diagnostiziert und bei 15 Patienten ein AERD ausgeschlossen. In der Eingangsuntersuchung zeigten die Patienten mit AERD ein signifikant ( $p=0,02$  bzw.  $p=0,01$ ) schlechteres Riechvermögen (SDI-Wert bzw. Identifikations-Wert:  $18,1\pm 8,9$  bzw.  $7,7\pm 3,8$ ) als die Patienten ohne AERD (SDI-Wert:  $26,8\pm 10,3$  bzw.  $11,7\pm 4,5$ ). In der Betrachtung der verwendeten Untertests fällt auf, dass im Identifikationstest der Unterschied zwischen den Patientengruppen signifikant war ( $p=0,03$ ), jedoch nicht in den Test für Diskrimination und der Riechschwelle. 6 Monate nach ASS- Testung bzw. Desaktivierung konnte zwischen den Patientengruppen kein signifikanter Unterschied sowohl im SDI-Wert ( $p=0,14$ ) als auch in den Untertests nachgewiesen werden. **Schlussfolgerung:** Der Identifikationstest ist am ehesten geeignet Unterschiede des Riechvermögens bei Patienten mit und ohne AERD zu diagnostizieren. Möglicherweise führte die Einnahme von ASS zu einem nicht signifikanten Anstieg des Riechvermögens in der AERD-Gruppe.

## Hedonic hyperphagia: how smell and taste overrule intake control of palatable snack foods.

A. Hess <sup>1</sup>, T. Hoch <sup>2</sup>, S. Kress<sup>2</sup>, S. Kreitz <sup>1</sup>, M. Pischetsrieder <sup>2</sup>

<sup>1</sup> Department of Experimental and Clinical Pharmacology and Toxicology, Institute for Pharmacology and Toxicology, University of Erlangen-Nuremberg, Fahrstrasse 17, 91054 Erlangen, Germany; <sup>2</sup> Department of Chemistry and Pharmacy, Food Chemistry, Emil Fischer Center, University of Erlangen-Nuremberg, Schuhstrasse 19, 91052 Erlangen, Germany  
"Dr. Andreas Hess" [andreas.hess@fau.de](mailto:andreas.hess@fau.de)

Hedonic hyperphagia – eating for pleasure independent from hunger – is a well-known phenomenon. In a series of experiments rats were fed with either crushed potato chips (PC) or substitutes with different mixtures of fat and carbohydrates (FCH), which are the main ingredients of PC. We evaluated in these rats eating behavior in a two-choice preference test as well as mapped the whole brain activity by manganese enhanced MR. We were able to show, that compared to the standard food the snack food PC and to somewhat lesser extent FCH were able to 1.) significantly increase food seeking behavior and 2.) selectively modulate brain circuitry serving functions like reward and addiction, food intake, sleep and locomotion. Since the rats could only rely on olfactory and gustatory clues for differentiating between FC / FCH and standard food these basic sensory inputs are able to induce addiction like activity in the brain.

## Increased H<sub>2</sub>S-thresholds during exercises

Gudziol, H., Schneider, K., Seeber, H., Bitter, Th., Guntinas-Lichius, O.

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The detection thresholds with 25 young healthy normosmics were evaluated at rest, during bicycle-ergometer strain and recreation with staircase method by flow-olfactometer. Computer-aided stimulation happened inhalation-synchronously at regular nasal breathing pattern with an ISI at least 60s. The duration of the stimuli was 2s. The concentration of H<sub>2</sub>S varied from 0.001 to 0.0225ppm. The heart rate during the physical strain should be between 135 and 145 beats/min. In comparison to the rest condition the thresholds of detected H<sub>2</sub>S concentrations during cycling increased to 42%, and compared to the recreation condition the volunteers under the ergometer-strain detected 61% higher H<sub>2</sub>S concentrations. The reason of that smelling decrease is not well understood. May be cycling distracts from olfactory threshold examination.

## Neural correlations of and interaction between homeostatic (thirst) and sensory-evoked emotions (olfactory disgust)

Hergen Friedrich, Lea Meier, Andreas Federspiel, Kay Jann, Yosuke Morishima, Roland Wiest, Werner Strik, Thomas Dierks, Basile Nicolas Landis; Bern, Geneva; [hergen83@gmx.net](mailto:hergen83@gmx.net)

**Introduction:** A homeostatic imbalance is closely linked to the experience of emotions, for example disgust. Aim of the study was to give insight in the neural correlates of this emotional rivalry. **Materials and Methods:** A fMRI study was performed with twenty male subjects that underwent olfactory stimulation in the state of water deprivation and satiation. **Results:** Hydration state specifically modulated the perception of the disgusting odor in subjective rating. Functional MRI data of brain activity revealed a response to disgusting odor in following brain areas: insula bilaterally, right supramarginal gyrus and left frontal inferior operculum. Neuronal activity was reduced in the left insular cortex during the experience of thirst. **Discussion:** Our results indicate a modulatory impact in the situation of emotional rivalry, because disgust experience was reduced both on subjective and neurobiological level.