

## **Curriculum vitae, Per Møller PhD**

### **Education**

Year: 1987, Cand. Scient, physics and mathematics, Niels Bohr Institute, University of Copenhagen, Denmark.

Year: 1991, MA, Psychology, Department of Brain and Cognitive Science, University of Rochester, NY, USA.

Year: 1992, PhD, Cognitive Science, Department of Brain and Cognitive Science, University of Rochester, NY, USA.

### **Employments**

1/10/2016 -1/7/2018 : Senior Scientist (part-time), Food Design and Consumer Behaviour, Department of Food Science, University of Copenhagen, Denmark.

1/10/2017-1/3/2018: Visiting professor, University of Padova, Italy

2012-2016 : Editor-in-chief (with Peter Barham) of the scientific journal Flavour

2011- : private consultant

1/3/1999-1/10/2016: Associate Professor, Food Design and Consumer Behaviour, Department of Food Science, University of Copenhagen, Denmark

1993-1999: Research Associate, Department of Physiological Sciences, Medical School, University of Newcastle, UK

1987- 1992: Research assistant, teaching assistant, PhD student, Department of Brain and Cognitive Science, University of Rochester, NY, USA.

### **Professional resume and scientific competences**

My scientific work started out in theoretical physics. This work led to a strong interest in visual perception after having developed a model of early vision in layer IVc of the macaque. In 1987 I

moved to the US to obtain a PhD in visual cognition. Until 1999 I worked on various problems in vision, eye movements and spatial memory. Upon my return to Denmark in 1999 I took up studies of the chemical senses, smell, taste and chemesthesis, as well as work on (food) preference formation, choice behavior and eating behavior in general. Comparative studies in collaboration with colleagues from abroad have led us to formulate a new theory of 'conscious olfaction', which can explain more olfactory phenomena than other available theories. At the same time I have been involved in a large number of (food) preference formation experiments on children. This work has led to a number of scientific insights as well as to the development of new methods and tools that can be applied scientifically and in industry. Also, our results lend themselves to implementation in schools, institutions, hospitals and other places where it is desirable that people change their food habits. Other work in food (choice) behavior falls within the fields of nudging, neurogastronomy and gastrophysics. Recently, I have started collaborations with neuroscience colleagues on problems of neural plasticity of the senses and of the use of sensory tests to help diagnose neurodegenerative and psychiatric diseases.

My work has been concentrated on problems of eating behavior, sensory and consumer science, perception, psychophysics, eye movements, memory, decision making and cognitive neuroscience.

I have published papers in sensory science and nutrition, cognitive psychology, cognitive neuroscience, psychophysics, neurophysiology and physics.

I have an extensive international network of collaborators. Projects with colleagues from Sweden, The Netherlands, France, Italy, England, Greece, Portugal, USA and Denmark.

My research work has received funding from the Wellcome trust (UK), Carlsberg foundation (DK), research councils in Denmark, EU research projects and private funding from companies in Denmark and abroad.

### **Research interests**

Sensory perception and its neurophysiological underpinnings; Psychophysics and neurophysiology of memory; Cognitive and affective neuroscience; Relationships between body and brain; Psychophysics and physiology of eating behaviour; Sensory Science and its relations to nutrition; Implicit cognition and choice behaviour; Preferences, habits and addictions, behavioral economics, consumer behavior and nudging, neural plasticity, use of sensory tests to diagnose disease.

### **Teaching experience**

I have taught physics (University of Copenhagen), psychology and psychophysics (University of Rochester, USA; University of Newcastle, UK; Durham University, UK; University of Copenhagen), sensory science (University of Copenhagen), food choice behavior and neurophysiology (University of Copenhagen, University of Padova).

I have developed courses at the University of Copenhagen and lectured in a number of courses at that university. I have also developed and taught a course on 'eating behaviour' at the University

of Padova. Until recently I was course responsible for the master-course Food Choice and Acceptance taught at the Institute of Food Science, University of Copenhagen.

I have supervised a large number of students on all levels (from BSc to PhD) at the University of Newcastle, England and at the University of Copenhagen, Denmark.

I have also taught in courses at the “Mediehøjskolen”, Copenhagen, Denmark, University of Ålborg, Denmark, at a number of hospitals and municipalities in Denmark and at courses in Meyers Madhus, Copenhagen Denmark.

### **Editorial and reviewing experience**

I have been co-editor-in-chief of the scientific journal *Flavour* and have reviewed scientific papers for the journals: Appetite, Food Quality and Preference, Journal of Sensory Studies, Chemical Senses, Flavour, Chemosensory Perception, Physiology and Behavior, Neuroscience methods, Psychophysiology, PlosOne, Frontiers in Psychology, Nature, Current Biology, Journal of the Neurological Sciences, British Journal of Nutrition, Perception, Perception & Psychophysics, Gastronomica, Italian Journal of Food Science and International journal of Gastronomy and Food Science.

### **Managerial experience**

I have managerial experience from several national and international research projects, e.g.:

- The role of visual and odour memory in the food preferences of young and old people (financed by Symrise), 2002-2004.
- Nutritious meals with high sensory quality: sensory science, nutrition, physiology (financed by Fødevareteknologi, -sikkerhed og -kvalitet – Danish research councils), 2003-2006.
- Kød som en del af et måltid (financed by Fødevare-Erhverv – Danish research councils), 2004-2007.
- Step-by-step change of children’s preferences toward healthier foods (financed by FØSU– Danish research councils), 2007-2011.
- Determining factors and critical periods in food habit formation and breaking in early childhood: a multidisciplinary approach (financed by EU), 2010-2014.

### **Dissemination of work**

My work is disseminated in various ways:



Popular media: I have participated in many TV- and radio programs and have been interviewed in many journals and newspapers in Denmark and abroad. Since the year 2000, I have been interviewed or participated in programs more than 200 times.

Scientific conferences: More than 100 oral presentations and posters since the year 2000. I have been an invited speaker at Universities and other scientific institutions in the US, England, Germany, the Netherlands, Austria, The Czech Republic, France, Italy, Greece, Finland, Norway and Denmark.

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### Scientific Publications

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- Hayhoe MM, Lachter J, Møller P. (1992). Spatial Memory and Integration Across Saccadic Eye Movements. In: Rayner K (ed), Eye Movements and Visual Cognition: Scene Perception and Reading, Springer Series in Neuropsychology, New York, pp. 130-145, 1992.
- Karn KS, Møller P, Hayhoe MM. (1993). Precision of the eye position signal. In: Van Rensbergen J, d'Ydewalle G (eds), Perception and Cognition: Advances in Eye Movement Research, Vol.4, Studies in Visual Information Processing. Elsevier Science, Amsterdam, pp. 71-82.
- Karn KS, Lachter J, Møller P, Hayhoe MM. (1994) Task dependent spatial memory across saccades. Behavioral and Brain Sciences, 17:2, 267-268.
- Møller P, Hurlbert AC (1996). Psychophysical evidence for fast region-based segmentation processes in motion and color. Proc Natl Acad Sci USA, 93, 7421-7426.
- Møller P, Hurlbert AC. (1997.) Interactions between colour and motion in image segmentation. Current Biology, 7, 105-111.
- Møller P, Hurlbert AC. (1997). Motion edges and regions guide image segmentation by colour. Proc R Soc Lond [Biol] 264, 1571- 1577.

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- Green, G.G.R., Ioannides, A.A., Bramwell, D., Griffiths, T.D., Rees, A., Witton, C., Hurlbert, A.C., Bamidis, P.D., Møller, P., Boers, F., Dammers, J., Müller-Gärtner, H.W. (1997). The use of magnetoencephalography to investigate the cortical response to sounds that appear to move. *Journal of Audiology*, 31, 91-92(4).
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- Kjøbæk N, Friis A., Rugholt S., Møller P., Adler-Nissen J. (2001). Validation of a Texture Simulator. *Annual Transactions of the Nordic Rheology Society*, vol. 8/9, 2000/2001, pp. 101-104.
- Bredie W., Ivanova D., Møller P., Petersen M. (2001). Apple or mushroom – sensory impact of 1-octen-3-one in an apple odour mixture. *Food processing Industry Magazine*, pp. 5-7, issue 10.
- Dijksterhuis G., Møller P., Bredie W., Rasmussen G., Martens M. (2002). Gender and Handedness effects on hedonicity of laterally presented odours. *Brain and Cognition* 50, 272-281.
- Petersen MA, Ivanova D, Møller P & Bredie WLP (2003). Validity of ranking criteria in gas chromatography - olfactometry methods. In *Flavour Research at the Dawn of the Twenty-first Century. Proceedings of the 10'th Weurman Flavour Research Symposium*. Eds. J.L. Le Quere & P.X. Etievant. Intercept Publishers, 494-499.
- Sørensen L., Møller P., Flint A., Martens M., Raben A. (2003). Effect of sensory perception of foods on appetite and food intake: a review of studies on humans. *Int. J Obesity* 27, 1152-1166.
- Møller P and Dijksterhuis G (2003). Differential human electrodermal responses to odours. *Neurosci. Letters*, 346, 129-132.
- Møller P, Wulff C, Köster E.P. (2004). Do age differences in odour memory depend on differences in verbal memory? *Neuroreport*. 15(5):915-917.
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- Wolkoff P, Damgård Nielsen G, Møller P, Nielsen P.A.(2006). Vurdering af VOC'er i indemiljøluften II: Lugtkvalitetens betydning. Miljø og Sundhed, 30, 3-12.
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- Sulmont C., Møller P., Issanchou S, Köster E.P. (2008) Effect of age and food novelty on food memory. Chem. Percept. 1, 199-209.
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- Jönsson F, Møller P, Olsson M (2011). Olfactory working memory: Effects of verbalization on the 2-back task. *Mem Cogn*, 39:1023–1032
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- Møller P. (2015) Satisfaction, satiation and food behavior. *Current Opinion in Food Science*, 3:59–64
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- Cameron L, , Köster E P., Møller P. (2019). Does vision and olfaction rely on different mechanisms in long-term recognition memory? **Submitted**