



# NEURO GLOBAL Seminar

## Date & Time

**Thursday, June 4, 2026**  
**18:15 – 19:45 (including Q&A)**



## Speaker

**Nicolaas Puts, PhD**

Reader/Associate Professor in Sensory Neuroscience  
Department of Forensic and Neurodevelopmental Sciences, Institute of  
Psychiatry, Psychology and Neuroscience, King's College London

## Title

**Sensory differences in typical and atypical development;  
from brain to behaviour**

## Venue

Lecture Room, Graduate School of Life Sciences,  
/ Life Sciences Project Research Laboratory [D04] 1F, Katahira Campus  
生命科学研究科講義室 (生命科学プロジェクト総合研究棟 [D04] 1F 片平キャンパス)

[https://www.tohoku.ac.jp/map/ja/?f=KH\\_D04](https://www.tohoku.ac.jp/map/ja/?f=KH_D04)

Format On-site

Related website <https://www.kcl.ac.uk/people/nick-puts>

【Neuro Global生・[先進]脳科学セミナーシリーズEx】 【NGP students, [Advanced] brain science seminar series Ex】 1 point  
【医学系研究科・医学履修課程】国際交流セミナー 【Medical Science Doctoral Course】 International Interchange Seminar 1回分  
【生命科学研究科・イノベーションセミナー（留学生）、単位認定セミナー】 【Innovation seminar, Credit-granted seminar】 2 points



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## Title

Sensory differences in typical and atypical development; from brain to behaviour

## Abstract

Sensory differences are among the most disabling features of autism and other neurodevelopmental conditions impacting on education, occupation, healthcare, and quality of life. Yet, the biological underpinnings of sensory difficulties remain poorly understood, limiting the development of targeted interventions. A fundamental question is whether autistic people perceive the world differently, respond to it differently, or both. In a series of studies co-developed with the neurodivergent community, we examine the neural circuitry and behavioural correlates of sensory processing in large developmental cohorts of autistic and non-autistic individuals (3-45 yrs). We first show that perceptual differences shape higher-order behaviours. Using MRI and EEG, we then demonstrate that developmental differences in brain excitation-inhibition (E-I) balance are driven by variability in underlying genetic architecture, and propose that E-I mechanisms within the thalamus and anterior cingulate cortex give rise to sensory difficulties. Finally, using a GABAergic intervention, we identify a potential biomarker for pharmacological approaches to alleviate these difficulties.

## Biography

Nick Puts is a Reader (Associate Professor) at King's College London. He has been studying sensory difficulties in autism and other neurodevelopmental conditions for over a decade. Nick did part of his undergraduate at Tohoku University, has a PhD from Cardiff University and joined KCL after 9 years at Johns Hopkins University.