

#### Speaker

# **Wolfram Schultz**

Professor of Department of Physiology, Development and Neuroscience, University of Cambridge

Related Website

https://www.pdn.cam.ac.uk/directory/wolfram-schultz

Title

## The Rewarded Brain



# October 18,28,30 and November 6 (4 days)

**16:30 – 18:30** (including Q&A time)

Venue

#### Oct.18 Conference Room 1 &2, School of Medicine 医学部6号館 1階 カンファレンス室1 &2

(School of Medicine Building 6 [B08] 1F/ Seiryo Campus)

MAP <a href="https://www.tohoku.ac.jp/map/ja/?f=SR">https://www.tohoku.ac.jp/map/ja/?f=SR</a> B08 B08 https://www.tohoku.ac.jp/map/en/?f=SR B08

#### Oct. 28,30, Lecture Room, Graduate School of Life Sciences 生命科学研究科講義室

Nov. 6 (Life Sciences Project Research Laboratory [D04] 1F, Katahira Campus)

MAP <a href="https://www.tohoku.ac.jp/map/ja/?f=KH">https://www.tohoku.ac.jp/map/ja/?f=KH</a> D04 MAP <a href="https://www.tohoku.ac.jp/map/en/?f=KH">https://www.tohoku.ac.jp/map/en/?f=KH</a> D04

#### Registration form Send a message to NGP Office (info@neuroglobal.tohoku.ac.jp)

●Neuro Globalプログラム生(Neuro Global Program Students)

【脳科学セミナーシリーズEx】/【先進脳科学セミナーシリーズEx】セミナー 1ポイント

[Brain Science Seminar Series Ex] / [Advanced brain science seminar series Ex] 1 point

●医学系研究科(Graduate School of Medicine)

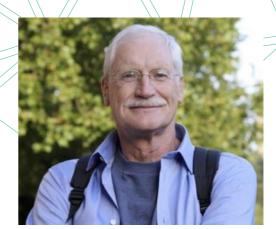
【医学履修課程】国際交流セミナー1回の出席につき2ポイント

[Medical Science Doctoral Course] International Interchange Seminar 2 points each day

●生命科学研究科(Graduate School of Life Sciences)

【単位認定セミナー】【イノベーションセミナー】 1回の出席につき2ポイント

[Credit-granted seminar] [Innovation seminar] 2 points each day



東北大学 Neuro Global 国際共同大学院プログラム事務局 info@neuroglobal.tohoku.ac.jp http://www.neuroglobal.tohoku.ac.jp

Contact: Prof. Ken-Ichiro Tsutsui tsutsui[@]tohoku.ac.jp



### Title

## The Rewarded Brain

Titles of each lectures

- 1. Reward types and their functions (Oct 18)
- 2. Dopamine and reward (Oct 28)
- 3. Reward coded outside of dopamine neurons (Oct 30)
- 4. Dopamine neuroeconomics: subjective value and reward maximization (Nov 6)

#### **Abstract**

Reward is the fundamental variable that determines survival and gene propagation of humans and animals and their evolutionary fitness. Dedicated neurons in specific brain systems process reward information and use it to drive choices towards the best reward. One of the key brain reward systems are the midbrain dopamine neurons that signal the so-called reward prediction error: how much better or worse is the current reward compared to predicted rewards. Reward information is also processed in other reward systems. Experimental excitation of dopamine neurons makes animals come back for more dopamine excitation and drives agents towards the best rewards. All brain systems work together to get us more and better rewards and thus enhance our chance for survival and gene propagation. For previous lectures and work by the author, see wolframschultz.org <a href="http://wolframschultz.org">http://wolframschultz.org</a>.

**Short Biography** 

Prof. Wolfram Schultz graduated with a Diploma in Medicine from the University of Heidelberg and obtained his habilitation in Physiology from the University of Fribourg, Switzerland. He was a Postdoctoral Fellow at the Max-Planck-Institute in Göttingen in Germany, at the State University of New York in Buffalo and at Karolinska Institute in Stockholm, Sweden. From 1977 to 2001 he held a faculty position at the University of Fribourg, Switzerland and then became a Wellcome Principal Research Fellow and Professor of Neuroscience at the University of Cambridge from 2001 to 2023. He is now an Emeritus Professor in Cambridge and an Emeritus Fellow of Churchill College. His research focuses on neural mechanisms of reward and decision-making, earning him international recognition, including the Brain Prize in 2017 and the Gruber Prize in 2018.