



# NEURO GLOBAL Seminar

## Date & Time

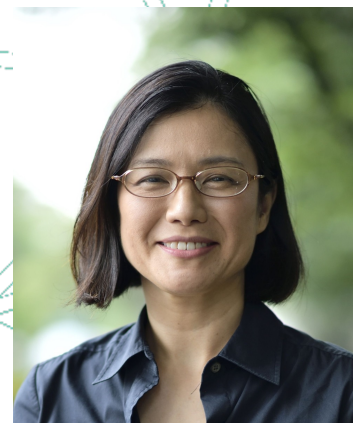
**Thursday, September 18, 2025**  
**16:30~18:00**

## Speaker

**Kumi O Kuroda, MD PhD**

Professor

School of Life Science and Technology,  
Institute of Science Tokyo



## Title

**Parent-Infant Relationship: from Basic Neuroscience to  
Science-Informed Parenting Support**

## 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

Registration Please contact NGP Office ([neuroglobal@grp.tohoku.ac.jp](mailto:neuroglobal@grp.tohoku.ac.jp))

Related website <https://en.kurodalab.net/>

【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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NEURO GLOBAL  
Tohoku University



# NEURO GLOBAL Seminar

## Title

### Parent-Infant Relationship: from Basic Neuroscience to Science-Informed Parenting Support

## Abstract

All mammals, including humans, are born tiny and grow through parental care. Therefore, a parent's brain has evolved to develop the neural circuit for various parental care behaviors, centered in the medial preoptic area of the basal forebrain (MPOA). The MPOA parenting system requires to be tuned through a parent's own experience of being raised, by observing others childcare, and by trying it themselves to become fully functional. Children also learn to recognize and follow their primary caregiver, until they gradually mature and become independent. By studying the neural circuit mechanisms underlying parent-child relationships common to mammals, we can better address social issues such as parenting stress and child abuse. Today, we will introduce some aspects of our research on parent-child relationships.

すべての哺乳類、人間を含むすべての哺乳類は小さく生まれ、親の世話を受けて成長します。そのため、親の脳には、前脳底部の medial preoptic area (MPOA) を中心とする子育て神経回路が進化を通じて形成されてきました。この神経系は、親自身が育てられる経験、他者の子育てを観察する経験、そして自ら試す経験を通じて生後さらに発達する必要があります。子どももまた、主要な養育者を覚え、慕って後を追ひ、徐々に成熟し自立していきます。哺乳類に共通する親子の関係を支える神経回路のメカニズムを研究することで、育児ストレスや児童虐待といった社会問題への対応もより適切に行えるようになります。本日は、私たちの親子の関係に関する研究の一部をご紹介します。

## Research Interest:

### Parent-Child Relationship

Parental care: Our lab has identified the specific neuronal population required for parental motivation in mice and marmoset primates.

Filial attachment: We have identified the **Transport Response** 輸送反応, the infant-specific calming response that facilitates parental carrying from mice to humans.

Applications: I am committed to directly assisting parents and infants in real life.

Elucidating the evolutionarily-conserved background factors in convicted child-abuse cases in Japan to better target interventions.

Developing a wearable system to monitor infant physiological states to help parents manage excessive infant crying, a leading cause of infant maltreatment.