



Open PhD Student Position at the Nanochemistry Group, Okayama University

The Nanochemistry Group at Okayama University is excited to announce a fully funded PhD student position. Our group focuses on cutting-edge nanometrology, particularly exploring the quantum sensing capabilities of nanodiamonds through the unique properties of nitrogen-vacancy (NV) centers. More information about our research and recent publications can be found on our website (<https://www.nanochem-okayama-u.net/>).

Research Topics (Flexible)

Applicants should specify their preferred research topic in the cover letter. Potential topics include:

- 1. Nanoscale Electrochemistry on Diamond Surfaces using NV Quantum Sensors:**
Investigating the electrochemical dynamics at the diamond surface, where the rich functional groups correlate with internal electronic structures. This topic aims to deepen understanding of solid-liquid interfaces using NV quantum sensors.
- 2. Microscopy-based Thermal Analysis with Nanodiamond Quantum Temperature Sensors:**
Developing nanodiamond-based temperature sensors to analyze thermal events in complex materials, such as polymer composites and biological systems. This project aims to establish a novel method for thermal analysis.

Candidate Requirements

We seek motivated candidates with a background in photonics, analytical chemistry, or physical chemistry, and hands-on experimental experience. Prior experiences in NV quantum sensing research or optical experiments with home-built optical setup are strongly preferred. Applicants should be prepared to engage in system development for our microscope-based electron spin spectrometer and have proficiency in data analysis and programming. Strong English communication skills are essential. We offer a dynamic and innovative research environment with access to state-of-the-art infrastructure.

Financial Support

Successful candidates will receive financial support, which may include:

- JSPS Research Fellowship (200,000 JPY/month + research budget)
- Okayama University Fellowship (150,000 JPY/month + research budget)
- Research Assistant (RA) contract (130,000 JPY/month from our research budget)

Candidates are encouraged to apply for the JSPS and Okayama University fellowships for greater financial support and to enhance their academic standing. With living costs in Okayama being significantly lower than in Tokyo or Osaka, a monthly income of 130,000 JPY will comfortably cover basic expenses (Room rent: 40-50,000 JPY, Utilities: 5-10,000 JPY, Food: 40-50,000 JPY).

Application Process

To apply, please send your CV and a motivation letter to:

Prof. Masazumi Fujiwara

Department of Chemistry, Okayama University

masazumi@okayama-u.ac.jp

Please note that due to the high volume of applications, we may not be able to respond to each one individually.