

## Peiying LI

Research Scientist

ORCID : 0000-0002-0175-4600

TEL: 045-503-9205

E-mail: [Peiying.li@riken.jp](mailto:Peiying.li@riken.jp)

Address: RIKEN Center for Biosystems Dynamics Research,  
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama 230-0045, Japan



### ■ Education:

Oct.2015-Jun.2019, Ph.D., Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Japan

“Exploration of Surface Diffusion Dynamics of Self-Assembled Peptides on Atomically-Flat Hexagonal Boron Nitride”

Jul.2017-Sep.2017, Exchange program, University of Colorado, Boulder, USA

“Understanding the Interaction of Single peptide on Boron Nitride Surface by Molecular Dynamics”

Oct.2013-Sep.2015, M.S., Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Japan

“In-Situ Observation of Fluorescent-Tagged Peptides Diffusing on Boron Nitride by Single Molecule Tracking”

Sep.2008-Jul.2012, B.S., College of Materials Science and Engineering, Beijing University of Chemical Technology, China

“Fabrication of MWNT/Ag Based Composite with PEDOT-PSS”

Oct.2011- Mar.2012, Exchange Student, Shinshu University, Japan

### ■ Professional Experience

2019-present, Research Scientist, RIKEN Center for Biosystems Dynamics Research

### ■ Educational Experience

• Jun.2016, Teaching Assistant, Processes for Creation in Science and Technology

### ■ Scholarship and Awards

• Nov.2017, Best Poster Award, 5<sup>th</sup> Ito International Research Conference, RIKEN Centennial Anniversary & Surface and Interface Spectroscopy 2017

• Oct.2014, Monbukagakusho Honors Scholarship for Privately financed International Students (Gakushu-shoureihi), JASSO

- Oct.2013, Monbukagakusho Honors Scholarship for Privately financed International Students (Gakushu-shoureihi), JASSO
- Oct.2011, Scholarship for Student Exchange Support program, JASSO

## ■ Research Grants

- 2020, Grant-in-Aid for Early-Career Scientists, JSPS
- 2017, Grant for International conference, Marubun Research Promotion Foundation (150,000 for 2018TMS)
- 2016, Grant-in-Aid for International Conference, Hiki Foundation, Tokyo Institute of Technology (250,000 for 2016IMRC)

## ■ Publications and Presentations

### Publications:

1. **P. Li**, P. Holliger and S. Tagami. Positively-charged peptide aggregates accumulate RNA and enhance RNA polymerase ribozyme. *BioRxiv* (preprint, available from <https://doi.org/10.1101/2021.02.22.432394> ).
2. C. Chen, **P. Li**, W. Luo, Y. Nakamura, V. Dimo, K. Kanekura and Y. Hayamizu. Diffusion of LLPS droplets consisting of poly(PR) dipeptide repeats and RNA on chemically-modified glass surface. *Langmuir*, 37, 18, 5635-5641, 2021.
3. L. Sun, **P. Li**, T. Seki, S. Tsuchiya, K. Yatsu, T. Narimatsu, M. Sarikaya and Y. Hayamizu. Chiral recognition of self-assembled peptides on MoS<sub>2</sub> via lattice matching. *Langmuir*, 37, 29, 8696-8704, 2021
4. C. Chen, Y. Yamanaka, K. Ueda, **P. Li**, T. Miyagi, Y. Harada, S. Tezuka, S. Narumi, M. Sugimoto, M. Kuroda, Y. Hayamizu and K. Kanekura. Phase separation and toxicity of C9orf72 poly(PR) depends on alternate distribution of arginine. *Journal of Cell Biology*, 220(11), 2021.
5. **P. Li**, K. Sakuma, S. Tsuchiya, L. Sun and Y. Hayamizu. Fibroin-like peptides self-assembling on two-dimensional materials as a molecular scaffold for potential biosensing. *ACS Appl. Mater. Interfaces*, 11: 20670-20677, 2019.
6. L. Sun, T. Narimatsu, S. Tsuchiya, T. Tanaka, **P. Li** and Y. Hayamizu. Water stability of self-assembled peptide nanostructures for sequential formation of two-dimensional interstitial patterns on layered materials. *RSC Adv.*, 6: 96889-96897, 2016.
7. **P. Li**, T. Seki, L. Sun and Y. Hayamizu. Anisotropic diffusion of peptides on atomically-flat surface of hexagonal boron nitride. *PRMaterials* (under revision).
8. **P. Li**. A Review of the Current Research on Solid Acid Catalysts. *Guangzhou Chemical Industry and Technology*, 38(12): 42-44, 2010

### Presentations (oral) :

1. **P. Li**, T. Seki, K. Noda, S. Hirata, M. Vacha, M. Sarikaya and Y. Hayamizu. Observation of Fluorescent-Tagged Peptides Diffusing on Boron Nitride in Real-time, 2016 International Materials Research Congress, Cancun, Aug.2016
2. **P. Li**, K. Noda, S. Hirata, M. Vacha, M. Sarikaya and Y. Hayamizu. In-Situ Observation of Fluorescent-Tagged Peptides Diffusing on Boron Nitride by Single Molecule Tracking, 2016 MRS Spring Meeting & Exhibit, Phoenix, Mar.2016
3. **P. Li**, K. Noda, S. Hirata, M. Vacha, M. Sarikaya and Y. Hayamizu. In-Situ Observation of Fluorescent-Tagged Peptides Diffusing on Boron Nitride Analyzed by Single Molecule Tracking, The 76th JSAP Autumn Meeting, Nagoya, Sep.2015
4. **P. Li**, K. Noda, S. Hirata, M. Vacha, M. Sarikaya and Y. Hayamizu. In-Situ Observation of Self-assembly of Fluorophore-Conjugated Peptides, The 75th JSAP Autumn Meeting, Sapporo, Sep.2014

**Presentations (poster) :**

1. **P. Li**, T. Seki, L. Sun and Y. Hayamizu. Exploration of fluorescent-tagged peptides diffusing on boron nitride by single molecular imaging, The First International Workshop by the 174th Committee JSPS on Symbiosis of Biology and Nanodevices, Kyoto, Dec.2017
2. **P. Li**, T. Seki, L. Sun and Y. Hayamizu. Exploration of fluorescent-tagged peptides diffusing on boron nitride by single molecular imaging, 5th Ito International Research Conference, RIKEN Centennial Anniversary & Surface and Interface Spectroscopy 2017, Tokyo, Nov.2017
3. **P. Li**, K. Noda, S. Hirata, M. Vacha, M. Sarikaya and Y. Hayamizu. In-Situ Observation of Fluorescent-Tagged Peptides Diffusing on Boron Nitride by Single Molecule Tracking, International Symposium on Organic and Polymeric Materials – On Occasion of the 60th Anniversary of Department of Textile Engineering, Tokyo, Oct.2015

■ **Technical Skills**

- PCR, RT-PCR, in vitro selection of RNA
- Peptides synthesis and purification
- Single molecule/particle tracking and analysis
- Atomic force microscopy measurement
- Optical spectroscopy measurements (FTIR, UV-Vis, Fluorescence spectroscopy)
- Molecular dynamics (MD) simulation and quantum chemical calculation
- Cell culture (NIH3T3 cell and Lactobacillus)