Curriculum Vitae

- ✧ **Name: Katsuya Teshima**
- ✧ **Affiliation: Shinshu University**
  - ✓ Institute for Aqua Regeneration
  - ✓ Research Initiative for Supra-Materials
  - ✓ Department of Materials Chemistry
- ✧ **TEL: +81-26-269-5556**
- ✧ **Nationality: Japan**
- ✧ **E-Mail: teshima@shinshu-u.ac.jp**
- ✧ **Educational Background:**
  - ✓ 1991/04 - 1995/03 **Bachelor Couse**, Faculty of Engineering (Department of Chemistry and Material Engineering), Shinshu University
  - ✓ 1995/04 - 1997/03 **Master Course**, Graduate School of Engineering (Department of Chemistry and Material CEngineering), Shinshu University
  - ✓ 2000/04 - 2003/03 **Doctoral Couse**, Graduate School of Engineering (Department of Materials Process Engineering), Nagoya University (Doctor of Engineering, No.1768)

◆**Work Experience:**

- ✓ 1997/04 - 2005/03 **Researcher**, Dai Nippon Printing Co., Ltd.
- ✓ 2005/04 - 2009/03 **Assistant Professor**, Shinshu University (Faculty of Engineering, Department of Environmental Science and Technology)
- ✓ 2009/04 - 2010/03 **Associate Professor**, Shinshu University (Faculty of Engineering, Department of Environmental Science and Technology)
- ✓ 2010/04 - **Professor**, Shinshu University (Faculty of Engineering, Department of Environmental Science and Technology)
  - ➢ 2013/01 - 2021/09 **Adviser to the President**, Shinshu University
  - ➢ 2014/04 - 2019/03 **Director**, Center for Energy and Environmental Science, Shinshu University
  - ➢ 2019/01 - **Distinguished Professor**, Shinshu University
  - ➢ 2019/04 - **Director**, Research Initiative for Supra-Materials, Shinshu University
  - ➢ 2021/10 - **Special Adviser to the President**, Shinshu University

- 2024/04 - **Director**, Institute for Aqua Regeneration, Shinshu University

◆Field of Specialization: Crystal Science, Inorganic Material

- ✓ **Flux growth:** Single crystal, Various kinds of oxides, (Oxy)nitrides, (Oxy)sulfides, Fluorides, Non-oxides
- ✓ **Environmental & energy materials:** Inorganic ion-exchange materials, Lithium & Sodium ion battery materials, Visible-light & UV-light driven photocatalysts, Biomaterials, Semiconductor materials
- ✓ **Application:** Water & Environmental Purification, Battery, Solar hydrogen, Semiconductor, Optics, Bio-application, etc.

◆Awards:

1. 2024, C**erSJ Awards for academic achievements in ceramic science and technology**, The Ceramic Society of Japan, Japan
2. 2022, **Excellence award, STI for SDGs (Science, Technology and Innovation for Sustainable Development Goals)**, Japan Science and Technology Agency, Japan
3. 2019, **Industrial Achievement Award**, The Japanese Association for Crystal Grwoth, Japan
4. 2018, **Industrial Achievement Award**, The Flux Growth Society of Japan, Japan
5. 2009, **Young Researcher Award**, The Japanese Association for Crystal Grwoth, Japan
6. 2005, **Young Researcher Award**, The Surface Finishing Society of Japan, Japan

etc.

◆Affiliated Academic Society:

The Flux Growth Society of Japan, The Surface Finishing Society of Japan, The Japanese Association for Crystal Grwoth, The Chemical Society of Japan, The Ceramic Society of Japan, The Materials Research Society of Japan

etc.

◆A list of representative publications:

- ✓ **Number of Original papers/Reviews/books by April 2024: More than 300**
- ✓ **IP applications and successful patents: More than 100**

- **10 recent original papers are described below. (2022, 23&24)**

1. F. Hayashi, **K. Teshima*** et al*,* Na ion-exchanged zirconium phosphate crystal with high calcium ion selectivity. *Dalton Transaction* (2024). DOI: 10.1039/D4DT01289E
2. **K. Teshima***, E. Haramoto* et al*,* Application of brewery waste-derived nitrocellulose membranes to the concentration of SARS-CoV-2 in wastewater. *Environmental Technology & Innovation* (2024). DOI: 10.1016/j.eti.2024.103646
3. M. Tipplook, **K. Teshima*** et al*,* Nanoarchitectonics solution plasma polymerization of amino-rich carbon nanosorbent for use in enhanced fluoride removal. *ACS Applied Materials & Interfaces* (2024). DOI: 10.1021/acsami.3c15172
4. T. Yamada, **K. Teshima*** et al*,* Data-driven reactivity predictions between solute and solvent for inorganic crystal growth in solution. *Crystal Growth & Design* (2023). DOI: 10.1021/acs.cgd.3c00659
5. F. Hayashi, **K. Teshima*** et al*,* One-step low-temperature growth of submicron-sized layered sodium titanate crystals using citrate salts. *Journal of the Ceramic Society of Japan* (2023). DOI: 10.2109/jcersj2.23112
6. T. Sudare, **K. Teshima*** et al*,* Layer-stacking sequence governs ion-storage in layered double hydroxides. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.2c03553
7. T. Yamada, **K. Teshima*** et al*,* Individual effects of flux species as a reaction field on coprecipitation precursor toward design of fine, mono-dispersed $LiNi_{0.5}Co_{0.2}Mn_{0.3}O_2$ single crystal. *ACS Applied Energy Materials* (2023). DOI: 10.1021/acsaem.2c02884
8. T. Sudare, **K. Teshima*** et al*,* Extended solid-solubility limit in layered double hydroxides: Tuning the anion-adsorption selectivity. *Chemistry of Materials* (2022). DOI: 10.1021/acs.chemmater.2c02829
9. T. Sudare, **K. Teshima*** et al*,* Critical role of water structure around interlayer ions for ion storage in layered double hydroxides. *Nature Communications* (2022). DOI: 10.1038/s41467-022-34124-9
10. F. Hayashi, **K. Teshima*** et al*,* High Li-ion selectivity of five-coordinate layered titanate $K_2Ti_2O_5$. *Langmuir* (2022). DOI: 10.1021/acs.langmuir.2c02443