

The International Symposium on Biomimetic Materials Processing 2025



Chairperson:	Nagahiro SAITO
Honored Chairperson:	Osamu TAKAI
Organized by:	BMMP Organizing Committee
Supported by:	Institute of Materials Innovation, Nagoya University Campus ASIA program, Nagoya University Nagoya University - Chulalongkorn University International Collaboration in Sustainable Materials Engineering

■ SCOPE

Organisms produce a wide variety of materials at ambient temperature and pressure. Moreover, each material produced plays an important role in each function in living systems. Biomimetic Materials Processing (BMMP) is an academic discipline that aims to discover and realize engineering processes, engineering materials, devices, and engineering systems with novel functions through the development of knowledge and understanding of relevant biological products, structures, functions, and processes. Therefore, BMMP is not a simple imitation of biological material processes, but a fusion of bionics, electronics, photonics, mechanics, energy technology, chemical engineering technology, etc. to achieve a new perspective that is not bound by conventional engineering wisdom. The BMMP based on this concept has the potential to provide a major turning point in the conventional scenario through materials processing for a sustainable future society.

For example, in recent years, we have been facing the technical challenge of how to control carbon dioxide emissions from human activities, as the risk of global warming is extremely high. On the other hand, if we look at the biological world, we find that the processing of these materials is often carried out in an extremely environmentally harmonious process. Therefore, learning from these biological processes will lead to the realization of low environmental impact processing, which has never been achieved before (Nos. 9 and 13 of the SDGs). Furthermore, learning about the water treatment, energy conversion, storage, and natural recirculation capabilities of living organisms can contribute to solving many of the challenges facing humanity (Nos. 6, 7, 12, 14, and 15 of the SDGs).

Moreover, future researchers and engineers will be essential in developing the technologies to build such a sustainable society. Moreover, these global challenges require precisely the kind of true collaboration that transcends national borders, and it is important to develop such human resources.

In this symposium, world-class researchers will present their recent research results and their expected future, and young researchers will present their own research progress and provide a forum for discussion of these results and progress into the future.

■ SYMPOSIUM TOPICS

I. **Process Basic**

self-organization, molecular recognition, biomineralization, process-mimetics, function-mimetics, characterization, nano-structure formation, patterns, etc.

II. **Material Basic**

(functions, forms, structures, properties, composites, etc.)

III. **Device Applications**

medical applications, pharmaceutical applications, optical applications, electronic applications, mechanical applications, chemical applications, coating applications, etc.

IV. **Process Applications**

solar cell, photocatalysis, battery, biomass, simulation, ecological designs, etc.

V. **Characterizations**

(scanning probe microscopy, electron microscopy, etc.)

■ SYMPOSIUM SCHEDULE

January 8 (Mon):	Registration
January 9 (Tue)-11 (Thu):	Presentation & Discussion
January 12 (Fri):	Factory Tour

■ SYMPOSIUM LANGUAGE

The official language of the symposium is **English**. All abstracts should be submitted in English. The conference lectures should also be presented in English.

■ PRESENTATION STYLE

All lectures are presented **orally**.

■ REGISTRATION

Please send your information to BMMP secretariat by e-mail to bmmp@sp.material.nagoya-u.ac.jp

1. first name / last name / middle name

2 Position

3 Institution

4 Department

5 E-mail address

6 Title of presentation

■ ABSTRACT SUBMISSION

Deadline: **Nov. 10, 2024**

Please send your abstract by e-mail to bmmp@sp.material.nagoya-u.ac.jp

■ CONFERENCE FEE

*The payment is available onsite and only cash payment is acceptable.

Regular Fee:	20,000 JPY
Student Fee:	5,000 JPY
Banquet Fee:	5,000 JPY

■ CORRESPONDENCE

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