

Editorial

## Inaugural editorial of *Discover Molecules*

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### 1 Introduction

Matter consists of atoms and molecules as fundamental building blocks. The interactions among these building blocks dictate the characteristics, behaviour, and practical uses of every substance we encounter in our daily experiences. The exploration of matter dates back to pre-scientific eras. However, structured scientific discourse began to emerge around the seventeenth century, coinciding with the development of experimental methods. This period saw the formulation of molecular theories, introducing a formal notion to molecules as aggregates of two or more atoms held together by chemical bonds.

Motivated by curiosity and a commitment to enhancing human experience, the exploration of molecules within the animates and inanimates expanded the horizons of molecular science to include different areas of biology and chemistry. As diverse applications continued to emerge, a deeper comprehension of the underlying physics gained traction, leading to the integration of molecular physics. Technological advancements ushered in new opportunities, including advanced characterization techniques through molecular engineering. Today, molecular science has evolved into a highly interdisciplinary subject comprising a spectrum of scientific disciplines.

Given the fundamental significance and practical applications of molecular science, the field has witnessed extensive research and advancements. Springer Nature Group has played a significant role in reporting and disseminating molecular science globally. Recognizing the importance of science and innovation in ensuring a sustainable future, governments and companies worldwide are investing considerable efforts in promoting scientific research. This has motivated numerous researchers to conduct studies and share their findings for the greater benefit of society. However, various obstacles occasionally impede researchers from publishing their findings. To alleviate these challenges in scientific publishing, Springer Nature has introduced the Discover Series aligned with UN's sustainable development goals, which focuses on providing ethical, efficient, and author-centric publishing services. In line with this initiative, Discover Molecules was launched in October 2023 to specifically address the challenges faced by researchers in the field of molecular science and provide an inclusive platform for their work.

Formally, we welcome all readers to *Discover Molecules*, an open-access journal launched in October 2023 as part of the Discover series within the global brand of Springer Nature. *Discover Molecules* is a broad scope journal which reports the science of molecules. This includes all types of research that studies molecule/s ranging from a single entity to an aggregation spanning diverse applications across all interdisciplinary fields of **Biology, Chemistry, Earth Science, Engineering and Physics**. Although non-exhaustive, the following section outlines the primary topics welcomed at Discover Molecules.

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## 2 Topics

### Single molecule

- Imaging
- Sequencing
- Probe, Marker and Sensor

### Molecular interfaces

- Molecular Rotor, Motor and Machines
- Solvation
- Enzyme–Substrate
- Self-Organization/Self-assembly

### Molecular complexes

- Covalent bonded framework (COF)
- Hydrogen bonded framework (HOF)
- Ligands
- Host–Guest Chemistry

### Molecular aggregates

- Supramolecular Chemistry
- Macromolecule and Molecular Polymers
- Amino Acid congregates (Peptides, Protein, Carbohydrate, Chromosome etc.)
- Natural Products/Chemicals

### Molecular solids

- Organic Semiconductor
- Superconductor and Supercapacitor
- Electrically Polarizable Molecules

### Condensed phase molecules/Fluids

- Fluid Mechanics and Dynamics
- Ionic Liquids
- Microfluidics

### Molecular fragmentation and regeneration

- Radical Science
- Thermal Catalysis

### External stimulus—Molecule interaction

- Light: Spectroscopy and optical techniques
- Temperature: Thermosaliency
- Mechanical: Rheology
- Smell: Olfaction

Submissions on the above mentioned topics and subtopics cover a wide range of diversity, encompassing:

- Experimental synthesis and characterization
- Theoretical interpretation and advancement
- Computational modelling, calculation and simulation
- Applications
- Data science studies on generated/repository data
- Meta-analysis or Survey
- Experimental techniques and instrumentation

### 3 Editorial Board

To assist in the evaluation of submissions to *Discover Molecules*, we have established an Editorial Board comprising experts from various relevant domains within the expansive field of molecular science. This ensures comprehensive oversight of manuscripts. Given the vast scope of molecular science, we are in the process of recruiting Editorial Board Members (EBMs) to have a self-sustaining editorial board.

The editorial board's responsibilities extend beyond manuscript handling, they also act as a liaison between the journal and the scientific community. This involves offering perspectives on ongoing and upcoming scientific pursuits in the field. Additionally, they uphold the integrity of the scientific content being shared and educate the wider scientific community about the editorial procedures in place. Within the editorial board, distinguished researchers will be designated as "Section Editors". These individuals will spearhead the development of *Discover Molecules* within their specific area by promoting the journal and offering suggestions as and when required.

The experts listed on the website below are part of Discover Molecules' editorial board:

<https://link.springer.com/journal/44345/editors>

### 4 Invitation to contribute

*Discover Molecules* welcomes full-length Research articles as well as Brief Communications of empirical findings, Reviews, Perspectives, Comments, Case Studies, Registered Reports, and Data Notes from across the full range of disciplines concerned with molecular science. The journal also publishes guest-edited Topical Collections of relevance to all aspects of molecule science. For more information, please follow up with our journal publishing contact.

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**Data availability** Not applicable.

### Declarations

**Competing interests** The authors declare that they have no competing interests.

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