

Organizing

Committee on Mechanical Engineering, Committee on General Engineering, Committee on Civil Engineering and Architecture, Science Council of Japan Joint Subcommittee on Theoretical and Applied Mechanics

Co-organizing

Consortium for Theoretical and Applied Mechanics, Japan Society of Engineers

Free
of
charge

Date

13:00 - 17:00, 15th of March(Fri), 2024

Venue

Auditorium, Science Council of Japan and Online

Classical mechanics is often regarded as a fundamental discipline established in each field of study, such as the so-called four dynamics in mechanical engineering (mechanics, mechanics of materials, fluid mechanics and thermodynamics). However, as the problems covered by mechanics become increasingly diverse, unsolved problems in mechanics across various disciplines are becoming apparent. In order to tackle these problems, it is necessary to fuse a wide range of disciplines beyond the framework of existing fundamental disciplines. Against the background of the above, this symposium, the ninth of its kind, has been held to look at the latest trends in advanced research that could broaden the base of classical mechanics research, and at the same time to look at and discuss next-generation mechanics research that should be newly developed by researchers based on classical mechanics in collaboration with different disciplines. This time, lectures by foreign researchers active in Japan in this field are scheduled.

Chair: Dr. Ettore Barbieri (Senior Researcher, Research Institute for Value-Added-Information Generation, Japan Agency for Marine-Earth Science and Technology)

- 13 : 00** Opening Remarks Prof. Koichi Hishida (Theoretical and Applied Mechanics, Consortium Representative, The Japan Federation of Engineering Societies, and Specially appointed professor, Meiji University)
- 13 : 10** (Professor, Department of Mechanical Engineering, Graduate School of Engineering, Kyushu University, Japan)
Invited Lecture (1)
“Deciphering cellular patterns in sensory epithelia through mathematical modeling”
Prof. Karel Svadlenka (Department of Mathematics, Faculty of Science, Tokyo Metropolitan University)
- 13 : 50** Invited Lecture (2)
“Data science for materials and chemical biology”
Prof. Daniel Packwood (Associate Professor/Principal Investigator, Institute for Integrated Cell-Material Systems, ISEMS, Kyoto University.)
- 14 : 30** (Break)
- 14 : 40** Lecture Planned by IUTAM and International Relations Sub-Committee
“Hot liquid marbles”
Dr. Timothee Mouterde (Lecturer, Graduate School of Engineering, The University of Tokyo)
“Numerical simulation of brittle fracture in residual stress field”
Dr. Sayako Hirobe (Specially Appointed Researcher, Research Institute for Value-Added-Information Generation, Japan Agency for Marine-Earth Science and Technology)
“Multi-phase experimental and computational methods to model aerosol decontamination in water pools”
Dr. Marco Pellegrini (Department of Atomic Power, Graduate School of Engineering, The University of Tokyo)
“Minimizing movements and the surface-constrained level set method”
Prof. Elliott Ginder (Meiji University, Graduate School of Mathematical Sciences, Professor of Phenomenological Mathematics)
- 16 : 10** Panel discussion
Agenda: 'Preparation and planning for success in research grant applications -Priority theme: advice for young researchers in dynamics'.
* Moderator: Ettore Barbieri (Senior Researcher, Research Institute for Value-Added-Information Generation, Japan Agency for Marine-Earth Science and Technology)
* Participants: Prof. Muneo Hori (Member of the Japan Academic Council, Director of Japan Agency for Marine-Earth Science and Technology), Prof. Karel Svadlenka, Prof. Daniel Packwood, Dr. Timothee Mouterde, Dr. Sayako Hirobe, Dr. Marco Pellegrini, Prof. Elliott Ginder.
- 16 : 50** Closing Remarks Prof. Yoko Yamanishi
(Professor, Department of Mechanical Engineering, Graduate School of Engineering, Kyushu University, Japan)
- 17 : 00** Closing

Registration



日本学術会議
SCIENCE COUNCIL OF JAPAN

If you wish to participate, please register in advance by **12:00 on March 11th (Mon)** at the URL below or by using the code on the right. Pre-registration will be closed as soon as capacity is reached. <https://forms.gle/RRYAFJQrXzwwXXjG9>

Contact : Yoko Yamanishi (Professor, Kyushu Univ.)

e-mail : yoko * mech.Kyushu-u.ac.jp (Please change * to @ when you send it.)



第9回 理論応用力学シンポジウム

主催

日本学術会議機械工学委員会・総合工学委員会・土木工学・建築
学委員会合同理論応用力学分科会

共催

公益社団法人 日本工学会 理論応用力学コンソーシアム

日時

令和6年(2024年)3月15日(金) 13:00 - 17:00

場所

日本学術会議講堂、(東京都港区六本木7-22-34)
(ハイブリッド開催)参加料
無料

古典力学は、機械工学におけるいわゆる4力学(機械力学・材料力学・流体力学・熱力学)のように、学問分野ごとに確立された基盤学問のように捉えられがちである。しかし、力学が対象とする問題の多様化にともない、様々な学問分野にまたがる未解決の力学の問題が顕在化してきている。これら諸課題に取り組むためには、既存の基盤学問領域の枠にとらわれない広範囲な学問分野との融合が必要である。本シンポジウムは今回が9回目となるが、上記を背景に、古典力学研究の裾野を広げうる先端的研究に関する最新動向を俯瞰すると同時に、古典力学を基盤とする研究者が異分野と協働して新たに開拓すべき次世代力学研究を展望・討論を重ねてきた。今回は、この分野で活躍している日本で活躍する外国人研究者による講演を予定している。

司会：Ettore Barbieri (国立研究開発法人海洋研究開発機構付加価値情報創生部門主任研究員)

13:00 開会の挨拶 菱田公一 (日本工学会 理論応用力学コンソーシアム代表, 明治大学 特任教授)

13:10 招待講演 (1) Prof. Karel Svadlenka (東京都立大学 理学部数学科)
“Deciphering cellular patterns in sensory epithelia through mathematical modeling”13:50 招待講演 (2) Prof. Daniel Packwood (京都大学アイセムス物質-細胞統合システム拠点
准教授/主任研究者)
“Data science for materials and chemical biology”

14:30 (休憩)

14:40 IUTAM・国際連携小委員会企画 講演

Dr. Timothee Mouterde (東京大学大学院工学系研究科講師)
“Hot liquid marbles”廣部 紗也子 (国立研究開発法人海洋研究開発機構付加価値情報創生部門数理科学・先端技
術研究開発センター応用数理科学グループ研究員)
“Numerical simulation of brittle fracture in residual stress field”Dr. Marco Pellegrini (東京大学大学院工学系研究科原子力専攻)
“Multi-phase experimental and computational methods to model aerosol
decontamination in water pools”Prof. Elliott Ginder (明治大学 先端数理科学研究科 現象数理学専攻 教授)
“Minimizing movements and the surface-constrained level set method”

16:00 (休憩)

16:10 パネルディスカッション

議題：「研究助成金申請で成功するための準備と計画について
～重点テーマ：力学における若手研究者への助言～」

司会：Ettore Barbieri (国立研究開発法人海洋研究開発機構付加価値情報創生部門主任研究員)

登壇者：堀宗朗 (日本学術会議連携会員、国立研究開発法人海洋研究開発機構部門長),
Prof. Karel Svadlenka, Prof. Daniel Packwood, Dr. Timothee Mouterde, 廣部 紗也子, Dr. Marco Pellegrini,
Prof. Elliott Ginder16:50 閉会の挨拶 山西陽子 (日本学術会議連携会員、IUTAM国際連携小委員会委員長,
九州大学・教授)

17:00 閉会

参加申込み方法

日本学術会議
SCIENCE COUNCIL OF JAPAN参加を希望される方は、3/11(月)12:00 までに下記URLまたは右のコードより
事前申込をお願いします。定員になり次第、事前申込みの受付は終了します。<https://forms.gle/RRYAFJQrXzwwXXjG9>

連絡先：山西陽子 (九州大学・教授) e-mail : yoko * mech.Kyushu-u.ac.jp (送信の際には*を@に変えてください)

