Last updated: 2024/12/27

## Pebbles in Planet Formation ver 1.0

@ Large Seminar Room in Subaru Building, NAOJ

Keynote talk (**K#**): 35 min + 10 min,

Contributed talk (**C#**): 12 min + 3 min, blue = zoom presentation

| Day 1 (Monday, Feb. 10) |                             |  |
|-------------------------|-----------------------------|--|
| 9:00 - 9:30             | Registration                |  |
| 9:30 - 10:15            | K1: Misako Tatsuuma         | Opening Remark & From Dust to Planetesimals: A Theoretical Review of Dust Aggregation and Pebble Formation in Planet Formation |
| 10:15 - 10:30           | C1: Yukun Huang             | From Planetesimals to Dwarf Planets by Pebble Accretion  |
| 10:30 - 10:45           | C2: Wladimir Lyra           | Polydisperse Pebble Accretion: Doing away with planetesimal accretion  |
| 10:45 - 11:00           | C3: Mengrui Pan             | Dependence of Planet populations on Stellar Mass and Metallicity: A Pebble Accretion-based Planet Population Synthesis         |
| 11:00 - 11:15           | Short Coffee Break (15 min) |  |
| 11:15 - 11:30           | C4: Linn Eriksson           | Particle fragmentation inside planet-induced spiral waves  |
| 11:30 - 11:45           | C5: Haruto Oshiro           | Investigation of the Bouncing Barrier with Collision Simulations of Compressed Dust Aggregates                                 |
| 11:45 - 12:00           | C6: Sin-iti Sirono          | Thermal evolution of icy dust aggregates through the growth of ice particles   |
| 12:00 - 13:30           | Lunch & Poster (90 min)     |  |
| 13:30 - 14:15           | K2: Carsten Güttler         | Implications of Rosetta observations on pebble formation   |
| 14:15 - 15:00           | K3: Ryota Fukai             | Curation of Ryugu and Bennu samples  |
| 15:00 - 15:15           | C7: Marie-Anne Carpine      | From cosmic dust to planet formation : Building new dust models.   |
| 15:15 - 15:45           | Coffee Break (30 min)       |  |
| 15:45 - 16:00           | C8: Vardan Elbakyan         | Pebbles vs. Turbulence: A Delicate Balance in<br>Protoplanetary Disk Evolution   |
| 16:00 - 16:15           | C9: Eduard Vorobyov         | Dust growth and pebble formation in the initial  |

|               |                     | stages of protoplanetary disk evolution             |
|---------------|---------------------|---|
| 16:15 - 16:30 | C10: Yinhao Wu      | Dust Dynamics in Hall-effected Protoplanetary Disks |
| 16:30 - 17:00 | Discussion (30 min) |   |

| Day 2 (Wednesday, Feb. 12) |                             |   |  |
|----------------------------|-----------------------------|---|--|
| 9:30 - 10:15               | K4: Bastian Gundlach        | Experimental aspects of planetesimal and comet formation  |  |
| 10:15 - 10:30              | C11: Tomomi Omura           | Experimental Study on Compaction Behavior and Structural Evolution in Pebble Layers   |  |
| 10:30 - 10:45              | C12: Satoshi Ohashi         | Experiment of micro-particles adhesion: initial results   |  |
| 10:45 - 11:00              | C13: Yukari Toyoda          | Low-velocity impact experiments of porous ice balls:<br>Porosity dependence of restitution coefficients                           |  |
| 11:00 - 11:15              | Short Coffee break (15 min) |   |  |
| 11:15 - 11:30              | C14: Jakob Penner           | lonizing protoplanetary disks in pebble collisions  |  |
| 11:30 - 11:45              | C15: Jens Teiser            | Charge driven growth: The end of the bouncing barrier?  |  |
| 11:45 - 12:00              | C16: Tetsushi Sakurai       | Consolidated porous material: Experimental study of elastic-wave velocity and thermal conductivity using sintered glass particles |  |
| 12:00 - 12:15              | C17: Yuuya Nagaashi         | Evaluation of surface energy of insoluble organic matter simulants from adhesive force measurements                               |  |
| 12:15 - 13:30              | Lunch & Poster (75 min)     |   |  |
| 13:30 - 14:15              | K5: Min-Kai Lin             | Bitter and sweet flavors of the streaming instability   |  |
| 14:15 - 14:30              | C18: Konstantin Gerbig      | Planetesimal Formation Instigated by Diffusive Instabilities  |  |
| 14:30 - 14:45              | C19: Teng Ee Yap            | Dust-gas coupling in turbulence- and MHD wind-driven protoplanetary disks: Implications for rocky planet formation                |  |
| 14:45 - 15:00              | C20: Satoshi Okuzumi        | Retaining small pebbles with MHD-driven surface accretion flows in protoplanetary disks   |  |
| 15:00 - 15:15              | C21: Daniel Carrera         | Dust Growth and Planetesimal Formation in Class 0/I Disks Subject to Infall   |  |
| 15:15 - 15:30              |                             | Short Coffee Break (15 min)   |  |
| 15:30 - 16:15              | K6: Takahiro Ueda           | Characterization of Protoplanetary Dust by Radio Observations   |  |

| 16:15 - 16:30 | C22: Kiyoaki Doi                                      | Dust size distribution revealed from the dust spatial distribution from high-resolution multi-wavelength ALMA observations |
|---------------|---|--|
| 16:30 - 16:45 | C23: Yangfan Shi                                      | Testing the Trapping of Large Dust Grains in the Outer Ring of MWC 480 by ALMA and VLA Observations                        |
| 16:45 - 17:00 | C24: Chiara Eleonora<br>Scardoni                      | Seeing the invisible: indirect methods to detect the action of streaming instability in protoplanetary discs               |
| 17:00 - 17:30 | Discussion (30 min)                                   |  |
| 17:30 - 18:00 | Poster Session (30 min)                               |  |
| 18:00 -       | Banquet @ Large Seminar Room in Subaru Building, NAOJ |  |

|               | Day 3 (Thursday, Feb. 13)      |   |  |
|---------------|--------------------------------|---|--|
| 9:30 - 9:45   | C25: Luca Cacciapuoti          | Assemble of the earliest pebbles: dust growth in protostellar envelopes?  |  |
| 9:45 - 10:00  | C26: Simin Tong                | Compact protoplanetary discs can be produced by dead zones  |  |
| 10:00 - 10:15 | C27: Ryo Tazaki                | JWST observations of edge-on protoplanetary disks   |  |
| 10:15 - 10:30 | C28: Linhan Yang               | Multi-Wavelength ALMA Rings with Dust<br>Coagulation/Fragmentation: Simulations, Analytical<br>Fits and a case-study of HD163296                |  |
| 10:30 - 10:45 | C29: Elena Viscardi            | A guide to multi-wavelength analyses of protoplanetary discs and application to GM Aurigae  |  |
| 10:45 - 11:00 | C30: Xiaoyi Ma                 | Testing the vortex hypothesis in a protoplanetary disk HD34282  |  |
| 11:00 - 11:30 | Coffee Break (30 min)          |   |  |
| 11:30- 11:45  | C31: Jean-François<br>Gonzalez | Porosity is crucial for the evolution of dust grains in protoplanetary disks  |  |
| 11:45 - 12:00 | C32: Thomas Pfeil              | The Semi-analytic Dust Coagulation Model TriPoD and its Applications  |  |
| 12:00 - 12:15 | C33: Maxime Lombart            | How to treat dust coagulation/fragmentation in 3D hydro simulations ?   |  |
| 12:15 - 13:45 | Lunch & Poster (90 min)        |   |  |
| 13:45 - 14:00 | C34: Nicolas Kaufmann          | Bridging the Gap, From Planetesimals Formation to the Onset of Pebble Accretion: Investigating the Early Growth of Locally Formed Planetesimals |  |

| 14:00 - 14:15 | C35: Kundan Kadam     | Planetesimal Formation in Rossby Vortices Originating at Snow Regions   |
|---------------|-----------------------|---|
| 14:15 - 14:30 | C36: Hui Li           | Dust Dynamics and Evolution in Multi-Dimensional Protoplanetary Disks   |
| 14:30 - 14:45 | C37: Pinghui Huang    | Dust Clumping In Turbulent Protoplanetary Disks: The coexistence of Vertical Shear Instability, Streaming Instability and Rossby Wave Instability |
| 14:45 - 15:15 | Coffee Break (30 min) |   |
| 15:15 - 15:30 | C38: Jiahan Shi       | Streaming Instability vs. Forced Turbulence: Identifying the physics of strong clustering.  |
| 15:30 - 15:45 | C39: Jip Matthijsse   | Polydisperse Formation of Planetesimals: The dust size distribution in clumps   |
| 15:45 - 16:00 | C40: Timmy Delage     | Spontaneous formation of long-lived dust traps during the secular evolution of magnetized protoplanetary disks                                    |
| 16:00 - 16:30 | Discussion (30 min)   |   |
| 16:30 -       | Concluding Remarks    |   |

|     | List of Posters     |   |  |
|-----|---------------------|---|--|
| P1  | Yasir Abdul Qadir   | Broadband linear polarimetry of exoplanet Upsilon Andromedae b:<br>Constraints on the orbital and physical parameters                   |  |
| P2  | Simon Anghel        | How to measure the meteoroids impacting the Earth's atmosphere?   |  |
| РЗ  | Irina San Sebastián | Compressibility and strength of pebble piles  |  |
| P4  | Akiko Nakamura      | Measurement of Static and Dynamic Strengths of Chondrules   |  |
| P5  | Gretha Völke        | Tribocharged Solids in Protoplanetary Disks   |  |
| P6  | Holly Capelo        | Experimental Insights into Dust-Gas Interactions and Instabilities in Protoplanetary Discs  |  |
| P7  | Ryosuke Tominaga    | Pebble evolution assisted by streaming instability in protoplanetary disks  |  |
| P8  | Can Cui             | Dust growth in ALMA rings   |  |
| P9  | Ryo Kato            | Thermally Induced Dust Concentration and Rocky Planetesimal Formation in the Inner Region of Protoplanetary Disks                       |  |
| P10 | Michael Hammer      | An MHD-based model for wind-driven disc-planet interactions   |  |
| P11 | Shuji Ichikawa      | Effects of refractory condensates deposited outside the Jovian gap in the protosolar disk on the isotopic dichotomy of the solar system |  |

| P12 | Yuhito Shibaike  | Constraining Properties of Gas Accreting Planets through Pebbles in Circumplanetary Disks    |
|-----|------------------|--|
| P13 | Masashi Minehira | Jovian and Saturnian Satellite Formation Incorporating Pebble Accretion and Cavity Evolution |