IDMPC2024　Program

Tuesday, September 17, 2024
17:00 – 20:00
Registration/Welcome Dinner: Uesugi Joshien (上杉城史苑)

Wednesday, September 18, 2024
Invited Talk Session: Denkokuno-Mori　（伝国の杜）Hall
09:30 – 09:40 Opening, *Go Matsuba*

Session 1. Confinement/Thin Films (Chair: Dario Cavallo)
09:40 – 10:05
1. In situ AFM observation of folded-chain crystallization of single isolated isotactic PMMA chains.
Jiro Kumaki (Yamagata University)

10:05 – 10:30
2. Crystallization of conjugated polymer thin films: The role of interfaces, molecular characteristics, and thermal processing. *Lucia Fernandez-Ballester (University of Nebraska-Lincoln)*

10:30 – 10:55
3. Tuning crystallization pathways via confinement. *Christopher Li (Drexel University)*

10:55 – 11:10
4. Interfacial effects of polymer crystallization under hard confinement.
Guoming Liu (CAS, Institute of Chemistry)

11:10 – 11:15
Short Break

Session 2. Morphology (Chair: Claudio De Rosa)
11:15 – 11:40
5. What determines the polymorphic selection during polymer expitaxy.
Shouke Yan (Beijing University of Chemical Technology)

11:40 – 12:05
6. Effects of entanglements and intracrystalline chain diffusion on the morphology of semicrystalline polymers.
Thomas Thurn-Albrecht (Martin Luther University Halle-Wittenberg)

12:05 – 12:20
7. Exploring the effect of chain length heterogeneity on polymer crystallization using precision macromolecules. *Xuehui Dong (South China University of Technology)*

12:20 – 14:00
Lunch and Posters

Session 3. Drawing/Simulation/Analysis/Engineering (Chair: Toshi Miyoshi)
14:00 – 14:15
8. Uniaxial elongation of rolled polytetrafluoroethylene sheets. *Asae Ito (Kanazawa University)*

14:15 – 14:30
9. On the key role of surface energy in crystal orientation in conjugated polymer films.
Oleksandr Dolynchuk (Martin Luther University Halle-Wittenberg)

14:30 – 14:55
10. Superlattice engineering in giant molecules. *Stephen Z.D. Cheng (University of Akron)*

14:55 – 15:20
11. Inner structures of PE and iPP spherulites as revealed by synchrotron X-ray microbeam and computer simulation methods. *Kohji Tashiro (Aichi Synchrotron Radiation Center)*

15:20 – 15:50
Coffee Break

Session 4. Drawing/Simulation/Analysis (Chair: Junichi Takimoto)
15:50 – 16:05
12. Influences of molecular weight distribution on microscopic deformation behavior of polyethylene studied by Raman spectroscopy. *Takumitsu Kida (Shiga Prefectural University)*

16:05 – 16:30
13. Understanding the role of chain entanglement on polymer crystallization: Molecular insights from simulation studies. *Liangbin Li (Chinese University of Science and Technology)*

16:30 – 16:55
14. Entropic Barrier Theory of Polymer Melting, and Energy Cascade.
Muthugappan Muthukumar (University of Massachusetts, Amherst)

16:55 – 17:10
15. Large-scale MD simulations of spontaneous crystallization of stretched polymers.
Katsumi Hagita (National Defense Academy)

17:10 – 17:15
Short Break

Session 5. Drawing/Simulation/Analysis (Chair: M. Muthukumar)
17:15 – 17:30
16. Branches, tie-chains and entanglements in PE single crystals under uniaxial tensile strain.
William Stuart Fall (Université Paris-Saclay)

17:30 – 17:45
17. Structures and mechanical properties of semicrystalline polymers at the molecular level by coarse-grained molecular dynamics simulations. *Yuji Higuchi (Kyushu University)*

17:45 – 18:10
18. Molecular simulation for the effect of polydispersity on polyethylene crystallization from the melts.
Visit Vao-soongnern (Suranaree University of Technology)

18:30- **Conference Dinner: Uesugi Hakushaku-Tei (上杉伯爵邸)**

Thursday, September 19, 2024
Invited Talk Session: Denkokuno-Mori （伝国の杜）Hall
Session 6. Nucleation/General Topics (Chair: Thomas Thurn-Albrecht)
09:15 – 09:40
19. Formation of nano oriented crystals of iPP with soluble nucleating agent by elongational crystallization.
Masamichi Hikosaka (Hiroshima University)

09:40 – 10:05
20. Surface nucleation of polyethylene droplets on polypropylene matrix in immiscible blends
Dario Cavallo (University of Genoa)

10:05 – 10:30
21. Hierarchical structure with a honeycomb fullerene scaffold by a fullerene–triphenylene shape amphiphile.
Yan Cao (South China University of Technology)

10:30 – 10:55
22. Sustainable long-spaced polyesters. Crystallization and properties.
Rufina Alamo (Florida State University)

10:55 – 11:00
Short Break

Session 7. Nucleation/Memory Effects (Chair: Ken Taguchi)
11:00 – 11:25
23. Polymer crystallization as a fingerprint of the molecular structure.
Claudio De Rosa (University of Naples Federico II)

11:25 – 11:50
24. Different types of self-poisoning in polymer crystallization. *Goran Ungar (Xi'an Jiaotong University)*

11:50 – 12:15
25. Recent findings about melt memory in polymer crystallization.
Alejandro Müller (University of the Basque Country, UPV/EHU)

12:15 – 12:20
Group Photo

12:20 – 14:00
Lunch and Posters

Session 8. General Topics (Chair: Christopher Li)
14:00 – 14:25
26. Understanding biaxial strain-induced polymer crystallization. *Wenbing Hu (Nanjing University)*

14:25 – 14:50
27. Crystallization during polymerization.
Sanjay Rastogi (King Abdullah University of Science and Technology)

14:50 – 15:05
28. Molecular weight dependence of crystallization behavior in polymers.
Ying Lu (CAS, Changchun Institute of Applied Chemistry)

15:05 – 15:20
29. Crystal growth of cyclic, star and linear poly(p-dioxanone). *Shinichi Yamazaki (Okayama University)*

15:20 – 15:50
Coffee Break

Session 9. Crystal Transition 1 (Chair: Koji Fukao)
15:50 – 16:15
30. Two recent developments in polymer crystallization: Brill transition in nylons and Nucleation by the Fold Surfaces (NFS). *Bernard Lotz (Institut Charles Sadron, CNRS and University of Strasbourg)*

16:15 – 16:40
31. Kinetics of the crystallization and form II to I transition in deuterated polybutene-1.
Yongfeng Men(CAS, Changchun Institute of Applied Chemistry)

16:40 – 17:05
32. Hexagonal phase formation and structural transition in long-chain aliphatic polyester.
Pengju Pan (Zhejiang University)

17:05 – 17:10
Short Break

Session 10. Crystal Transition 2 (Chair: Yongfeng Men)
17:10 – 17:25
33. Polymer crystallization with crystalline nodular aggregation near the glass transition temperature.
Takashi Konishi (Kyoto University)

17:25 – 17:30
34. Crystallization and phase transition of poly(1-butene) and its copolymers. *Zhe Ma(Tianjin University)*

17:30 – 17:55
35. Real-space imaging of crystal-crystal transformation mediated by a mesophase.
Bin Zhang (Zhengzhou University)

18:30- **Banquet: Uesugi Joshien (上杉城史苑)**

Friday, September 20, 2024
Invited Talk Session: Denkokuno-Mori （伝国の杜）Hall
Session 11. Advanced Experiments (Chair: Alejandro Müller)
09:15 – 09:40
36. Polarized resonant soft X-ray scattering for nanoscale molecular orientation measurements in polymers.
Dean Delongchamp (National Institute of Standards and Technology)

09:40 – 10:05
37. Chain-folding structure is a witness for polymer crystallization and re-organization.
Toshi Miyoshi (University of Akron)

10:05 – 10:30
38. Crystalline structures studied by electron microscopy. *Hiroshi Jinnai (Tohoku University)*

10:30 – 10:55
39. Crystallization kinetics of poly(butylene terephthalate) over broad temperature range.
Akihiko Toda (Hiroshima University)

10:55 – 11:00
Short Break

Session 12. Advanced Experiments/Functional Properties (Chair: Shouke Yan)
11:00 – 11:25
40. TBA
Giuseppe Portale (University of Groninen)

11:25 – 11:50
41. The origin of piezoelectricity in ferroelectric polymers. *Lei Zhu (Case Western University)*

11:50 – 12:05
42. The manipulation of phase transition of poly(vinylidene fluoride) from nonpolar to polar phase with high piezoelectricity. *Xiaoli Sun (Beijing University of Chemical Techology)*

12:05 – 12:30
43. Formation of stereocomplex crystals in reactive elastomers for super-toughening engineering plastics.
Yongjing Li (Hanzhou Normal University)

12:30 – 12:40 Closing

12:40 – 14:00 Lunch

14:00 – Excursion (Yamagata University and Japanese Saki Winery, TOKOU-Sakagura)