Ophelia K. C. Tsui

Personal Data

Position & Affiliation:	Professor Department of Physics, Hong Kong University of Science & Technology Clear Water Bay, Kowloon, Hong Kong.
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Qualifications

- Princeton University, Princeton, NJ, M.Sc., Ph.D. in Physics
- University of Hong Kong, Hong Kong, B.Sc. in Physics, first class honor

Research Interests

My current research interest comprises various topics of polymer and soft condensed matter physics physics, including mechanical and dynamical properties of polymer nanometer films and structures, mobile surface layer of polymer glass, mechanical and relaxation properties of two-dimensional colloidal glass, and nano-plastic.

Selected Services and Membership

- Assessment Panel Member, Incubation Programmes of Hong Kong Science and Technology Parks Corporation (2024–2025)
- Director, William Mong Institute of Nano Science and Technology, Hong Kong University of Science and Technology (HKUST) (2023–)
- Member, University Appointments and Substantiation Committee, HKUST (2023–)
- Member, Ad-hoc Search and Appointments Committee for Strategic Area B: "Material Science and Future Energy", HKUST (2023–)
- Panel Member, Research Grant Council of Hong Kong (2022–)
- Member of the Editorial Advisory Board of *ACS Applied Engineering Materials* (2022–)
- Member of the International Advisory Board of *Macromolecular Chemistry and Physics* (2018–)
- External Examiner in Astronomy, in Mathematics/Physics, in Physics, and in Physics (Intensive) for the Bachelor of Science (for 4-year curriculum), The University of Hong Kong (2021–)
- Adjunct Professor, Boston University, Boston, MA (2019–)
- Member, Limited Submission Panel, Boston University, Boston, MA (2020–)
- Organizer of the invited session, *Recent Developments on the Physics of Polymer Adsorbed Layers* in the 2022 American Physical Society Annual March Meeting, Chicago, IL.
- Chair of the Council, the Physical Society of Hong Kong, Hong Kong. (2018–2022)
- Member, Senate Student Disciplinary Committee, HKUST (2018–2023)
- Member of the Editorial Advisory Board of *Macromolecules* and *ACS Macro Letter* (2016–2022)

- Associate Director, William Mong Institute of Nano Science and Technology, Hong Kong University of Science and Technology (HKUST) (2020–2022)
- Member, Advisory Committee of the 5th International Workshop on Dynamics in Confinement (Confit 2022), Grenoble, France. (2020–2022)
- Member, Polymer Physics Prize Selection Committee, American Physical Society, USA. (2019 & 2020)
- Chair, Substantiation and Promotion Committee, Department of Physics, HKUST (2019–21)
- Co-organizer of the focused session, *Confined Polymer Glasses: Effects of Interfaces, Free Volume, and More* in the 2019 American Physical Society Annual March Meeting, Boston, MA.
- Chair, Hearing Panel of Sexual Harassment Complaints, HKUST (2019)
- Member, Scientific Organizing Committee, 2018 Joint Annual Conference of Physical Societies in the Guangdong-Hong Kong-Macao Greater Bay Area (July 26-29, 2018)
- Member of the Executive Committee, Physical Society of Hong Kong (2017–2018)
- Co-editor of the special issue "Polymer Characterization and Morphology", published by *Macromolecular Chemistry and Physics*, Wiley-VCH, Germany (Vol. 219, Issue 3, February 2018 https://doi.org/10.1002/macp.201800001)
- Discussion Leader of the session *Confined Polymers*, 2016 Polymer Physics Gordon Research Conference, Mount Holyoke College, South Hadley, MA, USA (July 24–29, 2016).
- Guest editor, Special Edition of *the Journal of Polymer Science, Part B: Polymer Physics* for the Division of Polymer, 2010 American Physical Society March Meeting.
- Co-organizer of the invited symposium, *Dynamics of Nano-Confined Polymer Films* in the American Physical Society 2010 Annual March Meeting, Portland, OR, USA
- Co-editor of *Polymer Thin Films*, a volume in the series, *Soft Condensed Matter Physics* organized by David Andelman and Günter Reiter. (Published by World Scientific in 2008).
- Member of the American Physical Society
- Member of the American Chemical Society
- Member of the American Association for the Advancement of Science
- Member, Hong Kong Women Professionals and Entrepreneurs Association
- Grant proposal review: Panel member and/or reviewer for the Research Grant Council of Hong Kong (2022–), Internal Proposal Selection Review Panel of HKUST (2024), Limited Submission Panel of Boston University, Boston, MA (2020–2024), US National Science Foundation (2007–2024), US Department of Energy (2009–2021), and Natural Science and Engineering Research Council of Canada (2021).
- Research manuscript review: for *Science*, *Nature Materials*, *Physical Review Letters*, *ACS Macro Letter*, *ACS Applied Materials & Interfaces*, *Macromolecules*, *Langmuir*, *The Journal of Chemical Physics*, *Soft Matter*, *Polymer*, *Macromolecular Chemistry and Physics*, *Physical Review E*, *European Physical Journal E*, *Journal de Physique IV*, *Journal of Polymer Science Part B: Polymer Physics*, *Polymer*, *etc.*

Awards and Honors

- Undergraduate Research Opportunities Program (UROP) Faculty Research Award, HKUST (2019)
- American Physical Society Fellow (2011)
- Global Centers of Excellence Lecturer, Kyushu University, Fukuoka, Japan (2010)
- Swire Scholar (1990)
- Sir Edward Youde Memorial Fellow (1988)

Refereed Publications / Preprints

1. "Mixed Equilibrium/Nonequilibrium Effects Govern Surface Mobility in Polymer Glasses", J. Xu, A. Ghanekarade, L. Li, H. Zhu, H. Yuan, J. Yan, D. S. Simmons*, O. K. C. Tsui*, and X. Wang*, *PNAS* (accepted).
2. "Substrate Influence on the Surface Glass Transition Temperature of Polymers", Zongyi Ma, Haoran Nie, O. K. C. Tsui*, *Polymer* (accepted). link
   A preprint is also available on ArXiv with this link.
3. "Correlation between Fragility and Surface Glass Transition Temperature of Polymers", Z. Ma, H. Nie, J. Yan, and O. K. C. Tsui*, *J. Chem. Phys.*, 159, 224905 (2023). (**selected by the journal as Editor's Pick**) link
4. "Glass Transition of the Surface Monolayer of Polystyrene Films: Effect of Thermal Preannealing", J. Yan, Z. Ma, J. Xu, H. Nie, H. Yuan, X. Wang, T. Wang, L.-T. Weng, and O. K. C. Tsui*, *Macromolecules*, 56, 5917–5923 (2023). link
5. "Loosely Adsorbed Chains Expedite the Desorption of Flattened Polystyrene Chains on Flat Silicon Surface", W. Ren, Y. Li, Y. Tang, J. Xu*, C. Zhang, O. K. C. Tsui, X. Wang*, *ACS Macro Lett.*, 12, 854–859 (2023). link
6. "Glass Transition of the Surface Monolayer of Polystyrene Films with Different Film Thicknesses and Supporting Surfaces", J. Yan, J. Xu, L.-T. Weng, F. Wang, X. Wang, H. Yuan, T. Wang, and O. K. C. Tsui*, *Macromolecules*, **56**, 556–566 (2023). link
7. "Microscale Mobile Surface Double Layer in a Glassy Polymer", H. Yuan, J. Yan, P. Gao, S. Kumar, O. K. C. Tsui*, *Science Advances* **8**, eabq5295 (2022). link
8. "Enhanced Drag Reduction Performance by Interactions of Surfactants and Polymers", D. Liu, S. Wang, I. Ivitskiy, J. Wei, O. K. C. Tsui, F. Chen, *Chemical Engineering Science*, **232**, 116336 (2021). link
9. "Strain Rate and Thickness Dependences of Elastic Modulus of Free-standing Polymer Nanometer Films", P. M. Yiu, H. Yuan, Q. Gu, P. Gao, O. K. C. Tsui, *ACS Macro Lett.*, **9**, 1521–6 (2020). link
10. "Effective Viscosity of Unentangled Random Copolymer Films of Styrene and 4-Methoxystyrene with Different Copolymer Compositions", J. Xu, C. Lv, B. Du, X. Wang, and O. K. C. Tsui, *Macromolecules*, **53**, 7430–8 (2020). link
11. "Mechanical Responses of Breast Cancer Cells to Substrates of Varying Stiffness Revealed by Single-Cell Measurements", F. Tian, T.-C. Lin, L. Wang, S. Chen, X. Chen, P. M. Yiu, O. K. C. Tsui, J. Chu, C.H. Kiang, H. K. Park, *J. Phys. Chem. Lett.*, **11**, 7643–7649 (2020). link
12. "The Next 100 Years of Polymer Science", A. S. Abd-El-Aziz *et al.*, *Macromolecular Chemistry and Physics*, 2000216 (2020). link
13. "Glass Transition Temperature of Single-chain Polystyrene Particles End-grafted to Oxide-Coated Silicon", Y. Li, D. Lin, J. Xu, X. Zhou, B. Zuo, O. K. C. Tsui, W. Zhang and X. Wang, *J. Chem. Phys*. **152**, 064904 (2020). link
14. "T_g Confinement Effect of Random Copolymers of 4-*tert*-Butylstyrene and 4-Acetoxystyrene with Different Compositions", T. Wang, J. Yan, H. Yuan, J. Xu, H. Y. Lam, X. Yu, C. Lv, B. Du, O. K. C. Tsui, *ACS Macro Letters*, **8**, 1280–4 (2019). link
15. "Tuning the Effective Viscosity of Polymer Films by Chemical Modifications", Xuanji Yu, Tong Wang, Ophelia K. C. Tsui, Lu-Tao Weng, *Macromolecules* **52**, 3499–3505 (2019). link
16. "Tuning the Dynamics of Polymer Films by Adjusting the Polymer-substrate Interactions and Substrate Compliance", *PhD Dissertation* of Xuanji Yu, supervised by Ophelia K. C. Tsui, Boston University (2019).

17. "Conformation-Sensitive Surface Dynamics in Thin Poly(ethylene terephthalate) Films", Jianquan Xu, Haosong Zhang, Jiachen Li, Li Zhang, Biao Zuo, Ophelia K. C. Tsui and Xinping Wang , *Macromolecules* **52**, 2580–2588 (2019). link
18. "Effective Viscosity of Lightly UVO-Treated Polystyrene Films on Silicon with Different Molecular Weights", Xuanji Yu, Pakman Yiu, Lu-Tao Weng, Fei Chen, and Ophelia K. C. Tsui, *Macromolecules* **52**, 877–885 (2019). link
19. Thermal-Induced Slippage of Soft Solid Films", Xuanji Yu, Fei Chen, Chi-Hang Lam, Ophelia K. C. Tsui, *Phys. Rev. E* **99**, 010501(R) (2019). link
20. "Thickness of the Surface Mobile Layer with Accelerated Crystallization Kinetics in Poly(ethylene terephthalate) Films: Direct Measurement and Analysis", Jianquan Xu, Yun Li, Xiaoling Wu, Biao Zuo, Xinping Wang, Wei Zhang, and Ophelia K. C. Tsui, *Macromolecules*, **51**, 3423–3432 (2018). link
21. "Polymer Characterization and Morphology", Miriam M. Unterlass, Shinji Ando, and Ophelia K. C. Tsui, *Macromolecular Chemistry and Physics*, **219**, 1800001 (2018). This is the editorial of the special issue, *Polymer Characterization and Morphology* co-edited by Unterlass, Ando and Tsui. link
22. "Unexpected Thermal Annealing Effects on the Viscosity of Polymer Nanocomposites", Fei Chen, Koshu Takatsuji, Dan Zhao, Xuanji Yu, Sanat Kumar, Ophelia K. C. Tsui, *Soft Matter*, **13**, 5341–5354 (2017). link
23. "Modulation of the Effective Viscosity of Polymer Films by Ultraviolet Ozone Treatment", Xuanji Yu, Anjeza Beharaj, Mark W. Grinstaff, Ophelia K. C. Tsui. This is a special issue of *Polymer* in honor of Prof. T. Kajiyama, *Polymer*, **116**, 498–505 (2017). link
24. "Conflicting Confinement Effects on the Tg, Diffusivity and Effective Viscosity of Polymer Films: A Case Study with Poly(isobutyl methacrylate) on Silica and Possible Resolution", Kung Geng, Reika Katsumata, Xuanji Yu, Heonjoo Ha, Austin R. Dulaney, Christopher J. Ellison and Ophelia K. C. Tsui, *Macromolecules*, **50**, 609–617 (2017). link
25. "Flexible Supercapacitors based on Polyaniline Nanowires-infilled 10 nm-diameter Carbon Nanotube Porous Membrane by in-situ Electrochemical Polymerization", R. Wang, Q. Wu, X. Zhang, Z. Yang, L. Gao, J. Ni and O. K. C. Tsui, *J. Mater. Chem. A*, **4**, 12602–8 (2016). link
26. "Effects of Polymer Tacticity and Molecular Weight on the Glass Transition Temperature of Poly(methyl methacrylate) Films on Silica", Kung Geng and Ophelia K. C. Tsui, *Macromolecules*, **49**, 2671–8 (2016). link
27. "Confinement Effect on the Effective Viscosity of Plasticized Polymer Films", F. Chen, D. Peng, Y. Ogata, K. Tanaka, Z. Yang, Y. Fujii, N. L. Yamada, C. -H. Lam, and O. K. C. Tsui, *Macromolecules*, **48**, 7719–26 (2015). link
28. "Viscosity and Surface-Promoted Slippage of Thin Polymer Films Supported by a Solid Substrate", F. Chen, D. Peng, C. -H. Lam and O. K. C. Tsui, *Macromolecules,* **48**, 5034–9 (2015). link
29. "Molecular-weight Dependent T_g Depression of Silica-Supported Poly(α-methyl styrene) Films", K. Geng, F. Chen, O. K. C. Tsui, *J. Non-Cryst. Solids*, **407**, 296–301 (2015). link
30. "Declined Ionic Flux through the Nano Pores of Vertically Aligned Carbon Nanotubes Filled by the PNIPAM Hydrogel.", Y. Pan, Q. Wu, Y. Weng, X. Zhang, Z. Yang, J. Meng and O. K. C. Tsui, *J. Mater. Chem. A*, **3**, 11111–6 (2015). link
31. "Enhanced Water Flux in the Vertically Aligned Carbon Nanotube Array and the Polyethersulfone Composite Membrane", S. Li, G. Liao, Z. Liu, Y. Pan, Q. Wu, Y. Weng, X. Zhang, Z. Yang and O. K. C. Tsui, *J. Mater. Chem. A*, **2**, 12171–6 (2014). link

32. “A Novel Method to Encapsulate Au Nanorods Array in 15nm Radius Multiwalled Carbon Nanotubes”, G. Liao, Y. Pan, Q. Wu, S. Li, Y. Weng, X. Zhang, Z. Yang, J. Guo, M. Chen, M. Tang, O. K. C. Tsui, *Nanoscale*, **6**, 14872–6 (2014). link
33. “The Surface Mobility of Glasses”, F. Chen, C.-H. Lam, O. K. C. Tsui, *Science*, **343**, 975 (2014). link
34. “Viscosity of PMMA on Silica: Epitome of Systems with Strong Polymer-Substrate Interactions”, R. N. Li, F. Chen, C. -H. Lam, and O. K. C. Tsui, *Macromolecules*, **46**, 7889–93 (2013). link
35. “Crossover to Surface Flow in Supercooled Unentangled Polymer Films, C. -H. Lam and O. K. C. Tsui, *Phys. Rev. E*, **88**, 042604 (2013). link
36. “Power Spectral Density of Free-standing Viscoelastic Films by Adiabatic Approximation”, Haiyao Deng, Nancy Ranxing Li, Haitao Huang, Ophelia K. C. Tsui, Chi-Hang Lam, *Langmuir*, 29, 4283–4289 (2013). link
37. “Glass Transition Temperature of Polymer Nanocomposite Films with Tunable Particle-Polymer Interfacial Interactions”, Fei Chen, B. M. Reinhard, M. W. Grinstaff, N. Jiang, T. Koga, O. K. C. Tsui, *Macromolecules* **46**, 4663–4669 (2013). link
38. “Two-layer Model Description of Polymer Thin Film Dynamics”, D. Peng, R. N. Li, C. -H. Lam, O. K. C. Tsui, *Chin. J. Polym. Sci.*, **31**, 12–20 (2013). link
39. “Swelling with a Near-Theta Solvent as a Means to Modify the Properties of Polymer Thin Films", A. Clough, M. Chowdhury, K. Jahanshahi, G. Reiter, O. K. C. Tsui, *Macromolecules* **45**, 6196–6200 (2012). link
40. “Surface Dynamics of Noisy Viscoelastic Films by Adiabatic Approximation”, Chi -Hang Lam, Dongdong Peng, Ophelia K. C. Tsui, *Langmuir*, **28**, 10217–10222 (2012). link
41. “Equilibration of Polymer Films Cast from Solutions with Different Solvent Qualities”, Nancy R. Li, A. Clough, Z. Yang, O. K. C. Tsui, *Macromolecules*, **45**, 1085–1089 (2012). link
42. "Method to Measure the Viscoelastic Properties of Nanometer Entangled Polymer Films", Dongdong Peng, Zhaohui Yang, and O. K. C. Tsui, *Macromolecules*, **44**, 7460–7464 (2011). link
43. “Glass Transition Dynamics and Surface Mobility of Entangled Polystyrene Films at Equilibrium” Z. Yang, A. Clough, C. -H. Lam, and O. K. C. Tsui *Macromolecules*, **44**, 8294–8300 (2011). link
44. “Glass Transition Temperature of Polymer Films that Slip”, Andrew Clough, Dongdong Peng, Zhaohui Yang, and Ophelia K. C. Tsui, *Macromolecules*, **44**, 1649–1653 (2011). link
45. “Glass Transition Dynamics and Surface Layer Mobility in Unentangled Polystyrene Films”, Z. Yang, Y. Fujii, F. K. Lee, C. -H. Lam, and O. K. C. Tsui, *Science*, **328**, 1676-1679 (2010). link
46. “Shear Modulus of a Polymer Brush”, Y. Fujii, Z. Yang, and O. K. C. Tsui, *Macromolecules*, **43**, 4310–4313 (2010). link
47. “Is the Dynamics of Polymer Films Consistent with Their Tg?”, Z. Yang, D. Peng, A. Clough, C. –H. Lam, and O. K. C. Tsui, *Eur. Phys. J. Special Topics*, **189**, 155–164 (2010). link
48. “The Anti-Lotus Leaf Effect in Nanohydrodynamic Bump Arrays”, K. Morton, O. Tsui, C. -K. Tung, J. C. Sturm, S. Y. Chou, R. Austin, *New J. Phys.*, **12**, 085008-1–085008-15 (2010). link
49. “Method to Measure the Viscosity of Nanometer Liquid Films from the Surface Fluctuations” Z. H. Yang, C. -H. Lam, N. Buoet, Elaine DiMasi, J. Jordan-Sweet, O. K. C. Tsui, *App. Phys. Lett.*, **94**, 251906 (2009). Selected for the July 6, 2009 issue of Virtual Journal of Nanoscale Science and Technology. link
50. "Affinity of Polystyrene Films to Hydrogen-Passivated Silicon and its Relevance to the Films’ Tg", Y. Fujii, Z. H. Yang, J. Leach, H. Atarashi, K. Tanaka, O. K. C. Tsui, *Macromolecules*, **42**, 7418–22 (2009). link

51. "Wettability of End-Grafted Polymer Brush by Chemically Identical Polymer Films", X. Zhang, F. K. Lee, O. K. C. Tsui, *Macromolecules*, **41**, 8148–51 (2008). link
52. "Examination of Non-Liquidlike Behaviors in Molten Polymer Films", Z. H. Yang, Y. J. Wang, L. Todorova and O. K. C. Tsui, *Macromolecules*, **41**, 8785–8 (2008). link
53. "Crossing Microfluidic Streamlines to Lyse, Label and Wash Cells", K. J. Morton, K. Loutherback, D. W. Inglis, O. K. Tsui, J. C. Sturm, S. Y. Chou, R. H. Austin, *Lab on a Chip*, **8**, 1448–53 (2008). link
54. "Hydrodynamic Metamaterials: Nanofabricated Arrays to Steer, Refract and Focus Streams of Biomaterials", K. J. Morton, K. Loutherback, D. Inglis, O. K. Tsui, J. C. Sturm, S. Y. Chou, R. H. Austin, *PNAS*, **105**, 7434–7438 (2008). link
55. "Equilibrium Pathway of Spin-coatd Polymer Films", O. K. C. Tsui, Y. J. Wang, F. K. Lee, C. –H. Lam, Z. H. Yang, *Macromolecules* **41**, 1465–1468 (2008). link
56. "Effect of Pattern Topology on the Self-cleaning Properties of Textured Surfaces", Xueyun Zhang, B. Kong, O. K. C. Tsui, X. Yang, Y. Mi, C. M. Chan, and B. Xu, *J. Chem. Phys.* **127**, 014703 (2007). link
57. "Stability of Polymer Films as a 2D System", Y. J. Wang, C. H. Lam, X. Zhang, O. K. C. Tsui, *Eur. Phys. J. Special Topics*, **141**, 181–7 (2007). link
58. "Mean-field Description of Spinodal Growth of Surface Waves on Rupturing Films", Y. J. Wang, O. K. C. Tsui, *J. Non-Cryst. Solids*, **352**, 4977–82 (2006). link
59. "Liquid Crystal Pretilt Angle Control Using Nano-textured Surfaces", F. S. Y. Yeung, F. C. Xie, J. Wan, F. K. Lee, O. K. C. Tsui, P. Sheng, H. S. Kwok, *J. Appl. Phys*. **99**, 124506 (2006). link
60. "Substrate Patterning for Liquid Crystal Alignment by Optical Interference", Xuemin Lu, Fuk Kay Lee, Ping Sheng, H. S. Kwok, V. Chigrinov, O. K. C. Tsui, *Appl. Phys. Lett*. **88**, 243508 (2006). link
61. "Adhesion of Free-standing Newton Black Film onto a Solid Substrate", J. -J. Benattar, M. Nedyalkov, F. K. Lee, O. K. C. Tsui, *Angew Chem*. **45**, 1–5 (2006). link
62. "Unconventional Spinodal Surface Fluctuations on Polymer Films", Y. J. Wang, O. K. C. Tsui, *Langmuir* **22**, 1959–63 (2006). link
63. "Variable Liquid Crystal Pretilt Angles by Nano-structured Surfaces", F. S. Y. Yeung, J. Y. Ho, Y. W. Li, F. C. Xie, O. K. C. Tsui, P. Sheng, H. S. Kwok, *Appl. Phys. Lett.* **88**, 051910 (2006). link
64. "Effect of Dispersion Forces in the Instability of Polymer Films", Heping Zhao, Ophelia K. C. Tsui, and Zheng-You Liu, *Chinese Phys*. **15**, 172–6 (2006). link
65. "Polarisation-independent liquid crystal phase grating on azo-dye film through intensity holography", Xuemin Lu, Qinghua Lu, Fuk Kay Lee, Ophelia Tsui, *Appl. Phys Lett.* **89**, 203507 (2006). link
66. "Liquid Crystal Pretilt Control by Inhomogeneous Surfaces", Jones T. K. Wan, Ophelia K. C. Tsui, Hoi-Sing Kwok, Ping Sheng, *Phys. Rev. E* **72**, 021711 (2005). link
67. "Microscopic Surface Patterning by Rubbing Induced Dewetting", X. Zhang, F. C. Xie, O. K. C. Tsui, *Polymer* **46**, 8416–8421 (2005). link
68. "Dewetting Induced by Complete versus Non-retarded Dispersion Forces", Heping Zhao, Yong Jian Wang and Ophelia K. C. Tsui., *Langmuir* **21**, 5817–24 (2005). link
69. "Dispersion Force Effects in the Instability of Polymer Films", Heping Zhao, Ophelia K. C. Tsui, Zhengyou Liu, *Solid State Comm.* **134**, 455–459 (2005). link
70. "Continuous Liquid Crystal Pretilt Control Through Textured Substrates", Fuk Kay Lee, Baoshe Zhang, Ping Sheng, Hoi Sing Kwok, Ophelia K. C. Tsui., *Appl. Phys. Lett.* **85**, 5556–8 (2004). link

71. "Erratum: 'Continuous Liquid Crystal Pretilt Control Through Textured Substrates' [*Appl. Phys. Lett.* **85**, 5556 (2004)]", Fuk Kay Lee, Baoshe Zhang, Ping Sheng, Hoi Sing Kwok, Ophelia K. C. Tsui., *Appl. Phys. Lett.* **86**, 149903 (2005). link
72. "Extraordinary Hall Effect in $(Ni_{80}Fe_{20})_x(SiO_2)_{1-x}$Thin Films", Hui Liu, Fuk Kay Lee, Rong Kun Zheng, X. X. Zhang, Ophelia K. C. Tsui, *Phys. Rev. B.* **70**, 224431 (2004). link
73. "First-Order Liquid Crystal Orientation Transition on Inhomogeneous Substrates", Ophelia K. C. Tsui, Fuk Kay Lee, Baoshe Zhang, Ping Sheng, *Phys. Rev. E* **69**, 021704 (2004). link
74. "Some Views about the Controversial Dewetting Morphology of Polystyrene Films", Ophelia K. C. Tsui, Y. J. Wang, Heping Zhao, Binyang Du, *Eur. Phys. J. E: Focus Point on Unstable Thin Films* **12**, 417–425 (2003). (invited article) link
75. "Some Views about the Controversial Dewetting Morphology of Polystyrene Films - Discussion", Ophelia K. C. Tsui, U. Steiner, A. Sharma, *Eur. Phys. J. E: Focus Point on Unstable Thin Films* **12**, 424–5 (2003). link
76. "Comment on 'Tentative Interpretation of the Dewetting Morphologies Presented by Tsui et. al.' by Thiele", Ophelia K. C. Tsui *Eur. Phys. J. E: Focus Point on Unstable Thin Films* **12**, 429–430 (2003). link
77. "Liquid Crystal Orientation Transition on Microtextured Substrates", Baoshe Zhang, Fuk Kay Lee, Ophelia K.C. Tsui, Ping Sheng, *Phys. Rev. Lett*., **91**, 215501 (2003). link
78. "Study on the Origin of Inverted Phase in Drying Solution-Cast Block Copolymer Films", Haiying Huang, Fajun Zhang, Zhijun Hu, Binyang Du, Tianbai He, Fuk Kay Lee, Yongjian Wang, Ophelia K. C. Tsui, *Macromolecules*, **36**, 4084–92 (2003). link
79. "Effect of C60 Molecular Rotation on Nanotribology", Qi Liang, O.K.C. Tsui, Yabo Xu, Hongnian Li, Xudong Xiao, *Phys. Rev. Lett.*, **90**, 146102 (2003). link
80. "Fabrication of Mesoscopic Devices Using Atomic Force Microscopic Electric Field Induced Oxidation", F. K. Lee, G. H. Wen, X. X. Zhang, O.K.C. Tsui, *J. Vac. Sci. Tech. B*, **21**, 162–7 (2003). (This paper has been selected by the *Virtual Journal of Nanoscale Science & Technology* Vol. 7(3), 2003.) link
81. "Rupturing of Polymer Films with Rubbing Induced Surface Defects", B. Du, F.C. Xie, Y.J. Wang, O.K.C. Tsui, *Chin. J. Polym. Sci.*, **21**, 123–7 (2003). link
82. "Nanometer Scale Mechanical Study on Well Defined Nanostructured Chain Aggregation of Polyethylene", Binyang Du, Jieping Liu, Jian Zhang, Decai Yang, Tianbai He and Ophelia K. C. Tsui, *Macromol. Symp*. **195**, 141–6 (2003). link
83. "Dewetting of Polymer Films with Built-in Topographical Defects", B. Du, F. Xie, Y. Wang, Z. Yang, O.K.C. Tsui, *Langmuir*, **18**, 8510–7 (2002). link
84. "Dynamic Study of Polymer Films by Friction Force Microscopy With Continuously Varying Load", Xiaoping Wang, O.K.C. Tsui, Xudong Xiao, *Langmuir*, **18**, 7066–72 (2002). link
85. "Solventless Polymerization at the Glass/Solid Interface to Form Polymeric Thin Films", Degang Fu, Lu-Tao Weng, Binyang Du, Ophelia K.C. Tsui, Bing Xu, *Adv. Mater.*, **14**, 339–343 (2002). link
86. "Effect of Low Surface Energy Chain Ends on the Glass Transition Temperature of Polymer Thin Films", Fengchao Xie, H. F. Zhang, Fuk Kay Lee, Binyang Du, Ophelia K. C. Tsui, Y. Yokoe, K. Tanaka, A. Takahara, T. Kajiyama, Tianbai He, *Macromolecules*, **35**, 1491–2 (2002). link
87. "Effect of Chain Ends and Chain Entanglement on Glass Transition Temperature of Polymer Thin Films", O.K.C. Tsui, H. F. Zhang, *Macromolecules*, **34**, 9139–42 (2001). link
88. "Rubbing Induced Molecular Alignment and Its Relaxation in Polystyrene Thin Films", O.C. Tsang, Fengchao Xie, O.K.C. Tsui, Z. Yang, Jianmin Zhang, Deyan Shen, Xiaozhen Yang *J. Polym. Sci: Polym. Phys.*, **39**, 2906–14 (2001). link

89. "Effect of Interfacial Interactions on the Glass Transition of Polymer Thin Films", O.K.C. Tsui, T.P. Russell, C.J. Hawker, *Macromolecules*, **34**, 5535–9 (2001). link
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Edited Books/Journal Issue

1. Special Issue on Polymer Characterization and Morphology in *Macromolecular Chemistry and Physics* (Wiley-VCH, Germany), Vol. 219, Issue 3 (2018), eds. Miriam M. Unterlass, Shinji Ando, and Ophelia K. C. Tsui. The full table of content can be found in this link. The special issue was highlighted in *Advanced Science News*.
2. Special Edition of *the Journal of Polymer Science, Part B: Polymer Physics* for the Division of Polymer Physics, 2010 American Physical Society March Meeting, eds. O. K. C. Tsui and T. H. Epps, III (December issue, 2010).
3. *Polymer Thin Films*, eds. O. K. C. Tsui and T. P. Russell (World Scientific, Singapore, 2008, ISBN 978-981-281-881-2).

Book Chapters

1. "Equilibrium Pathway of Ultrathin Polymer Films as Revealed by Their Surface Dynamics", Kung Geng, Fei Chen, Zhaohui Yang and Ophelia K. C. Tsui, Chapter 2, pp. 25–46, in *Non-Equilibrium Phenomena in Confined Soft Matter* edited by S. Napolitano (Springer, Switzerland, ISBN 2213-1736, 2015).
2. "Anomalous Dynamics of Polymer Films", O. K. C. Tsui, in *Polymer Thin Films*, eds. O. K. C. Tsui and T. P. Russell (World Scientific, Singapore, 2008), pp. 267–294. This book is Vol. 1 of the book series, *Soft Condensed Matter* edited by G. Reiter and D. Andelmann. ISBN 978-981-281-881-2.
3. "Dynamics of Polymers Confined in Thin Films", O.K.C. Tsui, In *Recent Advances of Polymer Science Overseas*, eds. Tianbai He and Hangjie Hu, Chemical Industry Publishing Co., Beijing, Chapter 16, pp. 246–263 (2001).
4. "Some Thermodynamic Considerations of the Lower Critical Ordering of Diblock Copolymers", M. Pollard, O. K. C. Tsui, T. P. Russell, A. V. Ruzette, A. M. Mayes, Y. Gallot, Chapter 17, in American Chemical Society Symposium Series Vol. 739, *Scattering from Polymers*: *Characterization by X-rays, Neutrons, and Light*, Eds. Cebe, Hsiao and Lohse, pp. 261–9 (1999).
5. "Manipulating Copolymers with Confinement and Interfacial Interactions", O.K.C. Tsui, E. Huang, L. Rockford, T. P. Russell, Chapter 9, in ACS Symposium Series Vo. 736,

Supramolecular Structure in Confined Geometries, Eds. S. Manne and G. G. Warr, American Chemical Society, Washington DC, pp.140–152 (1999).

Recent Invited Talks

1. An invited talk was presented at the Vietnam Meeting on Soft Matter, Fluids, Interfaces, Quy Nhon, VIETNAM (June 13-15, 2024)
2. An invited talk was presented at the 14th International Symposium on Polymer Physics (PP'2024), Chongqing, CHINA (June 9-12, 2024)
3. A keynote lecture was presented at the POLY-CHAR 2024–IUPAC conference, Madrid, SPAIN (May 27—31, 2024).
4. "Microscale Mobile Surface Layer in Glassy Polymer Films", The 9th International Discussion Meetings on Relaxations in Complex Systems (9IDMRCS), Makuhari, Tokyo, JAPAN (August 12–18, 2023).
5. "Microscale High-Mobility Surface Layer in Freestanding Polystyrene Films", Ophelia K. Tsui, 2019 Joint Annual Conference of Physical Societies in Guangdong-Hong Kong-Macao Greater Bay Area, City University of Hong Kong, Hong Kong (July 31-Aug 4, 2023).
6. "A New Surface Relaxation Mode in Freestanding Polystyrene Films", 11th International Conference on Materials for Advanced Technologies (IUMRS-ICAM & ICMAT), SUNTEC, Singapore (June 26–30, 2023).
7. "Dynamics of Polymer Nanofilms: Effects of the Substrate and Free Surfaces and Their Interplay", 2022 American Chemical Society Fall Meeting, Chicago, IL (August 14, 2022).
8. "Dynamics of Glassy Polymers Under Nanoscale Confinement", 2022 American Physical Society March Meeting, Chicago, IL (March 14–18, 2022).
9. "Relaxations of Polymer Nano Films by Dynamic Mechanical Analysis", Spring 2020 American Chemical Society National Meeting in Philadelphia, PA (March 22–26, 2020) – canceled due to Covid-19.
10. "Mechanical Relaxations of Free-standing Polymer Nanometer Films", 23rd Annual Conference of the Physical Society of Hong Kong, Virtual Meeting, Hong Kong (July 24–5, 2020).
11. "Mechanical Relaxations of Free-standing Polymer Films", *Symposium on Polymers at the Nanoscale: Phase Transitions and Dynamics*, Princeton Center for Theoretical Science, Princeton, NJ (October 31–November 2, 2019).
12. "Dynamics of Polymer under Nano-confinement", featured speaker, Frontiers in Polymer Science - Elsevier, Budapest, Hungary (May 5–8, 2019). link
13. "Thermal-induced Slippage of Solid Films", keynote speaker, 2018 Joint Annual Conference of Physical Societies in Guangdong-Hong Kong-Macao Greater Bay Area, University of Macau, Macau, China (July 26–29, 2018).
14. "Dynamic Heterogeneity of Polymer Nanometer Films", Soft Matter: Interface and Active Materials, Beijing University of Chemical Technology, Beijing, China (July 22–26, 2018).
15. "Transport Properties of Liquid and Soft Solid Polymer Films", 13th International Symposium on Polymer Physics (PP'2018), Xi'an, Shaanxi, China (June 11–15, 2018).
16. "Dynamic Heterogeneity and Flow Dynamics of Polymer Films, Physics Colloquium, Chinese University of Hong Kong, Hong Kong (Feb 2, 2018).