Ophelia K. C. Tsui

Personal Data

Position & Affiliation:	Professor Department of Physics, Boston University, Boston, MA 02215.
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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 physics, including mechanical and dynamical properties of polymer nanometer films and structures, their dynamics under slippage, flexible electronics and green polymers.

Selected Professional Services and Membership

- 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.
- Chairman of the Council, the Physical Society of Hong Kong (2018 - 2020)
- 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 International Advisory Board of *Macromolecular Chemistry and Physics* (2018 –)
- Member of the Editorial Advisory Board of *Macromolecules* and *ACS Macro Letter* (2016 –)
- Member of the Executive Committee, Physical Society of Hong Kong (2017–)
- 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)
- Discussion Leader of the session *Confined Polymers*, 2016 Polymer Physics Gordon Research Conference, Mount Holyoke College, South Hadley, MA (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.
- 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
- Referee for *Science, Nature Materials, Physical Review Letters, ACS Macro Letter, Macromolecules, Langmuir, Journal of Chemical Physics, Soft Matter, Physical Review E, European Physical Journal E, Journal de Physique IV, Journal of Polymer Science Part B: Polymer Physics, Polymer, etc.*

Awards and Honors

- Sir Edward Youde Memorial Fellow
- Swire Scholar
- Global Centers of Excellence Lecturer, Kyushu University, Fukuoka, Japan (2010)
- American Physical Society Fellow (2011)

Journal Publications

1. 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* (2019, 10.1021/acs.macromol.8b02438).
2. "Thermal-Induced Slippage of Soft Solid Films", Xuanji Yu, Fei Chen, Chi-Hang Lam, Ophelia K. C. Tsui, *Phys. Rev. E* (2019 https://link.aps.org/doi/10.1103/PhysRevE.99.010501).
3. "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).
4. "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.
5. "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).
6. "Modulation of the Effective Viscosity of Polymer Films by Ultraviolet Ozone Treatment", Xuanji Yu, Anjeza Beharaj, Mark W. Grinstaff, Ophelia K. C. Tsui, *Polymer* - Special Issue in honor of Prof. T. Kajiyama, *Polymer*, **116**, 498-505 (2017).
7. "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).
8. "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).
9. "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).
10. "Effect of Confinement 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**, pp. 7719-26 (2015).
11. "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**, pp. 5034-9 (2015).
12. "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).
13. "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).

14. "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).
15. "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).
16. "The Surface Mobility of Glasses", F. Chen, C.-H. Lam, O. K. C. Tsui, *Science*, **343**, 975 (2014).
17. "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).
18. "Crossover to Surface Flow in Supercooled Unentangled Polymer Films, C. -H. Lam and O. K. C. Tsui, *Phys. Rev. E*, **88**, 042604 (2013).
19. "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).
20. "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).
21. "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).
22. "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).
23. "Surface Dynamics of Noisy Viscoelastic Films by Adiabatic Approximation", Chi -Hang Lam, Dongdong Peng, Ophelia K. C. Tsui, *Langmuir*, **28**, 10217-10222 (2012).
24. "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).
25. "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).
26. "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).
27. "Glass Transition Temperature of Polymer Films that Slip", Andrew Clough, Dongdong Peng, Zhaohui Yang, and Ophelia K. C. Tsui, *Macromolecules*, **44**, 1649-1653 (2011).
28. "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).
29. "Shear Modulus of a Polymer Brush", Y. Fujii, Z. Yang, and O. K. C. Tsui, *Macromolecules*, **43**, 4310-4313 (2010).
30. "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).
31. "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).
32. "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.

33. "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**, 7418-7422 (2009).
34. "Wettability of End-Grafted Polymer Brush by Chemically Identical Polymer Films", X. Zhang, F. K. Lee, O. K. C. Tsui, *Macromolecules*, **41**, 8148-8151 (2008).
35. "Examination of Non-Liquidlike Behaviors in Molten Polymer Films", Z. H. Yang, Y. J. Wang, L. Todorova and O. K. C. Tsui, *Macromolecules*, **41**, 8785-8788 (2008).
36. "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**, 1448-1453 (2008).
37. "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).
38. "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).
39. "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).
40. "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**, 181-187 (2007).
41. "Mean-field Description of Spinodal Growth of Surface Waves on Rupturing Films", Y. J. Wang, O. K. C. Tsui, *J. Non-Cryst. Solids*, **352**, 4977-4982 (2006).
42. "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).
43. "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).
44. "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).
45. "Unconventional Spinodal Surface Fluctuations on Polymer Films", Y. J. Wang, O. K. C. Tsui, *Langmuir* **22**, 1959-1963 (2006).
46. "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**, 051910-1-3 (2006).
47. "Effect of Dispersion Forces in the Instability of Polymer Films", Heping Zhao, Ophelia K. C. Tsui, and Zheng-You Liu, *Chinese Phys*. **15**, 172-176 (2006).
48. "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).
49. "Liquid Crystal Pretilt Control by Inhomogeneous Surfaces", Jones T. K. Wan, Ophelia K. C. Tsui, Hoi-Sing Kwok, Ping Sheng, *Phys. Rev. E* **72**, 021711-1-021711-4 (2005).
50. "Microscopic Surface Patterning by Rubbing Induced Dewetting", X. Zhang, F. C. Xie, O. K. C. Tsui, *Polymer* **46**, 8416-8421 (2005).
51. "Dewetting Induced by Complete versus Non-retarded Dispersion Forces", Heping Zhao, Yong Jian Wang and Ophelia K. C. Tsui., *Langmuir* **21**, 5817-5824 (2005).
52. "Dispersion Force Effects in the Instability of Polymer Films", Heping Zhao, Ophelia K. C. Tsui, Zhengyou Liu, *Solid State Comm.* **134**, 455-459 (2005).

53. "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**(23), 5556-8 (2004).
54. "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).
55. "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).
56. "First-Order Liquid Crystal Orientation Transition on Inhomogeneous Substrates", Ophelia K. C. Tsui, Fuk Kay Lee, Baoshe Zhang, Ping Sheng, *Phys. Rev. E* **69**(2), 021704-1–021704-7 (2004).
57. "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)
58. "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**, 424–425 (2003).
59. "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).
60. "Liquid Crystal Orientation Transition on Microtextured Substrates", Baoshe Zhang, Fuk Kay Lee, Ophelia K.C. Tsui, Ping Sheng, *Phys. Rev. Lett*., **91**(21), 215501-1–215501-4 (2003).
61. "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**(11), 4084-4092 (2003).
62. "Effect of C60 Molecular Rotation on Nanotribology", Qi Liang, O.K.C. Tsui, Yabo Xu, Hongnian Li, Xudong Xiao, *Phys. Rev. Lett.*, **90**(14), 146102-1 (2003).
63. "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**(1), 162-167 (2003). (This paper has been selected by the *Virtual Journal of Nanoscale Science & Technology* Vol. 7(3), 2003.)
64. "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**(2), 123-127 (2003).
65. "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**, 141-146 (2003).
66. "Dewetting of Polymer Films with Built-in Topographical Defects", B. Du, F. Xie, Y. Wang, Z. Yang, O.K.C. Tsui, *Langmuir*, **18**(22), 8510-8517 (2002).
67. "Dynamic Study of Polymer Films by Friction Force Microscopy With Continuously Varying Load", Xiaoping Wang, O.K.C. Tsui, Xudong Xiao, *Langmuir*, **18**(18), 7066-7072 (2002).
68. "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**(5), 339-343 (2002).
69. "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**(5), 1491-1492 (2002).

70. "Effect of Chain Ends and Chain Entanglement on Glass Transition Temperature of Polymer Thin Films", O.K.C. Tsui, H. F. Zhang, *Macromolecules*, **34**(26) 9139-9142 (2001).
71. "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**(22), 2906-2914 (2001).
72. "Effect of Interfacial Interactions on the Glass Transition of Polymer Thin Films", O.K.C. Tsui, T.P. Russell, C.J. Hawker, *Macromolecules*, **34**(16), 5535-5539 (2001).
73. "Surface Viscoelasticity Studies of Ultrathin Polymer Films Using Atomic Force Microscopic Adhesion Measurements", X. P. Wang, Xudong Xiao, O.K.C. Tsui, *Macromolecules*, **34**(12), 4180-4185 (2001).
74. "Study of Elastic Modulus and Yield Strength of Polymer Thin Films Using Atomic Force Microscopy", Binyang Du, Ophelia K.C. Tsui, Qingling Zhang, and Tianbai He, *Langmuir*, **17**, 3286-3291 (2001).
75. "Temporal Evolution of Relaxation in Rubbed Polystyrene Thin Films", O. C. Tsang, O.K.C. Tsui, Z. Yang, *Phys. Rev. E*, **63**, 061603 (2001).
76. "Nanostructure and Mechanical Measurement of Highly Oriented Lamellae of Melt-drawn HDPE by Scanning Probe Microscopy", Binyang Du, Jian Zhang, Qingling Zhang, Decai Yang, Tianbai He, Ophelia K. C. Tsui, *Macromolecules* **33**, 7521-7528 (2000).
77. "Studying Surface Glass-to-Rubber Transition Using Atomic Force Microscopic Adhesion Measurements", O.K.C. Tsui, X. P. Wang, Jacob Y. L. Ho, T. K. Ng, Xudong Xiao, *Macromolecules*, **33**, 4198 (2000).
78. "Observation of Inverted Phases in Poly(styrene-b-butadiene-b-styrene) Triblock Copolymer by Solvent-Induced Order-Disorder Phase Transition", Qingling Zhang, O.K.C. Tsui, Binyang Du, Fajun Zhang, Tao Tang, Tianbai He, *Macromolecules*, **33**, 9561-9567 (2000).
79. "Phase Coherence and Microphase Separation Transitions in Diblock Copolymer Thin Films", P. Mansky, O.K.C. Tsui, T. P. Russell, Y. Gallot, *Macromolecules*, **32**, pp. 4832-4837 (1999).
80. "The Josephson Plasma Resonance in $Bi_2Sr_2CaCu_2O_{8+\delta}$ as a Probe of Vortex Correlation", S. P. Bayrakci, O.K.C. Tsui, N. P. Ong, K. Kishio, S. Watauchi, *Europhys. Lett.*, **46**, pp. 68-74 (1999).
81. "Dynamics of Concentrated Colloidal Suspensions Probed by X-ray Intensity Fluctuation Spectroscopy", O.K.C. Tsui, and S. G. J. Mochrie, *Phys. Rev.* **E57**, pp.2030-2034 (1998).
82. "Statistical Analysis of X-ray Speckle at the NSLS", Ophelia K.C. Tsui, S. G. J. Mochrie, and L. E. Berman, *J. Synch. Radiation* **5**, pp.30-36 (1998).
83. "Josephson Plasma Resonance and Anomalous Hysteresis in the Vortex Lock-in State in $Bi_2Sr_2CaCu_2O_{8+\delta}$", O.K.C. Tsui, S. P. Bayrakci, N. P. Ong, K. Kishio, S. Watauchi, *Physica C*, **293**, Iss. 1-4, pp 259-263 (1997).
84. "The Josephson Plasma Resonance as a 'Scattering' Probe of Vortex Correlation in the Liquid State", N. P. Ong, S. P. Bayrakci, O.K.C. Tsui, K. Kishio, S. Watauchi, Physical C 293, pp. 20-24 (1997).
85. "Anomalous Hysteresis in Josephson Plasma Resonance of $Bi_2Sr_2CaCu_2O_{8+\delta}$ for Field Close to Alignment with the *ab*-plane", O.K.C. Tsui, S. P. Bayrakci, N. P. Ong, K. Kishio, S. Watauchi, *Phys. Rev.* **B56**, pp. R2948-R2951 (1997).
86. "Linewidth of *c*-axis Plasma Resonance in Josephson-coupled Superconductors", L. N. Bulaevskii, D. Dominguez, M. P. Maley, A. R. Bishop, O.K.C. Tsui, N. P. Ong, *Phys. Rev.* **B54**, pp. 7521-7535 (1996).
87. "The Josephson Plasma Mode in $Bi_2Sr_2CaCu_2O_{8+\delta}$ and Quasi-particle Mean-Free-Path in $YBa_2Cu_3O_7$", O.K.C. Tsui, K. Krishana, J. M. Harris, N. P. Ong, *Physica C*, **263**, pp. 381-388 (1996).

88. "Experiments on the Josephson Plasma Mode in $Bi_2Sr_2CaCu_2O_{8+\delta}$ and the Thermal Hall Conductivity in $YBa_2Cu_3O_7$", N. P. Ong, O.K.C. Tsui, K. Krishana, J. M. Harris and J. B. Peterson, *Chin. J. of Phys*., **34**, pp. 432-446 (1996).
89. "Excitation of Josephson Plasma Resonance in $Bi_2Sr_2CaCu_2O_{8+\delta}$ in an oblique field", Ophelia K.C. Tsui, N. P. Ong, J. B. Peterson, *Phys. Rev. Lett.* **76**, pp.819-822 (1996).
90. "Sharp Magnetoabsorption Resonances in the Vortex State of $Bi_2Sr_2CaCu_2O_{8+\delta}$", Ophelia K.C. Tsui, N. P. Ong, Y. Matsuda, Y. F. Yan and J. B. Peterson, *Phys. Rev. Lett.* **73**, pp.724-727 (1994).
91. "Hall Angle Evidence for the Superclean Regime in 60K $YBa_2Cu_3O_{6+y}$", J. M. Harris, Y. F. Yan, O.K.C. Tsui, Y. Matsuda and N. P. Ong, *Phys. Rev. Lett.* **73**, pp.1711-1714 (1994).
92. "Detection of Superconducting Transitions of Multi-Phase $(Bi,Pb)_2Sr_2CaCu_2O_8$ Ceramics by Photothermal Detection Technique", K.C. Tsui, P. C. W. Fung, H. L. Tam, G. O. Walker, *J. Phys. Chem. Solids*, **52**, pp. 979-983 (1991).
93. "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 (submitted).
94. "Tuning the Effective Viscosity of Polymer Films by Chemical Modifications", Xuanji Yu, Ophelia K. C. Tsui, Lu-Tao Weng (submitted).
95. "Elastic Modulus of Ultra-Thin Polystyrene Films Measured by Tensile Testing with Bilayer Construction", Pak Man Yiu, Hailin Yuan, Qiao Gu, Ping Gao, Ophelia Tsui (in preparation).

Patent

"A Liquid Crystal Alignment Layer and Methods of Making Thereof", H. S. Kwok, Fion S. Y. Yeung, F. Xie, O. K. C. Tsui and P. Sheng, Patent no. US 7968158 (2011).

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 http://onlinelibrary.wiley.com/doi/10.1002/macp.v219.3/issuetoc. The special issue was highlighted in *Advanced Science News* https://www.advancedsciencenews.com/macromolecular-chemistry-physics-polymer-characterization-morphology/
2. Special Edition of *the Journal of Polymer Science, Part B: Polymer Physics* for the Division of Polymer, 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. 261-269 (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. "Dynamics of Polymer Under Nano-confinement", an invited talk will be presented in the Frontiers in Polymer Science Conference, Budapest, Hungary (May 5-8, 2019).
2. "Thermal-induced Slippage of Solid Films", a keynote talk was presented at the 2018 Joint Annual Conference of Physical Societies in Guangdong-Hong Kong-Macao Greater Bay Area, University of Macau, Macau, China (July 26-29, 2018).
3. "Dynamic Heterogeneity of Polymer Nanometer Films", an invited talk was presented at the Soft Matter: Interface and Active Materials, Beijing University of Chemical Technology, Beijing, China (July 22-26, 2018).
4. "Transport Properties of Liquid and Soft Solid Polymer Films", an invited talk was presented at the 13th International Symposium on Polymer Physics (PP'2018), Xi'an, Shaanxi, China (June 11-15, 2018).
5. "Dynamic Heterogeneity and Flow Dynamics of Polymer Films, Physics Colloquium, Chinese University of Hong Kong, Hong Kong (Feb 2, 2018).
6. "Surface Mobility of Polymer Films", International Conference on Advanced Materials 2017 (IUMRS-ICAM2017), Kyoto, Japan (September 1, 2017).
7. "Modifying the Properties of Polymer Nanometer Films by Ultraviolet Ozone", The 8th International Discussion Meeting on Relaxations in Complex Systems (8 IDMRCS), Wisla, Poland (July 23-29, 2017).
8. "Unusual Flow Dynamics of Polymer Nanometer Films: The Roles of the Substrate and Air Interfaces", Chemistry Department, Dartmouth College, Hanover, NH (October 13, 2016). "Enhanced Flow Dynamics in Polymer Nanometer Films", Polymer Science Seminar Series, Department of Chemistry, UMass, Lowell, MA (April 7, 2016).
9. "Glassy Dynamics Altered by a Free Surface", American Physical Society March Meeting 2014, Baltimore, MA (March 14-18, 2016).
10. "Thermally Activated Flow Dynamics in Polymer Nanometer Films", Polymers and Advanced Materials (PAM) lecture, Department of Polymer Science at the University of Akron, Akron, OH (December 10, 2015).
11. "Flow Dynamics of Nano-Confined Polymers", Seminar, Department of Physics, Hong Kong University of Science and Technology (June 16, 2015).
12. "Flow Dynamics of Nano-Confined Polymers", Seminar, Department of Applied Physics, Hong Kong Hong Kong Polytechnic University (June 15, 2015).

13. “Unexpected Flow Dynamics of Polymer Nanometer Films – Effects of Surfaces and Chain Confinement”, Widely Applied Math Seminar, Harvard University, Cambridge, MA (May 5, 2015).