

WING YIM TAM

Curriculum Vitae

May 30, 2014

EDUCATION:

B.S., Physics and Mathematics, The Chinese University of Hong Kong, June 1978
Ph.D., Physics, University of California, Santa Barbara, Aug. 1985
Thesis: "Thermal Conductivity of Liquid $^4\text{He-I}$ near the Superfluid Transition."
Advisor: Professor Guenter Ahlers

EMPLOYMENT:

1975-1977 Summer School Tutor, The Chinese University of Hong Kong
1978-1980 Teaching Assistant, University of California, Santa Barbara
1980-1985 Research Assistant, University of California, Santa Barbara
1985-1988 Postdoctoral Research Associate, University of Texas, Austin
1988-1993 Assistant Professor, University of Arizona, Tucson
1993-1997 Lecturer, Hong Kong University of Science and Technology
1998-2007 Associate Professor, Hong Kong University of Science and Technology
2007-present Professor, Hong Kong University of Science and Technology

HONORS AND AWARDS:

1975 Ho's Scholarship, N.A.C., The Chinese University of Hong Kong
1977 Lee's Scholarship, N.A.C., The Chinese University of Hong Kong
1977 Bank of East Asia Golden Jubilee Scholarship, N.A.C., The Chinese University of Hong Kong
1978-1980 Education Abroad Program Scholarship, The Chinese University of Hong Kong and University of California, Santa Barbara
1981 University Fellowship, University of California, Santa Barbara
1982 Regent Fellowship, University of California, Santa Barbara
1985-1986 IBM Postdoctoral Fellowship, University of Texas, Austin
1990-1991 Alfred P. Sloan Research Fellow
2007 Award for Excellence in Teaching Innovation, HKUST

NON-ACADEMIC APPOINTMENT:

- 1995-2010 Six Form Subject Committee (Physics), Hong Kong Examination Authority
- 2000-present Independent expert consultant for the Hong Kong Police in speed detection using Laser Guns
- 2007-present Subject Specialist for the Hong Kong Council for Accreditation of Academic and Vocational Qualifications

FIELDS OF EXPERIENCE:

Holographic lithography
Nano fabrication
Photonic crystals: quasicrystals
Complex fluids: magnetic and electroreheological fluids
Complex system: soap froth
Critical phenomena, static and dynamic properties near phase transitions
Nonlinear dynamics and chaos
Couette-Taylor instability
Mass transport in fluid flow
Oscillatory chemical reactions: Belousov-Zhabotinskii reaction
Temporal and spatial patterns in chemical systems
Properties of ^4He , especially near the superfluid transition
Design and fabrication for low-temperature experiments, including extensive machine-shop work and assembly of intricate apparatus
Design and fabrication of Couette-Taylor apparatus
Design and fabrication of chemical reactors
High resolution temperature measurement techniques
High resolution capacitance measurement techniques
Acoustic measurements and Thermal conductivity measurements
Digital imaging techniques

RESEARCH INTEREST:

Nano-fabrications
Holographic lithography
Photonic crystals
Quasicrystals
Soft condensed matters
Complex and nonlinear dynamics

WING YIM TAM

PUBLICATIONS

Published Papers

1. "Fourth Sound Velocity and Two-Scale-Factor Universality in ^4He near Tl", Guenter Ahlers and W. Y. Tam, *Physica* **107B**, 345-346 (1981).
2. "Pressure Dependence of Size Effects in Superfluid ^4He ", W. Y. Tam and Guenter Ahlers, *Phys. Lett.* **92A**, 445-448(1982).
3. "Damping of Fourth Sound in ^4He due to Normal Fluid Flow", W. Y. Tam and Guenter Ahlers, *J. Low Temp. Phys.* **58**, 497-512 (1985).
4. "Thermal Conductivity of ^4He from near T_λ to 3.6 K and Vapor Pressure to 30 Bars", W. Y. Tam, and Guenter Ahlers, *Phys. Rev.* **B 32**, 5932-5958 (1985).
5. "Thermal Conductivity of ^4He -I near T_λ from Vapor Pressure to 28 Bars: Comparison of Experiment and Theory", W. Y. Tam and Guenter Ahlers, *Phys. Rev.* **B 33**, 183-196 (1986);
Erratum: Thermal conductivity of ^4He I near T_{λ} from vapor pressure to 28 bars: Comparison of experiment and theory [*Phys. Rev. B* 33, 183 (1986)] W. Y. Tam and Guenter Ahlers, *Phys. Rev.* **B37**, 7898 (1988).
6. "Bubble-Free Belousov-Zhabotinskii Type Reactions", Qi Ouyang, W. Y. Tam, Patrick DeKepper, W. D. McCormick, Z. Noszticzius, and Harry L. Swinney, *J. Phys. Chem.* **91**, 2181-2184 (1987).
7. "Superfluid Fraction of ^4He from 1.5 K to $T_\lambda(p)$ and from Vapor Pressure to the Melting Curve", W. Y. Tam and Guenter Ahlers, *J. Low Temp. Phys.* **66**, 173-190 (1987).
8. "Mass Transport in Turbulent Couette-Taylor Flow", W. Y. Tam and Harry L. Swinney, *Phys. Rev.* **A 36**, 1374-1381(1987).
9. "Sustained Chemical Waves in an Annular Gel Reactor", Z. Noszticzius, W. Horsthemke, W. D. McCormick, Harry L. Swinney, and W. Y. Tam, *Nature* **329**, 619-620 (1987).
10. "Sustained Spiral Waves in a Continuously Fed Unstirred Chemical Reactor", W. Y. Tam, W. Horsthemke, Zoltan Noszticzius, and Harry L. Swinney, *J. Chem. Phys.* **88**, 3395-3396 (1988).
11. "Temporal and Spatial Patterns in Chemical Systems", Harry L. Swinney, W. Horsthemke, W. D. McCormick, Z. Noszticzius, and W. Y. Tam, in *Dynamic Patterns in Complex Systems*, edited by J. A. S. Kelso, A. J. Mandell, and M. F. Shlesinger, p112-120 (World Scientific, Singapore, 1988).

12. "Regular and Chaotic Chemical Spatiotemporal Patterns", W. Y. Tam, John A. Vastano, Harry L. Swinney, and W. Horsthemke, *Phys. Rev. Lett.* **61**, 2163-2166 (1988).
13. "Pattern Formation in Chemical Systems", W. Y. Tam*, in *Nonlinear Structures in Physical Systems, Pattern Formations, Chaos, and Waves*, eds. L. Lam and H. C. Morris, p87-102 (Springer-Verlag, New York, 1989).
14. "Spatiotemporal Patterns in a One-Dimensional Open Reaction-Diffusion Reactor", W. Y. Tam* and Harry L. Swinney, *Physica D* **46**, 10-22(1990).
15. "Pattern Formation in Chemical Systems: Roles of Open Reactors", W. Y. Tam*, in *Lectures in the Science of Complexity*, ed. L. Nadel and D. Stein, p99-123 (Addison- Wesley, CA 1991).
16. "Electrodeposition in Thin Gap Geometry", W. Y. Tam* and J. J. Chae, *Phys. Rev. A* **43**, 4528-4531 (1991).
17. "Local Concentration Measurements in Electrochemical Deposition Using a Schlieren Method", R. H. Cork, D. C. Pritchard, and W. Y. Tam*, *Phys. Rev. A* **44**, 6940-6943 (1991).
18. "Structure and Dynamics of Breaking Foams", G. D. Burnett, J.J. Chae, W. Y. Tam*, Rita M. C. de Almeida, and M. Tabor, *Phys. Rev. E* **51**, 5788-5796 (1995).
19. "Lewis' Law vs Felthams' Law in Soap Froth", K. Y. Szeto* and W. Y. Tam, *Physica A* **221**, 256-262 (1995).
20. "Evolution of Soap Froth Under Temperature Effects", W. Y. Tam* and K. Y. Szeto, *Phys. Rev. E* **53**, 877-880 (1996).
21. "Universal Topological Properties of Shells in Soap Froth", K.Y. Szeto* and W. Y. Tam, *Phys. Rev. E* **53**, 4213-4216 (1996).
22. "Statistical Properties and Shell Analysis in Random Cellular Structures", T. Aste, K. Y. Szeto*, and W. Y. Tam, *Phys. Rev. E* **54**, 5482-5492 (1996).
23. "Frequency Dependent Electrorheological Properties: Origin and Bounds", H. Ma*, W. Wen, W. Y. Tam, and P. Sheng, *Phys. Rev. Lett.* **77**, 2499-2502 (1996).
24. "Frequency and Water Content Dependencies of Electrorheological Properties", W. Wen, H. Ma, W. Y. Tam, and P. Sheng*, *Phys. Rev. E* **55**, R1294-1591 (1997).
25. "First-Passage Exponent in Two-Dimensional Soap Froth", W. Y. Tam*, R. Zeitak, K. Y. Szeto, and J. Stavans, *Phys. Rev. Lett.* **78**, 1588-1591 (1997).
26. "A New Electrorheological Fluids: Theory and Experiment", W. Y. Tam*, G. H. Yi, W. Wen, H. Ma, M. M. T. Loy, and P. Sheng, *Phys. Rev. Lett.* **78**, 2987-2990 (1997).

27. "Microstructured Particles for Electrorheological Applications", P. Sheng*, W. Y. Tam, W. Wen, H. Ma, and M. M. T. Loy, the American Chemical Society Symposium Series, edited by V. Shalaev and M. Moskovits, 41-53 (1997).
28. "Magnetic Materials-Based Electrorheological Fluids", W. Wen, N. Wang, W. Y. Tam*, and P. Sheng, *Appl. Phys. Lett.* **71**, 2529-2531 (1997).
29. "Theory and Experiments on Electrorheological Fluids," P. Sheng*, W. Y. Tam, W. Wen, H. Ma, G. H. Yi, and M. M. T. Loy, Conference Proceeding of the Sixth International Conference on Electrorheological Fluids, Magnetoreheological Suspensions and their Applications, Yamagata, Japan, July 22-25, (1997).
30. "Fabrication of PZT Microspheres For Application in Electrorheological Fluids", W. Wen, W. Y. Tam*, and P. Sheng, *Journal of Materials Science Letters*, **17**, 419-421 (1998).
31. "Ancestral Cells in Two-Dimensional Soap Froth", W. Y. Tam*, K. M. Cheung, and K. Y. Szeto, *Phys. Rev. E* **57**, 7354-7357 (1998).
32. "Topological Correlations in Soap Froths", K. Y. Szeto*, T. Aste, and W. Y. Tam, *Phys. Rev. E* **58**, 2656-2659 (1998).
33. "Edge Scaling in Two-Dimensional Soap Froth", K.Y. Szeto* and W. Y. Tam, *Physica A* **254**, 248-256, (1998).
34. "Electrorheological Fluids Using Bi-dispersed Particles", W. Wen, W.Y. Tam*, and P. Sheng, *Journal of Materials Research* **13**, 2783-2786(1998).
35. "The Evolution of a Single Defect in an Ideal Two-dimensional Hexagonal Soap Froth", W. Y. Tam, *Phys. Rev. E* **58**, 8032-8035 (1998).
36. "Anisotropic Dielectric Properties of Structured Electrorheological Fluids", W. Wen*, H. Ma, W. Y. Tam, and P. Sheng, *Appl. Physics Lett.* **73**, 3070-3072 (1998).
37. "T1-Correlations in Two-dimensional Cellular System", B. Dubertret, K. Y. Szeto*, and W. Y. Tam, *EuroPhys. Lett.* **45**, 143-148 (1999).
38. "Field Induce Martensitic Transition in Mesocrystallites", W. Wen, N. Wang, H. Ma, Z. Lin, W. Y. Tam, C. T. Chan*, and P. Sheng, *Phys. Rev. Lett.* **82**, 4248-4251 (1999).
39. "Robust Photonic Band Gap from Tunable Scatterers", W.Y. Zhang, X. Y. Lei, Z. L. Wang, D. G. Zhang, W. Y. Tam, C. T. Chan*, and P. Sheng, *Phys. Rev. Lett.* **84**, 2853-2856 (2000).
40. "Multiply coated Microshperes- a Platform for Realizing Fields-induced Structural Transition and Photonic Bandgap", P. Sheng*, W. Wen, N. Wang, H. Ma, Z. Lin, W.Y. Zhang, X.Y.

- Lei, Z.L. Wang, D. G. Zheng, W. Y. Tam, and C. T. Chan, *Pure Appl. Chem.* **72**, 309-315 (2000).
41. "Dielectric-constant Evaluation From Microstructures", H. Ma*, B. Zhang, W. Y. Tam and P. Sheng, *Phys. Rev.* **B61**, 962-966 (2000).
 42. "Photonic Band Gaps from Metallo-dielectric Spheres", C. T. Chan*, W. Y. Zhang, Z. L. Wang, X. Y. Lei, D. G. Zheng, W. Y. Tam, and P. Sheng, *Physica* **B279**, 150-154 (2000).
 43. "Field Induce Martensitic Transition in Mesocrystallites", P. Sheng*, W. Wen, N. Wang, H. Ma, Z. Lin, W. Y. Tam, and C. T. Chan, *Physica* **B279**, 168-170 (2000).
 44. "Electrorheological Fluids Using Bi-Dispersed Particles", W.Y. Tam*, W. Wen, and P. Sheng, *Physica* **B279**, 171-173 (2000).
 45. "Cluster Persistence: a Discriminating Probe of Soap Froth Dynamics", W.Y. Tam*, A.D. Rutenberg, B.P. Vollmayr-Lee, and K. Y. Szeto, *Europhys. Lett.* **51**, 223-229 (2000).
 46. "Resistance of Two-dimensional Soap Froth", K.M. Cheung, W. Y. Tam*, and K. Y. Szeto, *Physica A* **281**, 413-419 (2000).
 47. "Cell Movements in Two-dimensional Soap Froth", W. Y. Tam, *Physica A* **288**, 363-368 (2000).
 48. "Evolution of Soap Froth from an Initial Bubble Crystal State to the Scaling State", K. Y. Szeto* and W. Y. Tam, in *Stochastic Dynamics and pattern Formation in Biological and Complex Systems*, The APCTP Conference, Seoul Korea, AIP, Melville, New York, 291 (2000).
 49. "Microstructured Particles for Electromagneto-rheological (EMR) Applications", W.Y. Tam*, W. Wen, N. Wang, H. Ma, Z. Lin, C. T. Chan, and P. Sheng in *Physics and Chemistry of Nanostructured Materials* Edited by S. Yang and P. Sheng, Taylor and Francis, London and New York, 159-175 (2000).
 50. "Frequency-induced Structure Variation in Electrorheological Fluids", W. J. Wen, H. R. Ma, W. Y. Tam, and P. Sheng*, *Appl. Phys. Lett.* **77**, 3821-3823 (2000).
 51. "Cluster Persistence of Two-dimensional Soap Froth", Wing Yim Tam* and Kwok Yip Szeto, *Phys. Rev.* **E65**, 042601 (2002).
 52. "Univerisal Topological Properties of Two-dimensional Trivalent Cellular Patterns", K. Y. Szeto*, Xiujun Fun, and W. Y. Tam, *Phys. Rev. Lett.* **88**, 138302 (2002).
 53. "Dielectric Electrorheological Fluids: Theory and Experiments" H. Ma, W. Wen, W. Y. Tam and P. Sheng*, *Advances in Physics*, **52**, 343-383, (2003).

54. “Three-dimensional Photonic Crystals Fabricated by Visible Light Holographic lithography”, X. Wang, J. F. Xu, H. M. Su, Z. H. Zeng, Y. L. Chen, H. Z. Wang*, Y. K. Pang and W. Y. Tam, *App. Phys. Lett.* **82**, 2212-2214 (2003). Selected for the Virtual Journal of Nanoscale Science & Technology.
55. “Shear Enhanced Yield Stress in Electrorheological Fluids”, Kai Chi Lau, Lihong Shi, Wing Yim Tam*, and Ping Sheng, *Phys. Rev. E* **67**, 0525021- 0525024 (2003).
56. “Large Area Two-dimensional Mesoscale Quasicrystals”, X. Wang, C. Y. Ng, W. Y. Tam*, C. T. Chan and P. Sheng, *Adv. Materials* **15**, 1526-1528 (2003).
57. “Optical Properties of Metallo-Dielectric Microspheres in Opal Structures”, Y. Jiang, C. Whitehouse, J. Li, W. Y. Tam*, C. T. Chan, and P. Sheng, *J. of Phys. Condens. Mat.* **15**, 5871-5879 (2003).
58. “二维肥皂泡沫动力学”, Wing Yim Tam in *Soft Condensed Matter Physics*, Beijing University Press, (2004).
59. “Fabrication and Optical Characterization of Gold Infiltrated Silica Opals”, Wenjiang Li, G. Sun, F. Tang, W. Y. Tam*, J. Li, C. T. Chan, and P. Sheng, *J. of Phys.: Condens. Mat.*, **17** 2177-2190 (2005).
60. “Chiral Microstructures (Spirals) Fabrication by Holographic Lithography”, Yee Kwong Pang, Jeffrey Chi Wai Lee, Hung Fai Lee, Wing Yim Tam*, C. T. Chan, and Ping Sheng, *Optics Express* **13**, 7615-7620 (2005).
61. “Structural Transition in Bidispersed Electrorheological Fluids”, Xianxiang Huang, Wing Yim Tam, and Ping Sheng*, *Phys. Rev.* **E72** 020501(R) (2005).
62. “Photonic Band Gap Effect and Structural Color From Silver Nano-particles Gelatin Emulsion”, Mang Hin Kok, Rui Ma, Jeffrey Chi Wai Lee, Wing Yim Tam*, C. T. Chan, Ping Sheng, and Kok Wai Cheah, *Phys. Rev.* **E72**, 047601 (2005). Selected for the October 31, 2005 issue of Virtual Journal of Nanoscale Science & Technology.
63. “Realization of Optical *Periodic* Quasicrystals Using Holographic Lithography”, X. Wang, J. Xu, C. W. Li, Y. K. Pang, W. Y. Tam*, C. T. Chan, and P. Sheng, *Appl. Phys. Lett.* **88**, 051901 (2006).
64. “Static Shear-Modulus of Electrorheological Fluids”, Lihong Shi, Wing Yim Tam*, Xianxiang Huang, and Ping Sheng, *Phys. Rev. E* **73**, 051501 (2006).
65. “Wide Bandgap Photonic Structures in Dichromate Gelatin Emulsions”, Rui Ma, Jun Xu, and Wing Yim Tam*, *Appl. Phys. Lett.* **89**, 081116 (2006).
Erratum: “Wide bandgap photonic structures in dichromate gelatin emulsions” [*Appl. Phys. Lett.* **89**, 081116 (2006)] Rui Ma, Jun Xu, and Wing Yim Tam, *Appl. Phys. Lett.* **90**, 169901 (2007).

66. “Realization of Woodpile Structure Using Optical Interference Holography”, Yee Kwong Pang, Jeffrey Chi Wai Lee, Cheuk Ting Ho and Wing Yim Tam*, Optics Express **14**, 9113-9119 (2006); <http://arxiv.org/ftp/physics/papers/0607/0607147.pdf>.
67. “Icosahedral Quasicrystals by Optical Interference Holography”, Wing Yim Tam, Appl. Phys. Lett. **89**, 251111 (2006); <http://arxiv.org/ftp/physics/papers/0609/0609032.pdf>.
68. 王霞，谭永炎，准晶结构的激光全息人工制作，物理学报，Vol. **55**， No. 10， 5398 (2006).
69. “Icosahedral Quasicrystals for Visible Wavelength by Optical Interference Holography”, Jun Xu, Rui Ma, Xia Wang and Wing Yim Tam, Optics Express **15**, 4287-4295 (2007).
70. “Woodpile and Diamond Structures by Optical Interference Holography”, Wing Yim Tam, J. Optics A: Pure and Applied Optics **9**, 1076-1081 (2007); <http://arxiv.org/ftp/physics/papers/0607/0607092.pdf>.
71. “Manipulation of Light Using Slanted Layer Photonic Crystals in Holographic Gelatin Emulsions”, Suet Man Yau, Mang Hin Kok, and Wing Yim Tam*, J. Optics A: Pure and Applied Optics **10**, 015201 (2008).
72. “Lasing From Dye-doped Photonic Crystals With Graded Layers in Dichromate Gelatin Emulsions”, Mang Hin Kok, Weixin Lu, Jeffrey Chi Wai Lee, Wing Yim Tam*, George K. L. Wong and C. T. Chan, App. Phys. Lett. **92**, 151108/1-3 (2008). Selected for the April 28, 2008 issue of Virtual Journal of Nanoscale Science & Technology.
73. “Synthesis of Metallic Nanostructures Using Chemical Fluid Deposition”, Candy S. Lin,¹ Frank Leung-Yuk Lam,¹ Xijun Hu,¹ Wing Yim Tam,^{2,*} and Ka M. Ng¹, J. Phys. Chem. **112**, 10068-10072 (2008).
74. “Optical Characterization of Woodpile Structures in Gelatin Emulsions Fabricated by Optical Interference Holography”, Binping Jin, Jun Xu, Yee Kwong Pang, and Wing Yim Tam*, J. Opt. A: Pure Appl. Opt. **10**, 085204/1-7 (2008).
75. “Fabrication of Gold Nano-particle Arrays Using 2D Templates From Holographic Lithography”, Fung Ying Lee, Tsz Leung Tang, Kin Hung Fung, Wing Yim Tam*, and C. T. Chan, Current Applied Physics **9**, 820-825 (2009); doi:10.1016/j.cap.2008.07.017 (2008).
76. “Complete Photonic Bandgaps in the Visible Range from Spherical Layer Structures in Dichromate Gelatin Emulsions”, Jenny Hung, Mang Hin Kok, and Wing Yim Tam*, App. Phys. Lett. **94**, 014102 (2009).
77. “Lasing From Dye-doped Icosahedral Quasicrystals in Dichromate Gelatin Emulsions”, Mang Hin Kok, Weixin Lu, Wing Yim Tam*, and George K. L. Wong, Optics Express **17**, 7275-7284 (2009).

78. “Doubly slanted layer structures in holographic gelatin emulsions: solar concentrators”, Jenny Hung, Po Shan Chan, Caiming Sun, Choi Wing Ho, and Wing Yim Tam*, *J. Opt.* **12**, 045104 (2010).
79. “Fabrication of micro-structures in holographic gelatin emulsions by reflections from spherical surfaces”, Yee Kwong Pang, Tsz Lok Chan, and Wing Yim Tam*, *J. Opt.* **12**, 055101 (2010).
80. “Optical Activities in Complementary Double Layers of Six-armed Metallic Gammadion Structures”, Wensheng Gao and Wing Yim Tam*, *J. Opt.* **13**, 015101 (2011).
81. “Q-factor Enhancement in One-dimensional Photonic Crystal Cavity with Embedded Planar Plasmonic Metamaterials”, Yunhui Li, Xuecheng Tao, Hong Chen and Wing Yim Tam*, *J. Opt. Soc. Am. A* **28**, 314-317 (2011).
82. “Optical Activities of Micro-spiral Photonic Crystals Fabricated by Multi-beam Holographic Lithography”, Jenny Hung, Wensheng Gao, and Wing Yim Tam*, *J. Opt.* **13**, 095101 (2011). (*Chosen as a Journal of Optics highlight of 2011*)
83. “Circular dichroism in double layer metallic crossed-gratings”, Wensheng Gao, Ho Ming Leung, Yunhui Li, Hong Chen, and Wing Yim Tam*, *J. Opt.* **13**, 115101 (2011).
84. “Direct and Seamless Coupling of TiO₂ Nanotube Photonic Crystal to Dye-Sensitized Solar Cell: A Single-Step Approach”, Cho Tung Yip, Haitao Huang,* Limin Zhou,* Keyu Xie, Yu Wang, Tianhua Feng, Jensen Li, and Wing Yim Tam, *Adv. Mater.* **23**, 5624-5628 (2011).
85. “Visible Range Lasing in Dye-doped Doubly Periodic Layered Structures in Dichromate Gelatin Emulsions”, Xia Wang, Mang Hin Kok, Weixin Lu, Wing Yim Tam*, and George. K. L. Wong, *J. Opt.* **14**, 015104 (2012).
86. “Graded photonic crystals fabricated by holographic lithography”, Chunrui Han and Wing Yim Tam*, *J. Opt.* **14**, 08514 (2012).
87. “Circular dichroism in single layered gold sawtooth gratings”, Wensheng Gao, Ching Yan Ng, Ho Ming Leung, Yunhui Li, Hong Chen, and Wing Yim Tam*, *JOSA* **B29**, 3021-3026 (2012).
88. “Effective parameters retrieval for complex metamaterials with low symmetries”, Tiahua Feng, Fu Liu, Wing Yim Tam, and Jensen Li*, *EPL* **102**, 18003 (2013).
89. “Chiral metamaterials by shadowing vapor deposition”, Chunrui Han, Ho Ming Leung, and Wing Yim Tam*, (FAST TRACK COMM.) *J. Opt.* **15**, 072101 (2013). (“Shadow makes chiral metamaterials,” *LabTalk, J. of Optics*, Aug. 9, 2013: <http://iopscience.iop.org/2040-8986/labtalk-article/54303>)

90. “Modeling quasi-3D chiral metamaterials fabricated by shadowing vapor deposition”, Ho Ming Leung, Chunrui Han, Yunhui Li, C. T. Chan, and Wing Yim Tam*, *J. Opt.* **16** 015102 (2014).
91. “Optical activities of large area SU8 micro-spirals fabricated by multi-beam holographic lithography”, Xia Wang, Wensheng Gao, Jenny Hung, and Wing Yim Tam*, *App. Opt.* **53**, 2425-2430 (2014).

Invited Talks at Conferences/Workshops

1. “Mass Transport in Turbulent Couette-Taylor Flow”, invited talk at the Fifth Taylor-Vortex Flow Working Party, Tempe, Arizona, 1987.
2. “Sustained Chemical Waves”, Symposium for the Division of Condensed Matter Physics: Front Properties in Non-equilibrium Systems, March Meeting of the American Physical Society, New Orleans, LA, 1988.
3. “Pattern Formation in Chemical Systems”, invited talk at the Second Woodward Conference, San Jose, CA, Nov. 17-18, 1989.
4. “Pattern Formation in Chemical Systems: Roles of Open Reactors”, invited lectures at the Third Santa Fe Summer School in Complexity, Santa Fe, NM, June 1-30, 1990.
5. “Universal Topological Properties of Shells in Soap Froth”, invited talk at the Dynamics Day, Houston, Texas, Jan. 3-6, 1996.
6. “Pattern Formations: Chemical Reactions and Cellular Structures”, invited lectures at the Fifth Statistical and Condensed matter Physics Conference, National Taiwan University, Taipei, Taiwan, 1996.
7. “Electrorheological Fluids”, invited talk at the Second Annual Conference of the Physical Society of Hong Kong, June 7, 1997.
8. “Theory and Experiments on Electrorheological Fluids”, invited co-speaker with P. Sheng at the Sixth International Conference on Electrorheological Fluids, Magnetoreheological Suspensions and their Applications, Yamagata, Japan, July 22-25, 1997.
9. “First Passage Exponent and Survivors in Two-Dimensional Soap Froth”, the Second Joint Meeting of The Chinese Physical Societies, Taipei, Taiwan, Aug. 11-15, 1997.
10. “Microstructured Particles for Electromagneto-rheological (EMR) Applications”, Guest speaker at the Croucher Advanced Study Institute: Physics and Chemistry of Nano-structured Materials, 10-15 January 1999, HKUST, Hong Kong.

11. “Electrorheological Fluids Using BI-Dispersed Particles,” invited speaker at the Fifth International Conference on Electrical Transport and Optical Properties of Inhomogeneous Media (ETOPIM 5), 21-25 June, 1999, HKUST, Hong Kong.
12. “Cluster Persistence: a Non-Topological Probe of Soap Froth Dynamics,” invited speaker at the Dynamics Days Asia-Pacific: First International Conference on Nonlinear Science, 13-16 July 1999, Hong Kong.
13. “Two dimensional soap froth”, invited speaker at the Workshop on Soft Mater, Institute of Physics, Chinese Academy of Science, Beijing, June 19-28 (2000).
14. “Structured Micro-spheres for Electromagnetorheological Fluids and Photonic Band Gap Materials”, invited speaker in The Third Joint Meeting of Chinese Physics World-wide, The Chinese University of Hong Kong, July 31- Aug. 4, (2000). Talk was delivered by collaborator C.T. Chan due to commitment of a legal case in court.
15. “Photonic Band Gap Materials Using Coated Spheres” invited talks at the Inaugural Workshop of the Institute of Nano Science and Technology in Hong Kong, HKUST, May 15, 2001.
16. “Dynamics of Two-dimensional Soap Froths”, invited speaker at the International Conference of Pattern Formation and Self-Organization in Nonlinear Complex Systems, Beijing, China, June 11-15, (2001).
17. “Cluster-Persistence in Two-dimensional Soap”, 2001 Fall Meeting of Chinese Physics Society, Shanghai, Sept. 20-23 (2001).
18. “Complex Fluids: Electrorheological Fluid”, Yangtze Conference of Fluids and Interfaces, Nanjing, Oct. 12–18 (2002).
19. “Mesoscale Structures by Holographic Lithography”, invited talk at the Eighth Annual Conference of the Physical Society of Hong Kong, June 21 (2003).
20. “Quasicrystals and Optical Interference Lithography”, invited talk at the International Conference on the Frontiers of Nonlinear and Complex Systems, HKBU, Hong Kong, 24-26 May (2006).
21. “Photonic Crystals by Holographic Lithography”, invited talk at the Plasmonic & Transformation Optics Workshop 2010, HKBU, Hong Kong, 13 Nov. 2010.
22. “Chiral Metamaterials by Shadowing Deposition”, local invited talk at the Croucher Advanced Study Institute of New Materials and New Concepts for Controlling Light and Waves, HKUST, Hong Kong, 3-7 Oct. 2012.
23. “Chiral Metamaterials by Shadowing Vapor Deposition”, the 8th OCPA International Conference on Physics Education and Frontier Physics, Nanyang Technical University, Singapore, 23-27 June 2014.

