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**EDUCATION**

Ph.D.	Massachusetts Institute of Technology	June 2, 2000
B.Eng.(Chemical)	National University of Singapore, Singapore	July 20, 1995

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**PROFESSIONAL EXPERIENCE**

Assistant Dept. Head	Drexel University	Sep 2017–present
Dept. Ph.D. Acad. Advisor	Drexel University	Jan 2017–present
Dept. Grad. Acad. Advisor	Drexel University	Sep 2014–Dec 2016
Visiting Associate Professor	Hong Kong University of Science and Technology (HKUST), Hong Kong	Jul 2013–Dec 2013
Associate Professor	Drexel University	Sep 2012–present
Assistant Professor	Drexel University	Sep 2006–Aug 2012
Postdoctoral Associate	Massachusetts Institute of Technology (MIT)	Jan 2001–Aug 2006
Research Fellow	Institute of Materials Research & Engineering, Singapore	Aug 2000–Dec 2000

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**TEACHING EXPERIENCE**

Drexel University	CHE 206 Basic Chem. Eng. Thermodynamics (UG)	2011–2017
	CHE 304 Process Mass Transfer (UG)	2006–2011
	CHE 310 Transport Phenomena (UG)	2007
	CHE 424 Chemical Kinetics & Reactor Design (UG)	2008–2017
	CHE 543 Kinetics & Catalysis I (G)	2006–2017
	CHE 590 Research Methods & Practices (G)	2016–2017
	ENGR 101 Freshman Engineering Design Lab I (UG)	2013
	ENGR 102 Freshman Engineering Design Lab II (UG)	2013
	ENGR 103 Freshman Engineering Design Lab III (UG)	2013
HKUST	CENG 5400 Advanced Transport Phenomena (G)	2013
MIT	10.32 Separation Processes (UG, Teaching Assistant)	1999

## PUBLICATIONS

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### REFEREED JOURNAL ARTICLES

1. Smolin, Y.Y.; Soroush, M.; Lau, K.K.S. Influence of oCVD polyaniline film chemistry in carbon-based supercapacitors. *Industrial & Engineering Chemistry Research* **2017**, *56*, 6221–6228 (invited, best session paper in ACS National Meeting 2017).
2. Smolin, Y.Y.; Soroush, M.; Lau, K.K.S. Oxidative chemical vapor deposition of polyaniline thin films. *Beilstein Journal of Nanotechnology* **2017**, *8*, 1266–1276 (invited).
3. Hanak, B.W.; Hsieh, C.-Y.; Donaldson, W.; Browd, S.R.; Lau, K.K.S.; Shain, W. Reduced cell attachment to poly(2-hydroxyethyl methacrylate)-coated ventricular catheters in vitro. *Journal of Biomedical Materials Research B* **2017** (doi: 10.1002/jbm.b.33915).
4. Smolin, Y.Y.; Van Aken, K.L.; Boota, M.; Soroush, M.; Gogotsi, Y.; Lau, K.K.S. Engineering ultrathin polyaniline in micro/mesoporous carbon supercapacitor electrodes using oxidative chemical vapor deposition. *Advanced Materials Interfaces* **2017**, *4*, 1601201.
5. Ölçeroğlu, E.; Hsieh, C.-Y.; Lau, K.K.S.; McCarthy, M. Thin film condensation supported on ambiphilic microstructures. *Journal of Heat Transfer* **2017**, *139*, 020910.
6. Johnson, N.M.; Smolin, Y.Y.; Hagaman, D.; Soroush, M.; Lau, K.K.S.; Ji, H.-F. Suitability of *N*-propanoic acid spiropyrans and spirooxazines for use as sensitizing dyes in dye-sensitized solar cells. *Physical Chemistry Chemical Physics* **2017**, *19*, 2981–2989.
7. Smolin, Y.Y.; Janakiraman, S.; Soroush, M.; Lau, K.K.S. Experimental and theoretical investigation of dye sensitized solar cells integrated with crosslinked poly(vinylpyrrolidone) polymer electrolyte using initiated chemical vapor deposition. *Thin Solid Films* **2017**, *635*, 9–16.
8. Kuba, A.G.; Smolin, Y.Y.; Soroush, M.; Lau, K.K.S. Synthesis and integration of poly(1-vinylimidazole) polymer electrolyte in dye sensitized solar cells by initiated chemical vapor deposition. *Chemical Engineering Science* **2016**, *154*, 136–142 (invited).
9. Johnson, N.M.; Smolin, Y.Y.; Shindler, C.; Hagaman, D.; Soroush, M.; Lau, K.K.S.; Ji, H.-F. Photochromic dye-sensitized solar cells. *AIMS Materials Science* **2015**, *2*, 503–509.
10. Hsieh, C.-Y.; Lau, K.K.S. Growth of polyglycidol in porous TiO<sub>2</sub> nanoparticle networks via initiated chemical vapor deposition: probing polymer confinement under high nanoparticle loading. *Advanced Materials Interfaces* **2015**, *12*, 1500341.
11. Janakiraman, S.; Farrell, S.L.; Hsieh, C.-Y.; Smolin, Y.Y.; Soroush, M.; Lau, K.K.S. Kinetic analysis of the initiated chemical vapor deposition of poly(vinylpyrrolidone) and poly(4-vinylpyridine). *Thin Solid Films* **2015**, *595 Part B*, 244–250.
12. Spurgeon, S.R.; Balachandran, P.V.; Kepaptsoglou, D.M.; Damodaran, A.R.; Karthik, J.; Nejati, S.; Jones, L.; Ambaye, H.; Lauter, V.; Ramasse, Q.M.; Lau, K.K.S.; Martin, L.W.; Rondinelli, J.M.; Taheri, M.L. Polarization screening-induced magnetic phase gradients at complex oxide interfaces. *Nature Communications* **2015**, *6*, 6735.
13. Nejati, S.; Patel, A.; Wallenitch, G.R.; Lau, K.K.S. Electrical conductivity and stability of oxidative chemical vapor deposition copolymer thin films of thiophene and pyrrole. *Nanoscience and Nanotechnology Letters* **2015**, *7*, 50–55.

14. Smolin, Y.Y.; Nejati, S.; Bavarian, M.; Lee, D.; Lau, K.K.S.; Soroush, M. Effects of polymer chemistry on polymer-electrolyte dye sensitized solar cell performance: A theoretical and experimental investigation. *Journal of Power Sources* **2015**, *274*, 156–164.
15. Nejati, S.; Minford, T.E.; Smolin, Y.Y.; Lau, K.K.S. Enhanced charge storage of ultrathin polythiophene films within porous nanostructures. *ACS Nano* **2014**, *8*, 5413–5422.
16. Ölçeroğlu, E.; Hsieh, C.-Y.; Rahman, M.M.; Lau, K.K.S.; McCarthy, M. Full-field dynamic characterization of superhydrophobic condensation on biotemplated nanostructured surfaces. *Langmuir* **2014**, *30*, 7556–7566.
17. Spurgeon, S.R.; Sloppy, J.D.; Kepaptsoglou, D.M.; Balachandran, P.V.; Nejati, S.; Karthik, J.; Damodaran, A.R.; Johnson, C.L.; Ambaye, H.; Goyette, R.; Lauter, V.; Ramasse, Q.M.; Idrobo, J.C.; Lau, K.K.S.; Lofland Jr., S. E.; Rondinelli, J.M.; Martin, L.W.; Taheri, M.L. Thickness-dependent crossover from charge- to strain-mediated magnetoelectric coupling in ferromagnetic/piezoelectric oxide heterostructures. *ACS Nano* **2014**, *8*, 894–903.
18. Bavarian, M.; Nejati, S.; Lau, K.K.S.; Lee, D.; Soroush, M. Theoretical and experimental study of a dye-sensitized solar cell. *Industrial & Engineering Chemistry Research* **2014**, *53*, 5234–5247.
19. Laird, E.D.; Bose, R.K.; Qi, H.; Lau, K.K.S.; Li, C.Y. Electric field-induced, reversible lotus-to-rose transition in nanohybrid shish kebab paper with hierarchical roughness. *ACS Applied Materials & Interfaces* **2013**, *5*, 12089-12098.
20. Laird, E.D.; Bose, R.K.; Wang, W.; Lau, K.K.S.; Li, C.Y. Carbon nanotube-directed polytetrafluoroethylene crystal growth via initiated chemical vapor deposition. *Macromolecular Rapid Communications* **2013**, *34*, 251-256.
21. Bose, R.K.; Nejati, S.; Stufflet, D.R.; Lau, K.K.S. Graft polymerization of anti-fouling PEO surfaces by liquid-free initiated chemical vapor deposition. *Macromolecules* **2012**, *45*, 6915-6922.
22. Bose, R.K.; Heming, A.M.; Lau, K.K.S. Microencapsulation of a crop protection compound by initiated chemical vapor deposition. *Macromolecular Rapid Communications* **2012**, *33*, 1375-1380.
23. Nejati, S.; Lau, K.K.S. Vapor deposition synthesis of tunable unsubstituted polythiophene. *Langmuir* **2011**, *27*, 15223-15229.
24. Nejati, S.; Lau, K.K.S. Pore filling of nanostructured electrodes in dye sensitized solar cells by initiated chemical vapor deposition. *Nano Letters* **2011**, *11*, 419-423.
25. Nejati, S.; Lau, K.K.S. Integration of polymer electrolytes in dye sensitized solar cells by initiated chemical vapor deposition. *Thin Solid Films* **2011**, *519*, 4551-4554.
26. Bose, R. K.; Lau, K.K.S. Initiated chemical vapor deposition of poly(2-hydroxyethyl methacrylate) hydrogels. *Thin Solid Films* **2011**, *519*, 4415-4417.
27. Jo, W.; Freedman, K.; Dong, K.Y.; Bose, R.K.; Lau, K.K.S.; Solomon, S.D.; Kim, M.J. Photon to thermal response of a single patterned gold nanorod cluster under near-infrared laser irradiation. *Biofabrication* **2011**, *3*, 015002.
28. Bose, R.K.; Lau, K.K.S. Mechanical properties of ultra-high molecular weight PHEMA hydrogels synthesized using initiated chemical vapor deposition (iCVD). *Biomacromolecules* **2010**, *11*, 2116-2122.

29. Asatekin, A.; Barr, M.C.; Baxamusa, S.H.; Lau, K.K.S.; Tenhaeff, W.; Xu, J.; Gleason, K.K. Designing polymer surfaces via vapor deposition. *Materials Today* **2010**, *13*, 26-33.
30. Bose, R.K.; Nejati, S.; Lau, K.K.S. Initiated chemical vapor deposition (iCVD) of hydrogel polymers. *ECS Transactions* **2009**, *25*, 1229-1235.
31. Bose, R.K.; Lau, K.K.S. Initiated chemical vapor deposition (iCVD) of poly(2-hydroxyethyl methacrylate) hydrogels: synthesis, characterization and *in vitro* biocompatibility. *Chemical Vapor Deposition* **2009**, *15*, 150-155.
32. Chen, G.; Lau, K.K.S.; Gleason, K.K. iCVD growth of poly(N-vinylimidazole) and poly(N-vinylimidazole-co-N-vinylpyrrolidone). *Thin Solid Films* **2009**, *517*, 3539-3542.
33. Lau, K.K.S.; Gleason, K.K. Initiated chemical vapor deposition (iCVD) of copolymer thin films. *Thin Solid Films* **2008**, *516*, 678-680.
34. Lau, K.K.S.; Gleason, K.K. Applying HWCVD to particle coatings and modeling the deposition mechanism. *Thin Solid Films* **2008**, *516*, 674-677.
35. Lau, K.K.S.; Gleason, K.K. Particle functionalization and encapsulation by initiated chemical vapor deposition (iCVD). *Surface Coatings and Technology* **2007**, *201*, 9189-9194.
36. Martin, T.P.; Lau, K.K.S.; Chan, K.; Mao, Y.; Malancha, G.; O'Shaughnessy, W.S.; Gleason, K.K. Initiated chemical vapor deposition (iCVD) of polymeric nanocoatings. *Surface Coatings and Technology* **2007**, *201*, 9400-9405.
37. Lau, K.K.S.; Gleason, K.K. All-dry synthesis and coating of methacrylic acid copolymers for controlled release. *Macromolecular Bioscience* **2007**, *7*, 429-434.
38. Lau, K.K.S.; Gleason, K.K. Particle surface design by an all-dry encapsulation method. *Advanced Materials* **2006**, *18*, 1972-1977.
39. Lau, K.K.S.; Gleason, K.K. Initiated chemical vapor deposition (iCVD) of poly(alkyl acrylates): an experimental study. *Macromolecules* **2006**, *39*, 3688-3694.
40. Lau, K.K.S.; Gleason, K.K. Initiated chemical vapor deposition (iCVD) of poly(alkyl acrylates): a kinetic model. *Macromolecules* **2006**, *39*, 3695-3703.
41. Gorga, R. E.; Lau, K.K.S.; Gleason, K.K.; Cohen, R.E. The importance of interfacial design at the carbon nanotube/polymer composite interface. *Journal of Applied Polymer Science* **2006**, *102*, 1413-1418.
42. Lau, K.K.S.; Mao, Y.; Pryce Lewis, H.G.; Murthy, S.K.; Olsen, B.D.; Loo, L.S.; Gleason, K.K. Polymeric nanocoatings by hot-wire chemical vapor deposition (HWCVD). *Thin Solid Films* **2006**, *501*, 211-215.
43. Lau, K.K.S.; Bico, J.; Teo, K.B.K.; Chhowalla, M.; Amaratunga, G.A.J.; Milne, W.I.; McKinley, G.H.; Gleason, K.K. Superhydrophobic carbon nanotube forests. *Nano Letters* **2003**, *3*, 1701-1705.
44. Qi, H.J.; Teo, K.B.K.; Lau, K.K.S.; Boyce, M.C.; Milne, W.I.; Robertson, J.; Gleason, K.K. Determination of mechanical properties of carbon nanotubes and vertically aligned carbon nanotubes forests using nanoindentation. *Journal of the Mechanics and Physics of Solids* **2003**, *51*, 2213-2237.
45. Lau, K.K.S.; Murthy, S.K.; Pryce Lewis, H.G.; Caulfield, J.A.; Gleason, K.K. Fluorocarbon dielectrics via hot filament chemical vapor deposition. *Journal of Fluorine Chemistry* **2003**, *122*, 93-96.

46. Gleason, K.K.; Hill, D.J.T.; Lau, K.K.S.; Mohajerani, S.; Whittaker, A.K. The use of  $^{19}\text{F}$  NMR for new structure determination in the radiolysis of FEP. *Nuclear Instruments & Methods in Physics Research B* **2001**, *185*, 83-87.
47. Lau, K.K.S.; Pryce Lewis, H.G.; Limb, S.J.; Kwan, M.C.; Gleason, K.K. Hot-wire chemical vapor deposition (HWCVD) of fluorocarbon and organosilicon thin films. *Thin Solid Films* **2001**, *395*, 288-291.
48. Lau, K.K.S.; Gleason, K.K. Thermal annealing of fluorocarbon films grown by hot filament chemical vapor deposition. *Journal of Physical Chemistry B* **2001**, *105*, 2303-2307.
49. Lau, K.K.S.; Gleason, K.K.; Trout, B.L. Thermochemistry of gas phase  $\text{CF}_2$  reactions: a density functional theory study. *Journal of Chemical Physics* **2000**, *113*, 4103-4108.
50. Lau, K.K.S.; Caulfield, J.A.; Gleason, K.K. Structure and morphology of fluorocarbon films from hot filament chemical vapor deposition. *Chemistry of Materials* **2000**, *12*, 3032-3037.
51. Lau, K.K.S.; Gleason, K.K. Pulsed plasma enhanced and hot filament chemical vapor deposition of fluorocarbon films. *Journal of Fluorine Chemistry* **2000**, *104*, 119-126.
52. Limb, S.J.; Lau, K.K.S.; Edell, D.J.; Gleason, E.F.; Gleason, K.K. Molecular design of fluorocarbon film architecture by pulsed plasma enhanced and pyrolytic chemical vapor deposition. *Plasmas and Polymers* **1999**, *4*, 21-32.
53. Lau, K.K.S.; Gleason, K.K. Solid-state nuclear magnetic resonance spectroscopy of low dielectric constant films from pulsed hydrofluorocarbon plasmas. *Journal of the Electrochemical Society* **1999**, *146*, 2652-2658.
54. Lau, K.K.S.; Gleason, K.K. High-resolution  $^{19}\text{F}$  MAS NMR spectroscopy of fluorocarbon films from pulsed PECVD of hexafluoropropylene oxide. *Journal of Physical Chemistry B* **1998**, *102*, 5977-5984.
55. Lau, K.K.S.; Gleason, K.K. Structural correlation study of pulsed plasma-polymerized fluorocarbon solids by two-dimensional wide-line NMR spectroscopy. *Journal of Physical Chemistry B* **1997**, *101*, 6839-6846.
56. Srinivasan, M.P.; Lau, K.K.S. Molecular orientation in mixed LB films containing photochromic molecules. *Thin Solid Films* **1997**, *307*, 266-273.
57. Neoh, K.G.; Lau, K.K.S.; Wong, V.V.T.; Kang, E.T.; Tan, K.L. Structure and degradation behavior of polypyrrole doped with sulfonated anions of different sizes subjected to undoping-redoping cycles. *Chemistry of Materials* **1996**, *8*, 167-172.

#### CONFERENCE PROCEEDINGS

1. Soroush, M.; Smolin, Y.Y.; Lau, K.K.S. Multi-scale modeling for optimal design, operation and integration of power generation and storage systems. *FOCAPO / CPC Foundations of Computer Aided Process Operations / Chemical Process Control* **2017**.
2. Nejati, S.; Lau, K.K.S. In situ synthesis and integration of polymer electrolytes in nanostructured electrodes for photovoltaic applications. *Materials Research Society Symposium Proceedings* **2011**, *1312*, 287-292.
3. Bose, R.K.; Lau, K.K.S. Initiated chemical vapor deposition of homopolymers and copolymers of poly(2-hydroxyethyl methacrylate) and poly(ethylene glycol) for use as thin-film hydrogels. *American Chemical Society National Meeting – PMSE Preprints* **2008**, *99*, 83.

4. Pryce Lewis, H.G.; Lau, K.K.S.; Mao, Y.; Gleason, K.K. Initiated chemical vapor deposition (iCVD) of polymer thin films. *Society of Vacuum Coaters – Annual Technical Conference Proceedings* **2005**, 90-94.
5. Gleason, K.K.; Pryce Lewis, H.G.; Chan, K.; Lau, K.K.S.; Mao, Y. Polymer nanocoatings by initiated chemical vapor deposition (iCVD). *NSTI Nanotech 2005 – NSTI Nanotechnology Conference and Trade Show* **2005**, 2, 310-312.
6. Lau, K.K.S.; Gleason, K.K. Low dielectric constant fluorocarbon films. *Materials Research Society Symposium Proceedings* **1999**, 544, 209-220.
7. Labelle, C.B.; Lau, K.K.S.; Gleason, K.K. Pulsed plasma chemical vapor deposition of fluorocarbon thin films. *IEEE International Interconnect Technology Conference Proceedings* **1999**, 56-58.
8. Lau, K.K.S.; Gleason, K.K. Low dielectric constant CVD fluorocarbon films. *American Chemical Society National Meeting – PMSE Preprints* **1999**, 81, 73-72.
9. Labelle, C.B.; Lau, K.K.S.; Gleason, K.K. Pulsed plasma enhanced chemical vapor deposition from CH<sub>2</sub>F<sub>2</sub>, C<sub>2</sub>H<sub>2</sub>F<sub>4</sub>, and CHClF<sub>2</sub>. *Materials Research Society Symposium Proceedings* **1998**, 511, 75-86.
10. Lau, K.K.S.; Gleason, K.K. High resolution <sup>19</sup>F NMR spectroscopy of pulsed plasma-polymerized fluorocarbon films. *American Chemical Society National Meeting – Polymer Preprints* **1998**, 39, 936-937.
11. Labelle, C.B.; Lau, K.K.S.; Limb, S.J.; Gleason, K.K. Influence of fluorocarbon precursors on pulsed plasma-enhanced chemical vapor deposition. *Electrochemical Society Meeting Proceedings* **1998**, 149-162.

#### PATENTS

1. Lau, K.K.S.; Janakiraman, S.; Hsieh, C.-Y. Patterned polymers and directed polymer growth by initiated chemical vapor deposition. U.S. Patent Application No. 62345132 (June 3, **2016**).
2. Lau, K.K.S.; Bose, R.K. Poly(ethylene glycol) and poly(ethylene oxide) by initiated chemical vapor deposition. U.S. Patent 8,609,193 (December 17, **2013**).
3. Gleason K.K.; Lau, K.K.S. Initiated chemical vapor deposition of vinyl polymers for the encapsulation of particles. U.S. Patent 9,492,805 (November 15, **2016**).

#### BOOKS / BOOK CHAPTERS

1. Lau, K.K.S. Ch.11 Chemical Vapor Deposition. In *Medical Coatings and Deposition Technologies* (eds. Glocker, D.; Ranade, S.); Wiley, **2016**.
2. Lau, K.K.S. Ch.14 Plasma-Enhanced Chemical Vapor Deposition. In *Medical Coatings and Deposition Technologies* (eds. Glocker, D.; Ranade, S.); Wiley, **2016**.
3. Lau, K.K.S. Ch.2 Growth Mechanism, Kinetics, and Molecular Weight. In *CVD Polymers: Fabrication of Organic Surfaces and Devices* (ed. Gleason, K.K.); Wiley, **2015**.
4. Anthamatten, M.; Lau, K.K.S. Vapor Deposition Polymerization. In *Encyclopedia of Chemical Processing* (ed. Lee, S.); Taylor & Francis, **2009**.

## PRESENTATIONS

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### INVITED

1. Lau, K.K.S. Engineering vapor-deposited polymers for energy conversion and storage. *American Institute of Chemical Engineers Annual Meeting* (Minneapolis, MN, **2017**).
2. Lau, K.K.S. Chemical vapor deposition of polymers: fundamentals and applications. *Chemical Engineering Seminar, Hong Kong University of Science and Technology* (Hong Kong, **2017**).
3. Lau, K.K.S. Strategies for engineering polymers to enhance energy capture and storage. *252nd American Chemical Society National Meeting* (Philadelphia, PA, **2016** – won best session presentation).
4. Lau, K.K.S. iCVD of polymer electronic materials for energy harvesting and storage. *8th International Hot Wire Chemical Vapor Deposition Conference* (Braunschweig, Germany, **2014** – invited plenary).
5. Smolin, Y.Y.; Hsieh, C.-Y.; Nejati, S.; Soroush, M.; Lau, K.K.S. Invited: iCVD synthesis of polymer electrolytes for application in dye sensitized solar cells (DSSCs). *Electrochemical Society Meeting* (Cancun, Mexico, **2014**).
6. Lau, K.K.S. A new approach for the synthesis of organic polymers: the iCVD story. *Japan Advanced Institute of Technology (JAIST) International School* (Kanazawa, Japan, **2013**).
7. Lau, K.K.S. Novel chemical vapor deposition methods for polymer thin film devices. *American Chemical Society National Meeting* (Philadelphia, PA, **2012**).
8. Lau, K.K.S. Polymer electronic materials for sustainable energies. *International Active Matrix-Flat Panel Display Workshop* (Kyoto, Japan, **2012**).
9. Lau, K.K.S. Polymer thin films and devices. *U.S. Army ARDEC Seminar* (Picatinny Arsenal, NJ, **2012**).
10. Lau, K.K.S. Polymer thin films and devices by chemical vapor deposition design and synthesis. *Chemical Engineering Seminar, Colorado School of Mines* (Golden, CO, **2011**).
11. Lau, K.K.S. Engineering unique pathways for the design, synthesis and integration of polymers in complex systems. *Program in Polymer Science and Technology Seminar, Massachusetts Institute of Technology* (Cambridge, MA, **2010**).
12. Lau, K.K.S. Engineering polymers at the nanoscale and integration into devices. *4th Annual Discovery to Commercialization NTI & ECI Conference* (Philadelphia, PA, **2010**).
13. Bose, R.K; Lau, K.K.S. TMX coatings using initiated chemical vapor deposition. *Syngenta Corporation Seminar* (Münchwilen, Switzerland, **2010**).
14. Lau, K.K.S. Integration of CVD polymers with micro and nanostructures – applications in biomedicine and alternative energies. *Hospital of University of Pennsylvania Wilensky Laboratory Seminar* (Philadelphia, PA, **2010**).
15. Lau, K.K.S. Integration of CVD polymers with micro and nanostructures. *CHEMCON 2009* (Visakhapatnam, India, **2009**).
16. Bose, R.K; Lau, K.K.S. Polymer thin films & devices. *Syngenta Corporation Seminar* (Münchwilen, Switzerland, **2009**).
17. Lau, K.K.S. Initiated chemical vapor deposition of hydrogel polymers. *Hospital of University of Pennsylvania Gorman Laboratory Seminar* (Philadelphia, PA, **2009**).

18. Lau, K.K.S. Design and synthesis of polymer thin films by iCVD. *Chemical Engineering Seminar, Northeastern University* (Boston, MA, **2008**).
19. Lau, K.K.S. iCVD: methods, mechanisms and materials. *5th International Hot Wire Chemical Vapor Deposition Conference* (Cambridge, MA, **2008**).
20. Lau, K.K.S. Coating and functionalization of particles using iCVD. *Particles 2008* (Orlando, FL, **2008**).
21. Lau, K.K.S. Using iCVD for the design and synthesis of polymer nanofilms. *U.S. Army Research Laboratory Seminar* (Aberdeen Proving Ground, MD, **2007**).
22. Lau, K.K.S. Using iCVD for the design and synthesis of polymer films. *Air Products & Chemicals Seminar* (Allentown, PA, **2007**).
23. Lau, K.K.S. Surface engineering towards nanotechnology. *Chemical Engineering Seminar, Hong Kong University of Science and Technology* (Hong Kong, **2006**).
24. Lau, K.K.S. Applying HWCVD to particle coatings and modeling the deposition mechanism. *4th International Hot Wire Chemical Vapor Deposition Conference* (Takayama, Japan, **2006**).

#### OTHER

1. Chen, Z.; Lau, K.K.S. iCVD deposition and integration of poly-(1H,1H,2H,2H-perfluorodecylacrylate) (PPFDA) under high loading of TiO<sub>2</sub> nanoparticles. *American Institute of Chemical Engineers Annual Meeting* (Minneapolis, MN, **2017**).
2. Smolin, Y.Y.; Li, X.; Lau, K.K.S. Oxidative chemical vapor deposition of polyaniline: influence of process conditions on film chemistry and electrochemical performance. *American Institute of Chemical Engineers Annual Meeting* (Minneapolis, MN, **2017**).
3. Soroush, M.; Smolin, Y.Y.; Lau, K.K.S. Multi-scale modeling for optimal design, operation and integration of power generation and storage systems. *FOCAPO / CPC Foundations of Computer Aided Process Operations / Chemical Process Control* (Tucson, AZ, **2017**).
4. Smolin, Y.Y.; Van Aken, K.L.; Boota, M.; Soroush, M.; Gogotsi, Y.; Lau, K.K.S. Integration of ultrathin polyaniline films in carbide derived carbon supercapacitors via oxidative chemical vapor deposition. *American Institute of Chemical Engineers Annual Meeting* (San Francisco, CA, **2016**).
5. Smolin, Y.Y.; Kuba, A.G.; Soroush, M.; Lau, K.K.S. Enhancing dye sensitized solar cell *J-V* behavior by integrating nanoscale polymer films. *American Institute of Chemical Engineers Annual Meeting* (San Francisco, CA, **2016**).
6. Smolin, Y.Y.; Lau, K.K.S.; Soroush, M. Model-guided optimization of polymer-electrolyte dye sensitized solar cells. *American Institute of Chemical Engineers Annual Meeting* (San Francisco, CA, **2016**).
7. Smolin, Y.Y.; Kuba, A.G.; Lau, K.K.S.; Soroush, M. Model-guided design and optimization of polymer-electrolyte dye sensitized solar cells. *PRiME 2016 – The Electrochemical Society* (Honolulu, HI, **2016**).
8. Smolin, Y.Y.; Van Aken, K.L.; Boota, M.; Soroush, M.; Gogotsi, Y.; Lau, K.K.S. Synthesis and integration of ultrathin polyaniline films into carbide derived carbon supercapacitors. *PRiME 2016 – The Electrochemical Society* (Honolulu, HI, **2016**).

9. Hsieh, C.-Y.; Lau, K.K.S. Viable approach for forming uniform polymer nanocomposites with ultrahigh filler loading. *PRiME 2016 – The Electrochemical Society* (Honolulu, HI, **2016**).
10. Smolin, Y.Y.; Kuba, A.G.; Janakiraman, S.; Farell, S.L.; Hsieh, C.-Y.; Soroush, M.; Lau, K.K.S. Integration of nanoscale polymer electrolytes in dye sensitized solar cells by initiated chemical vapor deposition. *9th International Hot Wire Chemical Vapor Deposition Conference* (Philadelphia, PA, **2016**).
11. Hsieh, C.-Y.; Lau, K.K.S. Ultrahigh filler loading of polymer nanocomposites via initiated chemical vapor deposition. *9th International Hot Wire Chemical Vapor Deposition Conference* (Philadelphia, PA, **2016**).
12. Hsieh, C.-Y.; Janakiraman, S.; Angotti, A.H.; Lau, K.K.S. Directed surface growth and polymer patterning via initiated chemical vapor deposition. *9th International Hot Wire Chemical Vapor Deposition Conference* (Philadelphia, PA, **2016**).
13. Hsieh, C.-Y.; Janakiraman, S.; Angotti, A.H.; Lau, K.K.S. Facile and accessible method for patterning surfaces with functional polymers via initiated chemical vapor deposition. *252nd American Chemical Society National Meeting* (Philadelphia, PA, **2016**).
14. Smolin, Y.Y.; Van Aken, K.L.; Boota, M.; Soroush, M.; Gogotsi, Y.; Lau, K.K.S. Integration of polyaniline in carbide derived carbon supercapacitors via oxidative chemical vapor deposition. *252nd American Chemical Society National Meeting* (Philadelphia, PA, **2016**).
15. Smolin, Y.Y.; Kuba, A.G.; Lau, K.K.S.; Soroush, M. Model-guided design and optimization of polymer-electrolyte dye sensitized solar cells. *252nd American Chemical Society National Meeting* (Philadelphia, PA, **2016**).
16. Hsieh, C.-Y.; Lau, K.K.S. Study of polymer confinement effects in nanocomposite thin films synthesized by initiated chemical vapor deposition. *AVS 62nd International Symposium* (San Jose, CA, **2015**).
17. Smolin, Y.Y.; Janakiraman, S.; Sauter, A.J.; Soroush, M.; Lau, K.K.S. iCVD synthesis and integration of poly(vinylpyrrolidone) and poly(4-vinylpyridine) as polymer electrolytes in dye sensitized solar cells. *AVS 62nd International Symposium* (San Jose, CA, **2015**).
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29. Carter, Z.; Lau, K.K.S. Highly conductive polythiophenes achieved through initiated chemical vapor deposition (iCVD). *Drexel University Research Day* (Philadelphia, PA, **2011**).
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31. Lu, C.-H.; Shih, W.-H., Shih, W.-Y.; Nejati, S.; Lau, K.K.S. Near-infrared quantum dot-sensitized solar cells. *Drexel University Research Day* (Philadelphia, PA, **2011**).
32. Nejati, S.; Lau, K.K.S. Integration of polymer electrolytes in dye sensitized solar cells by initiated chemical vapor deposition (iCVD). *6th International Hot Wire Chemical Vapor Deposition Conference* (Palaiseau, France, **2010**).
33. Bose, R.K.; Lau, K.K.S. Structure and properties of ultra high molecular weight PHEMA synthesized using initiated chemical vapor deposition (iCVD). *6th International Hot Wire Chemical Vapor Deposition Conference* (Palaiseau, France, **2010**).
34. Nejati, S.; Lau, K.K.S. In situ synthesis and integration of polymer electrolytes in nanostructured electrodes for photovoltaic applications. *Materials Research Society Fall Meeting* (Boston, MA, **2010**).
35. Bose, R.K.; Lau, K.K.S. Structure and properties of ultra high molecular weight PHEMA synthesized using solvent-free initiated chemical vapor deposition (iCVD). *57th AVS International Symposium* (Albuquerque, NM, **2010**).
36. Nejati, S.; Lau, K.K.S. Integration of polymer electrolytes in inorganic nanostructures for photovoltaic applications. *218th Electrochemical Society Meeting* (Las Vegas, NV, **2010**).

37. Susilo, S.; Lau, K.K.S. Integration of titanium dioxide ( $TiO_2$ ) nanotubes and polymer electrolyte in dye sensitized solar cells. *Drexel University Research Day* (Philadelphia, PA, **2010**).
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40. Maydanov, A.; Susilo, S.; Lau, K.K.S. Structured titanium dioxide growth for dye-sensitized solar cell use. *Drexel University Summer Mentorship Program* (Philadelphia, PA, **2010**).
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42. Bose, R.K.; Lau, K.K.S. Hydrogel synthesis via initiated chemical vapor deposition (iCVD). *American Institute of Chemical Engineers Annual Meeting* (Nashville, TN, **2009**).
43. Bose, R.K.; Nejati, S.; Lau, K.K.S. Initiated chemical vapor deposition (iCVD) of hydrogel polymers. *216th Electrochemical Society Meeting* (Vienna, Austria, **2009**).
44. Lau, K.K.S. Polymer thin films: applications in 3D architectures. *U.S. Army Research Laboratory MCOE Meeting* (Aberdeen Proving Ground, MD, **2009**).
45. Bose, R. K.; Lau, K.K.S. Barrier coatings on 3D particle systems using initiated chemical vapor deposition. *U.S. Army Research Laboratory MCOE Meeting* (Aberdeen Proving Ground, MD, **2009**).
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55. Lau, K.K.S. Polymer thin film coatings via iCVD. *Symposium on Polymers for Microelectronics* (Winterthur, DE, **2008**).
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60. Lau, K.K.S.; Gleason, K.K. Particle surface design by initiated chemical vapor deposition (iCVD). *209th Electrochemical Society Meeting* (Denver, CO, **2006**).
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62. Lau, K.K.S.; Gleason, K.K. All-dry encapsulation of fine pharmaceuticals for controlled drug release. *Particles 2006* (Orlando, FL, **2006**).
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69. Lau, K.K.S.; Gleason, K.K. Surface encapsulation of carbon nanotubes via chemical vapor deposition. *American Institute of Chemical Engineers Annual Meeting* (Austin, TX, **2004**).
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78. Lau, K.K.S.; Gleason, K.K. Structural correlation in fluorocarbon solids by 2D wideline-separation (WISE) NMR spectroscopy. *Experimental Nuclear Magnetic Resonance Conference* (Orlando, FL, **1997**).

## PROFESSIONAL SERVICE

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Conference Chair, 9th International Hot Wire Chemical Vapor Deposition	2016
Chair, Fundamentals Session, 8th International Hot Wire Chemical Vapor	2014
Deposition Conference	
Chair, New Developments and New Materials II Session, 6th International Hot	2010
Wire Chemical Vapor Deposition Conference	
Member, International Advisory Committee, International Hot Wire Chemical	2008–present
Vapor Deposition Conference	
Chair, Application I Session, 5th International Hot Wire Chemical Vapor	2008
Deposition Conference	
Chair, Polymer Thin Films & Interfaces III Session, AIChE Annual Meeting	2009
Chair, Polymer Thin Films & Interfaces III Session, AIChE Annual Meeting	2008
Chair, Inorganic-Organic Interfaces Session, AIChE Annual Meeting	2007
Chair, Chemical Vapor Deposition Session, AIChE Annual Meeting	2007
Member, Tenure & Promotion Committee, College of Engineering, Drexel	2016
Member, Graduate Affairs Committee, College of Engineering, Drexel	2014–present
Member, Undergraduate Curriculum Committee, College of Engineering, Drexel	2010–2014
Member, Junior Faculty Advisory Committee, College of Engineering, Drexel	2009–2012
Mentor, High School Summer Research Program, College of Engineering, Drexel	2007–2010
Member, Faculty Life Committee, College of Engineering, Drexel	2006–2007

Assistant Department Head, Department, Drexel	2017–present
Graduate Doctoral Advisor, Department, Drexel	2017–present
Member, Mid-Term Review Committee, Department, Drexel	2017
Member, Tenure & Promotion Committee, Department, Drexel	2016
Graduate Academic Advisor, Department, Drexel	2014–2016
Chair, Graduate Curriculum Committee, Department, Drexel	2014–present
Member, Mid-Term Review Committee, Department, Drexel	2013
Member, Faculty Search Committee, Department, Drexel	2012
Member, Undergraduate Curriculum Committee, Department, Drexel	2010–present
Member, Graduate Curriculum Committee, Department, Drexel	2008–present
Organizer, Department Seminar Series, Drexel	2007–2010
Chair, Outstanding Research Awards Nomination Committee, Department, Drexel	2006
Panel Reviewer, including National Science Foundation, U.S. Army Research Office, U.S. Department of Energy, Institute for Renewable Energy and the Environment, Strategic Environmental Research and Development Program	
Journal Reviewer, including ACS Applied Materials & Interfaces, ACS Nano, Advanced Functional Materials, Advanced Materials, Advanced Materials Interfaces, Analytical Methods, Applied Surface Science, Beilstein Journal of Nanotechnology, Biomacromolecules, Chemical Communications, Chemical Physics Letters, Chemical Society Reviews, Chemical Vapor Deposition, Chemistry of Materials, Colloids and Surfaces A, ECS Transactions, Environmental Science and Technology, Inorganic Chemistry, Journal of Analytical and Applied Pyrolysis, Journal of Colloid and Interface Science, Journal of Materials Chemistry, Journal of Microencapsulation, Journal of Physical Chemistry, Journal of Polymer Science, Journal of the American Chemical Society, Journal of Vacuum Science and Technology, Lab on a Chip, Langmuir, Macromolecular Chemistry and Physics, Macromolecular Rapid Communications, Macromolecules, Nano Letters, Nature Communications, Organic Electronics, Polymer, Physical Chemistry Chemical Physics, Plasma Processes and Polymers, Polymer, Soft Matter, Scientific Reports, Small, Surface Coatings Technology, Surface Science Spectra, Thin Solid Films	

## PROFESSIONAL ASSOCIATIONS

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American Chemical Society, Electrochemical Society, Sigma Xi