

ABOUT US **PEOPLE** **RESEARCH** **NEWS & EVENTS** **ADMISSION**

STUDENTS **COMMUNITY**

PEOPLE

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 (/) > People (/directory) > Core Faculty (/people/faculty) > Alex K-Y. Jen

Alex K-Y. Jen



Boeing/Johnson Chair Professor of Materials Science & Engineering

Professor of Chemistry

Chief Scientist, Clean Energy Institute

Director, Institute of Advanced Materials for Energy

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Jen Research Group » (<http://depts.washington.edu/jengroup/>)

Institute of Advanced Materials for Energy (iAME) »

(<http://depts.washington.edu/iamt/>)

STC: Materials & Devices for Information Technology Research » (<http://stc-mditr.org/>)

GEMSEC: Genetically Engineered Materials Science & Engineering Center »

(<http://depts.washington.edu/gemsec/>)

DURINT: Defense University Research Initiative on Nanotechnology »

(<http://depts.washington.edu/bionano/main/groups.html>)

Education

Ph.D., Department of Chemistry, University of Pennsylvania, Philadelphia, 1984

Research Interests

Utilizing molecular, polymeric, and biomacromolecular self-assembly to create ordered arrangement of organic and inorganic functional materials for photonics, optoelectronics, nanomedicine, and nanotechnology.

Employing the “molecular engineering” approach to tailor size, shape, sequence, and functionality of organic/hybrid functional materials and explore their applications.

Professional Recognition and Honors

- Patents & Invention Records: >50
- Publications: >500
- H-index: 71
- Citations: >19,500

Named to **The World's Most Influential Scientific Minds**

(<http://www.washington.edu/news/2016/01/15/twenty-six-uw-faculty-listed-among-worlds-most-influential-scientific-minds-by-thomson-reuters/>) by Thomson Reuters, 2015

Distinguished Chair Professor, Materials Science & Engineering, National Taiwan University, 2013

MRS Fellow, The Materials Research Society, 2012

Chair Professor, Polymer Science & Engineering, Zhejiang University, China, 2012

Member, Washington State Academy of Sciences, 2011

ACS Fellow, The American Chemical Society, 2011

World-Class University Professor, Korea University, Korea Research Foundation, Korea, 2009

Honorary Professor, East China University of Science & Technology, China, 2009

PMSE Fellow, The American Chemical Society, Div. of Polymeric Materials Science & Engineering, 2009

Board of Directors, Washington Technology Center, Appointed by Governor of Washington State, 2007

Faculty of Research Innovator Award, College of Engineering, University of Washington, 2007

Changjiang Endowed Chair Professor, Ministry of Education, China, 2007

OSA Fellow, The Optical Society of America, 2007

SPIE Fellow, The International Society of Optical Engineering, 2006

AAAS Fellow, American Association for the Advancement of Science, 2005

Member of Advisory Board, Institute of Chemistry, Academia Sinica, Taiwan, 2002-Present

Boeing-Johnson Endowed Chair, University of Washington, 1999-Present

Industrial Fellow (rank as full professor), Northwestern University, 1995-2000

Founder's Award, ROITech, 1995

Outstanding Achievement Award, EniChem America, 1994

President's Award, EniChem America, 1989

Rohm & Hass Research Fellowship, Dept. of Chemistry, University of Pennsylvania, 1981

Professional Experience

Chief Scientist, Clean Energy Institute, Univ. of Washington, 2013-present

Chair, Dept. of Materials Science & Engineering, Univ. of Washington, 2007-Present

Director, Institute of Advanced Materials for Energy, 2011-Present

Director, Institute for Advanced Materials & Technology, Univ. of Washington, 2006-2011

Acting Chair, Dept. of Materials Science & Engineering, Univ. of Washington, 2005-2007

Boeing-Johnson Chair Professor, Dept. of Materials Science & Engineering, Univ. of Washington, 2000-Present

Associate Professor, Dept. of Chemistry, Northeastern Univ., Boston, MA., 1997-1999

Vice President, Optical Materials Division, ROI Technology, 1995-1996

Group Leader-Senior Scientist, NLO Materials, EniChem America, 1990-1994

Project Leader-Principal Scientist, Advanced Materials Laboratory, EniChem America, 1988-1990

Research Scientist, Specialty Polymers Department, Allied-Signal Inc., 1984-1988

Professional Service

Editor, IEEE Journal of Photovoltaics

Advisory Board Member, Energy Frontier Research Center, Univ. of Michigan

Advisory Board Member, Material Synthesis, Simulation Across Scales, Pacific Northwest National Laboratory

Editorial Advisory Board Member, ACS Chemistry of Materials, NPG-Asia Materials, Journal of the Experimental Nanoscience

Chair of the Advisory Board, The Transformative Materials Initiative, The Pacific Northwest National Laboratory, Richland, WA, 2007-

Board of Directors, The Washington Technology Center, appointed by the Washington State Governor

Advisory Board Member, College of Arts & Science, National Chiao-Tung University, Taiwan

Advisory Board Member, Institute of Chemistry, Academic Sinica, Taiwan<

Selected Publications

COMPLETE LIST OF PUBLICATIONS ON GOOGLE SCHOLAR

"Confining and Controlling Photoreactive Molecules", M. Kim, J. N. Hohman, Y. Cao, K. N. Houk, H. Ma, A. K.-Y. Jen, and P. S. Weiss, Science, **2011**, 331, 1312.

"Design and Synthesis of Chromophores and Polymers for Electro-optic and Photorefractive Applications", S. R. Marder, B. Kippelen, A. K.-Y. Jen, and N. Peyghambarian, Nature, **1997**, 388, 845.

"Molecular Biomimetics: Nanotechnology through Biology", M. Sarikaya, C. Tamerler, A. K-Y. Jen, K. Schulten, and F. Baneyx, An Invited Review in Nature Materials, **2003**, 2, 577.

"Terahertz All-Optical Modulator in Silicon", M. Hochberg, T. Bachr-Jones, G. Wang, J. Parker, K. Harvard, J. D. Luo, B. Chen, Z. Shi, R. Lawson, P. Sullivan, A. K-Y. Jen, L. Dalton, and A. Scherer, Nature Materials, **2006**, 5(9), 703.

"Record Electro-optic Coefficient of 170 pm/V and Vp of 1V at 1.55 mm in Hybrid Crosslinkable Polymer/Sol-gel Waveguide Modulators", Y. Enami, C. T. DeRose, D. Mathine, C. Loychik, C. Greenlee, R. A. Norwood, T. D. Kim, J. Luo, Y. Tian, A. K-Y. Jen, and N. Peyghambarian, Nature Photonics, **2007**, 1, 180.

"Recent Advances in Solution-Processed Interface Materials for Efficient and Stable Polymer Solar Cells", H.-L. Yip and A. K-Y. Jen, Energy Environ. Sci., **2012**, 5(3), 5994.

"Efficient Poling of Electro-optic Polymers in Thin Films and Silicon Slot Waveguides by Detachable Pyroelectric Crystals", S. Huang, J. D. Luo, H.-L. Yip, A. Ayazi, X.-H. Zhou, M. Gould, A. Chen, T. Baehr-Jones, M. Hochberg, and A. K.-Y. Jen, Adv. Mater., **2012**, 24(10), OP42.

"All-Organic Photo-Patterned One Diode-One Resistor Cell Array for Advanced Organic Nonvolatile Memory Applications", T.-W. Kim, D. F. Zeigler, O. Acton, H.-L. Yip, H. Ma, and A. K.-Y. Jen, Adv. Mater., **2012**, 24(6), 827.

"Spin-Cast and Patterned Organo-Phosphonate Self-Assembled Monolayer Dielectrics on Metal Oxide Activated Si", O. Acton, D. Hutchins, L. Árnadóttir, T. Weidner, N. Cernetic, G. Ting, T. Kim, D. G. Castner, H. Ma, and A. K.-Y. Jen, Adv. Mater., **2011**, 23, 1899.

"Surface Doping of Conjugated Polymers by Graphene Oxide and Its Application for Organic Electronic Devices", Y. Gao, H.-L. Yip, K.-S. Chen, K. M. O'Malley, O. Acton, Y. Sun, G. Ting, H. Z. Chen, and A. K.-Y. Jen, Adv. Mater., **2011**, 23, 1903.

"Enhanced Open-Circuit Voltage in High Performance Polymer/Fullerene Bulk-Heterojunction Solar Cells by Cathode Modification with a C60 Surfactant", K. M. O'Malley, C.-Z. Li, H.-L. Yip, and A. K.-Y. Jen, Adv. Energy Mater., **2012**, 2, 82.

"Silicon-Polymer Hybrid Slot Waveguide Ring-Resonator Modulator", M. Gould, T. Baehr-Jones, R. Ding, S. Huang, J. D. Luo, A. K-Y. Jen, J-M. Fedeli, M. Fournier, M. Hochberg, Optics Express, **2011**, 19(5), 3952.

"In-situ Crosslinking and n-Doping of Semiconducting Polymers and Their Application as Efficient Electron-Transporting Materials in Inverted Polymer Solar Cells", N. Cho, H.-L. Yip, J. A. Davies, P. D. Kazarinoff, D. F. Zeigler, M. M. Durban, Y. Segawa, K. M.

O'Malley, C. K. Luscombe and A. K.-Y. Jen, Adv. Energy. Mater., **2011**, 1(6), 1148.

"Development of New Conjugated Polymers with Donor- π -Bridge-Acceptor Side Chains for High Performance Solar Cells", F. Huang, K-S. Chen, H-L. Yip, S. K. Hau, O. Acton, Y. Zhang, J. D. Luo, and A. K-Y. Jen, J. Am. Chem. Soc., **2009**, 131, 13886.

"Directed Assembly of Single-Walled Carbon Nanotubes via Drop-Casting onto a UV-Patterned Photosensitive Monolayer", J. A. Bardecker, A. Afzali, G. S. Tulevski, T. Graham, J. B. Hannon, and A. K-Y. Jen, J. Am. Chem. Soc., **2008**, 130(23), 7226.

"Theory-Guided Design and Synthesis of Multi-chromophore Dendrimers: An Analysis of the Electro-Optic Effect", P. A. Sullivan, H. Rommel, Y. Liao, B. C. Olbricht, A. J. P. Akelaitis, K. A. Firestone, J-W. Kang, J. D. Luo, D. H. Choi, B. E. Eichinger, P. J. Reid, A. Chen, Alex K-Y. Jen, B. H. Robinson, L. R. Dalton, J. Am. Chem. Soc., **2007**, 129(24), 7523.

"Two-photon Absorbing Block Copolymer as a Nanocarrier for Porphyrin - Energy Transfer and Singlet Oxygen Generation in Micellar Aqueous Solution", C-Y. Chen, Y. Tian, Y-J. Cheng, C. A. Young, J-W. Ka, A. K.-Y. Jen, J. Am. Chem. Soc., **2007**, 129, 7220.

"Ultra-Large and Thermally Stable Electro-Optic Activities from Supramolecular Self-Assembled Molecular Glasses", T. D. Kim, J. W. Kang, J. D. Luo, S. H. Jang, J. W. Ka, S. Hau, Z. Shi, N. M. Tucker, T. Gray, R. M. Overney, L. R. Dalton, W. Herman, J. B. Benedict, and A. K-Y. Jen, J. Am. Chem. Soc., **2007**, 129, 488.

"Patterning of Robust Self-Assembled n-type Hexaazatrinaphthylene-based Nanorods and Nanowires by Microcontact Printing", H.-L. Yip, J. Zhou, H. Ma, Y. Tian, N. M. Tucker, and A. K.-Y. Jen, J. Am. Chem. Soc., **2006**, 128, 13042.

"Two-Dimensional Self-Assembly of Pyrene Phosphonic Acid: Transfer of Stacks on Structured Surface" H. L. Yip, H. Ma, A. K-Y. Jen, J-C. Dong, B. A. Parviz, J. Am. Chem. Soc., **2006**, 128(17), 5672.

"Systematic Study of the Structure-Property Relationship of a Series of Ferrocenyl Nonlinear Optical Chromophores", Y. Liao, B. E. Eichinger, K. A. Firestone, M. Haller, J. Luo, W. Kaminsky, J. B. Benedict, P. J. Reid, A. K-Y Jen, L. R. Dalton, and B. H. Robinson, J. Am. Chem. Soc., **2005**, 127, 2758.

"Divalent Osmium Complexes: Synthesis, Characterization, Strong Red Phosphorescence and Electrophosphorescence", B. Carlson, L. Dalton, X. Jiang, S. Liu, and A. K-Y. Jen, J. Am. Chem. Soc., **2002**, 124, 14162.

"Highly Efficient and Thermally Stable Nonlinear Optical Dendrimer for Electro-optics", H. Ma, B. Chen, T. Sassa, L. R. Dalton, and A. K-Y. Jen, J. Am. Chem. Soc., **2001**, 123, 986.

"Highly Efficient, Thermally and Chemically Stable Second-order Nonlinear Optical Chromophores with a 2-Phenyl-tetracyanobutadienyl Acceptor", X. Wu, J. Wu, and A. K.-Y. Jen, J. Am. Chem. Soc., **1999**, 121(2), 472.

"Mesoscale Dynamics and Cooperativity of Networking Dendronized Nonlinear Optical Molecular Glasses", T. Gray, T.-D. Kim, D. Knorr, J. D. Luo, A. K.-Y. Jen, and R. M. Overney, Nano Lett., **2008**, 8(2), 754.

"Efficient CdSe/CdS Quantum Dot Light-Emitting Diodes Using a Thermally Polymerized Hole Transport Layer", J. Zhao, J. A. Bardecker, A. M. Munro, M. S. Liu, Y. Niu, I.-K. Ding, J. Luo, B. Chen, A. K.-Y. Jen, and D. S. Ginger, Nano Lett., **2006**, 6(3), 463.

"Controlled Assembly of Conducting Monomers for Molecular Electronics", H. Zareie, H. Ma, B. Reed, A. K.-Y. Jen, and M. Sarikaya, Nano Lett., **2003**, 3(2), 139.

"Highly Efficient White Polymer Light-Emitting Diodes Based on Lithium Salts Doped Electron Transporting Layer", F. Huang, P.-I. Shih, C.-F. Shu, Y. Chi and A. K.-Y. Jen, Adv. Mater. **2009**, 21, 361.

"Long-Lifetime Polymer Light-Emitting Electrochemical Cells Fabricated with Crosslinked Hole-Transport Layers", Y. Shao, X. Gong, A. J. Heeger, M. Liu, and A. K.-Y. Jen, Adv. Mater., **2009**, 21(19), 1972.

"Supramolecular Self-Assembled Dendritic Nonlinear Optical Chromophores: Fine-Tuning of Arene-Perfluoroarene Interactions for Ultra-large Electro-Optic Activity and Enhanced Thermal Stability", X. H. Zhou, J. D. Luo, T. D. Kim, Z. Shi, S. Huang, Y. J. Cheng, S. H. Jang, and A. K.-Y. Jen, Adv. Mater., **2009**, 21(19), 1976.

"Polymer Solar Cells using Self-Assembled Monolayers Modified ZnO/Metals as Cathodes", H.-L. Yip, S. K. Hau, N.-S. Baek, H. Ma, A. K.-Y. Jen, Adv. Mater., **2008**, 20(12), 2376.

"Highly Efficient White Polymer Light-emitting Diodes Based on Nanoscale Control of the Electron Injection Layer Morphology through Solvent Processing", Y. Zhang, F. Huang, Y. Chi, and A. K.-Y. Jen, Adv. Mater., **2008**, 20, 1565.

"Solution Processed Organic Monolayer/High-k Metal Oxide Hybrid Dielectrics for Low-Voltage Organic Transistors", O. Acton, G. Ting, H. Ma, J. W. Ka, H. L. Yip, N. M. Tucker, and A. K.-Y. Jen, Adv. Mater., **2008**, (in press).

"Neutral Conjugated Surfactant as a Highly Efficient Electron Injection Layer in Polymer Light-Emitting Diodes", F. Huang, Y.-H. Niu, Y. Zhang, J.-W. Ka, M. S. Liu and A. K.-Y. Jen, Adv. Mater., **2007**, 19, 2010.

"Improved Performance from Multilayer Quantum-dot Light-emitting Diodes via Thermal Annealing of the Quantum Dot Layer", Y. H. Niu, A. M. Munro, Y. J. Cheng, M. S. Liu, Y. Q. Tian, J. Zhao, J. A. Bardecker, I. J-L. Plante, D. S. Ginger, A. K. -Y. Jen, Adv. Mater. **2007**, 19(20), 3371.

"Crosslinkable Hole-Transport Layer on Conducting Polymer for High Efficiency White Polymer Light-Emitting Diodes", Y. H. Niu, M. S. Liu, J. W. Ka, J. Bardeker, M. Zin, Y. Chi, and A. K.-Y. Jen, Adv. Mater., **2007**, 19(2), 300.

"Ultra-Large and Thermally Stable Electro-Optic Activities from Diels-Alder Crosslinkable Polymers Containing Binary Chromophore Systems", T. D. Kim, J. Luo, J-W. Ka, S. Hau, Y. Tian, Z. Shi, N. M. Tucker, S.-H. Jang, J.-W. Kang, and A. K-Y. Jen, Adv. Mater., **2006**, 18(22), 3038.

"Highly Efficient and Thermally Stable Electro-optic Polymer from a Smartly Controlled Poling and Crosslinking Process", J. Luo, M. Haller, H. Li, and A. K-Y. Jen, Adv. Mater., **2003**, 15(19), 1635.

"Electrophosphorescence from a Conjugated Copolymer Doped with Iridium Complex: High Brightness and Improved Operational Stability", X. Gong, J. Ostrowski, G. C. Bazan, A. J. Heeger, M. S. Liu, and A. K-Y. Jen, Adv. Mater., **2003**, 15(1), 45.

"Focused Microwave-Assisted Synthesis of Highly Efficient Nonlinear Optical Chromophores and Their Performance in Electro-Optics", S. Liu, M. Haller, H. Ma, L. R. Dalton, and A. K-Y. Jen, Adv. Mater., **2003**, 15(7-8), 603.

"Polymer-Based Optical Waveguides: Materials, Process, and Devices", H. Ma, A. K-Y. Jen, and L. R. Dalton, Adv. Mater., **2002**, 14(19), 1339.

"Design, Synthesis, and Properties of Highly Efficient Side-chain Dendronized Nonlinear Optical Polymers for Electro-optics", J. Luo, S. Liu, M. Haller, L. Liu, H. Ma, Alex K-Y. Jen, Adv. Mater., **2002**, 14(23), 1763.

"Functional Dendrimers for Nonlinear Optics", H. Ma and A. K-Y. Jen, Adv. Mater., **2001**, 13(15), 1201.

"Synthesis and Characterization of Highly Efficient, Chemically and Thermally Stable Chromophores with Chromone-containing Electron Acceptors for Nonlinear Optical Applications", A. K-Y. Jen, Y. Liu, L. Zheng, S. Liu, K. J. Drost, and Y. Zhang, Adv. Mater., **1999**, 11(6), 452.

"Synthesis and Characterization of Highly Efficient and Thermally Stable Diphenylamino-substituted Thiophene Stilbene Chromophores for Nonlinear Optical Applications", A. K-Y. Jen, Y. Cai, P. Bedworth, and S. R. Marder, Adv. Mater. **1997**, 9(2), 132.

"Ordered Self-Assembly and Electronic Behavior of C60-Anthrylphenylacetylene Hybrid" S. H. Kang, H. Ma, M. H. Zareie, M. Kang, K. Kim, M. Sarikaya, and A. K.-Y. Jen, Angew. Chem. Int. Ed., **2004**, 43(12), 1512.

"Quantum-chemical Study of the Effect of Thiazole Regiochemistry in the Bridges of Dipolar Chromophores on Two-photon Absorption", K. Schmidt, A. Leclercq, E. Zojer, P. V. Lawson, S.-H. Jang, S. Barlow, A. K.-Y. Jen, S.R. Marder, and J. L. Brédas, Adv. Func. Mater., **2008**, 18, 794.

"Highly Efficient Diels-Alder Crosslinkable Electro-Optic Dendrimers for Electric-Field Sensors", Z. Shi, S. Hau, J. D. Luo, T. D. Kim, N. M. Tucker, J.-W. Ka, H. Sun, A. Pyajt, L. R. Dalton, A. Chen, and A. K.-Y. Jen, Adv. Func. Mater., **2007**, 17, 2557.

"Hydrophobic Chromophores in Aqueous Micellar Solution Showing Large Two-photon Absorption Cross-sections", Y. Tian, C. Chen, Y.-J. Cheng, A. C. Young, N. M. Tucker, and A. K.-Y. Jen, Adv. Func. Mater., **2007**, 17(10), 1691.

"Ultrafast Spectroscopic Study of Photoinduced Electron Transfer in an Oligo (thienylenevinylene): Fullerene Composite", I. W. Hwang, Q. H. Xu, C. Soci, B. Q. Chen, A. K.-Y. Jen, D. Moses and A. J. Heeger, Adv. Func. Mater., **2007**, 17(4), 563.

"High-efficiency and Color Stable Blue Light-emitting Polymers and Devices", F. Huang, Y. Zhang, M. S. Liu, Y.-J. Cheng, and A. K.-Y. Jen, Adv. Func. Mater., **2007**, 17, 3808.

"Perfluorocyclobutane-Based Arylamine Hole-Transporting Materials for Organic and Polymer Light-Emitting Diodes", X. Jiang, S. Liu, M. S. Liu, P. Herguth, A. K.-Y. Jen, H. Fong and M. Sarikaya, Adv. Func. Mater., **2002**, 12(11-12), 745.

"Highly Efficient and Thermally Stable Electro-Optic Dendrimers for Photonics", H. Ma, S. Liu, J. Luo, S. Suresh, L. Liu, S. H. Kang, M. Haller, Takafumi Sassa, and Alex K.-Y. Jen, Adv. Func. Mater., **2002**, 12, 565.

"Polymeric Materials and Their Orientation Techniques for Second-Order Nonlinear Optics", F. Kajzar, K. S. Lee and A. K.-Y. Jen, Special Issue for Polymers for Photonic Applications", Invited Review, Adv. Polym Sci., **2003**, 161, 1.

"A Novel Oxadiazole-Containing Polyfluorene with Efficient Blue Electroluminescence", F.-I. Wu, D. S. Reddy, C. F. Shu, M. S. Liu, A. K.-Y. Jen, Chem. Mater., **2003**, 15, 269.

"Highly Efficient Blue Light-Emitting Diodes from Polyfluorene Containing Bipolar Pendent Groups", C. F. Shu, R. Dodda, F. I. Wu, M. S. Liu, and A. K.-Y. Jen, Macromolecules, **2003**, 36, 6698.

"High-Performance Polymer Light-Emitting Diodes Fabricated with a Novel Hole Injection Layer", X. Gong, S. Liu, A. K-Y. Jen, D. Moses, and A. Heeger, Appl. Phys. Lett., **2003**, 83(1), 183.

"Efficient Green Light-Emitting Diodes from A Silole-Containing Copolymer", M. S. Liu, J. Luo and A. K-Y. Jen, Chem. Mater., **2003**, 15, 3496.

"Self-Assembled Monolayer of Aromatic Thiols Stabilized by Parallel-Displaced p-p Stacking Interactions", R. F. Dou, X-C. Ma, H. L. Yip, K-Y. Wong, W. M. Lau, W. S. Yang, J. F. Jia, Q. K. Xue, H. Ma, A. K-Y Jen, and Langmuir, **2006**, 22(7), 3049.

"Assembly of Gold Nanoparticles Using Genetically Engineered Polypeptides", M. Zin, H. Ma, M. Sarikaya, A. K-Y. Jen, Small, **2005**, 1(7), 698.

"Technological Brighten Horizen for Organic Nonlinear Optics", N. Peyghambarian, L. R. Dalton, A. K-Y. Jen, B. Kippelen, S. R. Marder, R. A. Norwood, and J. W. Perry, Laser Focus World, 2006, 43, 85.

"Light Detection and Electro-optic Tuning in Slotted Waveguides", T Baehr-Jones, M. Hochberg, G. Wang, R. Lawson, Y. Liao, P. A Sullivan, C. Walker, L. Dalton, A. K.-Y. Jen, A. Scherer, Optics Express, **2005**, 13, 5216.

"Organic Electro-optic Modulator Using Transparent Conducting Oxide as Electrode", G. Xu, Z. Liu, J. Ma, B. Liu, S-T. Ho, L. Wang, P. Zhu, T. J. Marks, J. D. Luo, and A. K-Y. Jen, Optics Express, **2005**, 13(19), 7380.

"Pyrroline Chromophores for Electro-Optics", S. H. Jang, J. D. Luo, N. M. Tucker, A. Leclercq, E. Zojer, M. A. Haller, T. D. Kim, J. W. Kang, K. Firestone, D. Bale, D. Lao, J. B. Benedict, D. Cohen, W. Kaminsky, B. Kahr, J-L. Brédas, P. Reid, L. R. Dalton, and A. K.-Y. Jen, Chem. Mater., **2006**, 18(13), 2982.

"Facile Synthesis of Highly Efficient Phenyltetraene-Based Nonlinear Optical Chromophores for Electro-Optics", J. D. Luo, Y.-J. Cheng, T.-D. Kim, S. Hau, S. H. Jang, Z. Shi, and A. K-Y. Jen, Org. Lett., **2006**, 8(7), 1387.

"High Sensitivity Transmission IR Spectroscopy for the Chemical Identification and Structural Analysis of Conjugated Molecules on GaAs", D. Krapchetov, H. Ma, A. K-Y. Jen, Y-L. Loo, Langmuir, **2006**, 22, 9491.

"Two-photon Absorption in Quadrupolar Bis(Acceptor)-terminated Chromophores with Electron-rich Bis(heterocycle)vinylene Bridges", S. Zheng, A. Leclercq, J. Fu, L. Beverina, L. A. Padilha, E. Zojer, K. Schmidt, S. Barlow, J. Luo, A. K-Y. Jen, Y. Yu, Z. Shuai, E. W. Van Stryland, D. J. Hagan, J-L. Brédas, and S. R. Marder, Chem. Mater., **2007**, 19(3), 432.

"Synthesis and Characterization of Hole-transporting Materials Using Styrene as an Efficient Thermally Crosslinkable Group for Light-Emitting Devices", Y. J. Cheng, M. S. Liu, Y. H. Niu, F. Huang, H. L. Yip, Y. Q. Tian, and A. K-Y. Jen, Chem. Mater. **2008**, 20, 413.

"An atomic force microcopy study of the mechanical and electrical properties of monolayer films of molecules with aromatic end groups", L. Fang, J. Y. Park, H. Ma, A. K-Y. Jen, and M. Salmeron, Langmuir, **2007**, 23, 11522.

"Phenyltetraene-Based Nonlinear Optical Chromophores with Enhanced Chemical Stability and Electro-Optic Activity", J. D. Luo, S. Huang, Y. J. Cheng, T. D. Kim, Z. W. Shi, X. H. Zhou, and A. K-Y. Jen, Org. Lett., **2007**, 9(22), 4471.

"Facile Synthesis of Thiolated Phenyltetraene-based Nonlinear Optical Chromophore Leading to Large Hyperpolarizability, E-O Activity and Improved Photochemical Stability", Y. J. Cheng, J. D. Luo, S. Huang, T.-D. Kim, D. H. Bale, S. H. Jang, X. H. Zhou, Z. Shi, Y. Tian, P. J. Reid, L. R. Dalton and A. K-Y. Jen, Chem. Mater., **2008**, 20, 5047.

"Nonlinear Optical Polymer-Clad Silicon Slot Waveguide with a Half Wave Voltage of 0.25V", T. Baehr-Jones, J. Huang, P. Sullivan, J. Takayesu, J. Luo, T. D. Kim, M. Hochberg, L. R. Dalton, A. K-Y. Jen, and A. Scherer, Appl. Phys. Lett., **2008**, 12, 163303.

"Polarization Selective Electro-optic Polymer Waveguide Devices by Direct Electron Beam Writing", H. Sun, A. Chen, B. C. Olbricht, J. A. Davies, P. A. Sullivan, Y. Liao, Z. W. Shi, J. Luo, A. K-Y. Jen, and L. R. Dalton, Optics Express, **2008**, 16(12), 8472.

Core Faculty (/people/faculty)

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