



CHRISTENSEN | O'CONNOR
JOHNSON | KINDNESS



Nathan K. Cernetic, Ph.D.

Patent Agent

nathan.cernetic@cojk.com
direct: 206.695.1609

Professional Overview

Nathan Cernetic is a registered patent agent focusing his practice on the preparation and prosecution of patent applications in a broad range of technology areas, including electrical, mechanical, chemical, optics, materials science, and computer software fields.

Nathan holds a Ph.D. in materials science and engineering from the University of Washington. During graduate school, Nathan was a member of the self-assembly and nanomaterials thrust of the Jen Research Group. His doctoral research explored the design and application of multifunctional self-assembled monolayers for organic microelectronic devices. In particular, Nathan's research focused on the development, fabrication, and characterization of organic electronic devices with monolayer thick component layers, including self-assembled monolayer field-effect transistors, solution processed hybrid dielectrics, and graphene-based transistors. During graduate school, Nathan co-authored over ten peer-reviewed scientific journal publications, including four first author publications.

Education

- Ph.D., Materials Science and Engineering, University of Washington, 2016
- B.S., Materials Science and Engineering, Arizona State University, 2010
- Intensive Japanese Language Program, Waseda University, 2008

Professional Experience



- Christensen O'Connor Johnson Kindness^{PLLC}
Seattle, WA, 2017 – present
- Blakely Sokoloff Taylor & Zafman LLP
Seattle, WA, 2016 – 2017
- AMPACC Law Group, PLLC
Technical Advisor, Mountlake Terrace, WA, 2015

Technical Experience

- Professor Alex Jen Research Group
University of Washington, 2010 – 2016
- Professor Nathan Newman Research Group
Arizona State University, 2008 – 2010

Presentations & Publications

Publications

- "Doping Versatile n-Type Organic Semiconductors via Room Temperature Solution-Processable Anionic Dopants," *American Chemical Society Applied Materials & Interfaces*, Vol. 9, Issue 1, pp. 1136-1144, 2016, Chueh, CC., Li, CZ., Ding, Z.L., Cernetic, N., Li, X., and Jen, A. K.-Y.
- "Multifunctional Self-Assembled Monolayers for Organic Field-Effect Transistors," University of Washington, Thesis, 2016, Cernetic, N.
- "PCBM-doped electro-optic materials: investigation of dielectric, optical and electro-optic properties for highly efficient poling," *Journal of Materials Chemistry C*, Vol. 4, Issue 43, pp. 10286-10292, 2016, Wu, J., Luo, J., Cernetic, N., Chen, K., Chiang, KS., and Jen, A. K.-Y.
- "Enhanced Performance of Self-Assembled Monolayer Field-Effect Transistors with Top-Contact Geometry through Molecular Tailoring, Heated Assembly, and Thermal Annealing," *Advanced Functional Materials*, Vol. 25, Issue 33, pp. 5376-5383, 2015, Cernetic, N., Weidner, T., Baio, J.E., Lu, H., Ma, H., and Jen, A. K.-Y.
- "Influence of self-assembled monolayer binding group on graphene transistors," *Applied Physics Letter*, Vol. 106, Issue 2, 2015, Cernetic, N., Hutchins, D.O., Ma, H., and Jen, A. K.-Y.
- "Low operational voltage and high performance organic field effect memory transistor with solution processed graphene oxide charge storage media," *Organic Electronics*, Vol. 15, Issue 11, pp. 2775-2782, 2014, Kim, TW., Cernetic, N., Gao, Y., Bae, S., Lee, S., Ma, H., Chen, H., and Jen, A. K.-Y.



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- "Photo-induced denitrogenation of triazoline moieties for efficient photo-assisted poling of electro-optic polymers," *Polymer Chemistry*, Vol. 4, Issue 16, pp.4434-4441, 2013, Li, M., Jin, Z., Cernetic, N., Luo, J., Cui, Z., and Jen, A. K.-Y.
- "Effect of self-assembled monolayer structural order, surface homogeneity and surface energy on pentacene morphology and thin film transistor device performance," *Journal of Materials Chemistry C*, Vol. 1, Issue 1, pp. 101-113, 2013, Hutchins, D.O., Weidner, T., Biao, J.E., Polishak, B., Acton, O., Cernetic, N., Ma, H., and Jen, A. K.-Y.
- "Bottom-contact small molecule n-type organic field effect transistors achieved via simultaneous modification of electrode and dielectric surfaces," *Organic Electronics*, Vol. 13, Issue 12, pp. 3226-3233, 2012, Cernetic, N., Acton, O., Weidner, T., Hutchins, D.O., Baio, J.E., Ma, H., and Jen, A. K.-Y.
- "Solid-state densification of spun cast self-assembled monolayers for use in ultra-thin hybrid dielectrics," *Applied Surface Science*, Vol. 261, pp. 908-915, 2012, Hutchins, D.O., Acton, O., Weidner, T., Cernetic, N., Baio, J.E., Castner, D.G., Ma, H., and Jen, A. K.-Y.
- "Multifunctional phosphonic acid self-assembled monolayers on metal oxides as dielectrics, interface modification layers and semiconductors for low-voltage high-performance organic field-effect transistors," *Physical Chemistry Chemical Physics*, Vol. 14, Issue 41, pp. 14110-14126, 2012, Ma, H., Acton, O., Hutchins, D.O., Cernetic, N., and Jen, A. K.-Y.
- "Spin cast self-assembled monolayer field effect transistors," *Organic Electronics*, Vol. 13, Issue 3, pp. 464-468, 2012, Hutchins, D.O., Acton, O., Weidner, T., Cernetic, N., Baio, J.E., Ting, G., Castner, D.G., Ma, H., and Jen, A. K.-Y.
- "Influence of surface topography on in situ reflection electron energy loss spectroscopy plasmon spectra of AlN, GaN, and InN semiconductors," *Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films*, Vol. 29, Issue 4, pp. 1899-1902, 2011, Strawbridge, B., Cernetic, N., Chapley, J., Singh, R.K., Mahajan, S., and Newman, N.
- "Spin Cast and Patterned Organophosphonate Self-Assembled Monolayer Dielectrics on Metal-Oxide-Activated Si," *Advanced Materials*, Vol. 23, Issue 16, pp. 1899-1902, 2011, Acton, O., Hutchins, D.O., Árnadóttir, L., Weidner, T., Cernetic, N., Ting, G.G., Kim, T.-W., Castner, D.G., Ma, H., and Jen, A. K.-Y.