

## Garó Khanarian



Principle Research Scientist at Dow Chemical (Electronic Materials)  
Chemicals

<http://www.directoryinventor.com/profile/view/oOVzYRgr>

## Experience

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### Principal Research Scientist and Technical Leader, Dow Electronic Materials

#### Dow Electronic Materials

10,001+ employees; Public Company; Chemicals  
2009 - Present

Initiate and recommend several programs in alternate transparent conductors Technical leader of 10 person team to develop transparent conductor materials for display touch screens using silver nanowires, graphene, electrospinning metal wires, printing wire grids, roll to roll coating Joint development agreements with major display companies in U.S. and Korea Researched new optical and electrical models to predict and guide synthesis effort of nanowires Explored chemical vapor deposition and exfoliation routes to transparent graphene conductors Principal investigator for U. Berkeley-Dow program on low temperature metal oxides for solar cells Patented solar waveguide concentrator to increase efficiency and lower cost

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### Research Associate and Program Manager, Rohm and Haas Electronic Materials/Corporate Development

#### Rohm and Haas / England

Public Company; Chemicals  
June 1998 - March 2009

Developed and patented several high refractive index silicones for light emitting diodes in collaboration with Department of Energy Invented and hermetically sealed smallest silicon packages for semiconductor lasers in collaboration with acquired startup company; licensed to Samsung Managed 3 person effort to synthesize thick photoresists for electroplating ball grid arrays for advanced packaging; resulted in \$1 MM sales/year Developed novel photoimageable polymer optical waveguides LightLink(TM) for interconnects Technical/Business assessment of startup company acquisition

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### Research Associate and Project Leader

#### Hoechst Celanese

Chemicals  
1984 - 1998

Developed and commercialized optical grades of cyclic olefin copolymer TopasTM; sales of \$20 MM/year Invented polyesters using green chemistry for optical applications; licensed to DuPont Characterized and patented Polymer Dispersed Nano Liquid Crystals (PDLC) First to demonstrate nonlinear optical second harmonic generation in polymer waveguides with DARPA award; cited more than 100 times Pioneer of non linear optical polymers for photonic applications and integrated optics

## Senior Development Engineer

Corning Incorporated

Public Company; Glass, Ceramics & Concrete

1983 - 1984

Developed fast UV curable coatings on draw towers for manufacture of fiber optics

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## Postdoctoral Fellow

Polymer Science and Engineering Research Center, Univ.of Massachusetts, Amherst, MA

Education Management

1983 - 1984

light scattering, liquid crystal polymers

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## Postdoctoral Fellow

Bell Labs Lucent Technologies

10,001+ employees; Public Company; Telecommunications

1980 - 1982

Kerr effect, light scattering, non linear dielectric properties of polymers

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## Education

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University of Sydney

Physical Chemistry

1976 - 1980

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University of New South Wales

Physics

1971 - 1975

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## Patents (33)

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**Phenoxyphenyl polysiloxane composition and method for making and using same**

Kathleen A Auld, David M Conner, Garo Khanarian, David Wayne Mosley

January 28, 2014: 08637627

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**Curable liquid composite light emitting diode encapsulant**

Weijun Zhou, Binghe Gu, John W Lyons, Allen S Bulick, Garo Khanarian, Paul J Popa, John R Ell

June 4, 2013: 08455607

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**Light emitting diode manufacturing method**

John W Lyons, Binghe Gu, Allen S Bulick, Weijun Zhou, Paul J Popa, Garo Khanarian, John R Ell

May 28, 2013: 08450445

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## **Method of making light emitting diodes**

Paul Joseph Popa, Garo Khanarian, Weijun Zhou, John R Ell  
September 4, 2012: 08257988

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## **High refractive index curable liquid light emitting diode encapsulant formulation**

Garo Khanarian, Paul Joseph Popa, John Ell, Weijun Zhou  
September 4, 2012: 08258636

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## **Heat stable aryl polysiloxane compositions (2 worldwide citation)**

Garo Khanarian, David Wayne Mosley  
March 27, 2012: 08142895

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## **Micro-optical device and method of making same**

Garo Khanarian, Margaret M Pafford, David Sherrer  
November 1, 2011: 08050526

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## **Aryl (thio)ether aryl polysiloxane composition and methods for making and using same (1 worldwide citation)**

David Wayne Mosley, Garo Khanarian  
October 4, 2011: 08029904

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## **Thin film photovoltaic cell**

Garo Khanarian, Nicola Pugliano, Charles R Szmanda, Jae Hyung Yi  
September 29, 2011: 20110232758-A1

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## **Patterned light extraction sheet and method of making same (5 worldwide citation)**

Garo Khanarian  
June 7, 2011: 07955531

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[View all \(33\)](#)