

# Alan J. Heeger

## Curriculum Vitae

### Address:

Institute for Polymers & Organic Solids  
University of California  
Santa Barbara, CA 93106-5090

### Personal Data:

Born: January 22, 1936, Sioux City, Iowa  
Marital Status: Married, two children  
Residence: Santa Barbara, CA

### Education:

1957 B.S. with High Distinction, University of Nebraska  
1961 Ph.D., University of California at Berkeley

### Professional Appointments:

1962-1964 Assistant Professor, University of Pennsylvania  
1964-1967 Associate Professor, University of Pennsylvania  
1967-1982 Professor, University of Pennsylvania  
1968-1969 Visiting Professor of Physics, University of Geneva  
1974-1981 Director, Laboratory for Research on the Structure of Matter,  
University of Pennsylvania  
1981-1982 Acting Vice-Provost for Research, University of Pennsylvania  
1982- Professor of Physics, University of California at Santa Barbara  
1982-1999 Director, Institute for Polymers and Organic Solids, University of California at  
Santa Barbara  
1987- Professor of Materials (Engineering), University of California at Santa Barbara  
1988- Adjunct Professor of Physics, University of Utah  
1990-1994 Founder and President, UNIAX Corporation  
1994- Chief Scientist, Chairman of the Board, UNIAX Corporation

### Honors:

1963-1965 Alfred P. Sloan Foundation Fellow  
1968-1969 John Simon Guggenheim Foundation Fellow  
1968 American Physical Society Fellow  
1983 Oliver E. Buckley Prize for Condensed Matter Physics  
1989 John Scott Award for 1989  
1992 Doctor of Science (h.c.), Université d'Etat a Mons, Belgium  
1995 Balzan Prize, "Science of New Materials", Bern, Switzerland  
1996 Doctor of Technology (h.c.), University of Linköping, Sweden

1996	Doctor of Technology (h.c.), Abo Akademi University, Finland
1999	Doctor of Humane Letters (h.c.), University of Massachusetts at Lowell
1999	Doctor of Science (h.c.), University of Nebraska
2000	Nobel Prize in Chemistry
2000	Institute of Physics Fellow, UK
2001	Doctor of Science (h.c.) Japan Advanced Institute for Science and Technology
2001	Doctor of Science (h.c.) South China Institute of Science and Technology
2001	National Academy of Sciences (USA)
2001	President's Medal for Distinguished Achievement, University of Pennsylvania
2001	Chancellor's Medal, University of California at Santa Barbara
2001	Korean Academy of Science (Foreign Member)
2002	National Academy of Engineering (USA)
2001	Doctor of Philosophy (h.c.) Bar-Ilan University, Israel
2001	Presidential Chair, University of California at Santa Barbara
2005	Doctor of Science (h.c.) Trinity College, Dublin
2005	Albert Einstein Honorary Chair Professor, Chinese Academy of Sciences

#### Current Research Interests:

Professor Heeger and his colleagues at the University of California at Santa Barbara have done pioneering research in the area of highly conductive polymer solids. They continue to be dedicated to science and to the creation of technology built upon that science. Their current mission is to utilize the discovery (in the early 1990s) of ultrafast photoinduced electron transfer from semiconducting polymers to fullerenes to create a new generation of low cost solar cells. This technology is now under active development toward commercialization. They are optimistic that the public will see large-scale implementation of solar energy using the polymer solar cells within the next five years. When this happens, it will have the potential for serious impact on the energy needs of our planet.

#### Patents Issued:

<b>Patent</b>	<b>Issued</b>	<b>Title</b>
1,341,107*	10/03/00	Self-Doped Polymers
6,208,006 B1	03/27/01	Thin Film Spatial Filters
	**	Increased Mobility From Organic Semiconducting Polymers Field-Effect Transistors
	**	Bilayer High Dielectric Constant Gate Insulator
	**	Reagentless, Reusable, Bioelectronic Detectors and Their Use as Authentication Devices
	**	Water/Methanol Soluble Conjugated Copolymer as an Electron-Transport Layer in Polymer Light Emitting Diodes
	**	White ElectroPhosphorescence From Semiconducting Polymer Blends
	**	New Architecture For High Efficiency Polymer Photovoltaic Cells Using Solution-Based Titanium Oxide as an Optical Spacer
	**	Multilayer White Light Emitting Polymerlight-Emitting Diodes for Solid State Lighting Applications

<b>Patent</b>	<b>Issued</b>	<b>Title</b>
	**	Multilayer Polymer Light-Emitting Diodes For Solid State Lighting Applications
	**	Injection Laser Fabricated From Semi-Conducting Polymers
6,761,999	07/13/04	Nondegenerate Four-Wave Mixing Using Photoinduced Charge-Transfer Material
6,878,974 B2	04/12/05	Visible Light Emitting Diodes Fabricated From Soluble Semiconducting Polymers

\*Canadian-issued patent

\*\*Patents are in the process of being fully issued.

Selected Publications:

Professor Heeger has over 745 publications.