Curriculum Vitae (May 11, 2016)

Prof.dr. Albert Polman
Scientific Group Leader
Program Leader, FOM Focus Group Light Management in New Photovoltaic Materials
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Personal details
Date of birth: April 21, 1961
Place of birth: Groningen, The Netherlands
Nationality: Dutch

Scientific education

1989	PhD Thesis: *Beam-induced phase transformations in silicon* (Utrecht University, advisors: F.W. Saris and W.C. Sinke)
1985	MSc Physics, Utrecht University (The Netherlands)
1981	BSc Physics, Utrecht University (The Netherlands)

Past positions

2006-2013	Director, FOM Institute AMOLF
2005	Head, Center for Nanophotonics, FOM Institute AMOLF
2003-2004	Visiting associate, California Institute of Technology, USA (*sabbatical leave*)
1999-2004	Department Head, FOM Institute AMOLF
1996-2011	Professor of Nanophotonics, University of Utrecht
1996-present	Tenured scientific group leader, FOM Institute AMOLF
1991-1996	Scientific project leader, FOM Institute AMOLF
1989-1991	Post-doctoral staff researcher, AT&T Bell Laboratories (Murray Hill, NJ, USA)
1985-1989	PhD researcher, FOM Institute AMOLF

Distinctions and awards

2016	ERC Advanced Investigator Grant
2014	Physica Prize, Netherlands Physical Society (NNV)
2014	Innovation and Materials Characterization Award, Materials Research Society (MRS, USA)
2014	Julius Springer Prize for Applied Physics
2012	ENI Renewable and Non-Conventional Energy Prize
2010	ERC Advanced Investigator Grant
2010	Fellow, Materials Research Society (MRS, USA)
2009	Member, Royal Netherlands Academy of Arts and Sciences (KNAW)
2008	Honorary Member, International Committee Ion Beam Modification of Materials (IBMM) conference
2007	Member, Royal Dutch Society of Sciences (Koninklijke Hollandse Maatschappij der Wetenschappen)

Publications, patents and presentations
>290 publications in refereed international journals; > 21.000 citations; H-index: 77. Mean normalized citation Impact: 7.08 times world average (CWTS, 2014). Polman is co-inventor on 11 patent applications. Over 150 invited presentations at international conferences, of which many as plenary or keynote speaker.

PhDs, postdocs, undergraduate students supervised, prizes
Total supervised: 25 PhD students, 14 postdocs, 25 undergraduate students. Two PhD titles were awarded *cum laude*. Awarded prizes: Else Kooij prize for the best PhD thesis in micro-electronics/optics (G.N. van den Hoven, 1996); FOM thesis award for the best PhD thesis in physics (E. Verhagen, 2010), Shell award for the best master thesis in physics (J. van de Groep, 2011); FOM prize for best PhD thesis application chapter (E. Verhagen, 2010; E.J.R. Vesseur, 2012); Solar thesis award for the best PhD thesis in solar energy (M.C. van Lare, 2014).

Memberships/program directorships (selection)

2014-present	Chair, Awards committee, Materials Research Society (MRS)
2014-present	Member, Royal Netherlands Academy of Arts and Sciences (KNAW) new member selection jury
2014-present	Chair, FOM Materials Science Advisory Committee, NWA Materials route
2010-present	Member, Executive Board National Nano-initiative NanoNextNL (125 M€ national program)

2010-present Member, Young Energy Scientists Advisory Board of FOM
2004-present Member, Program Committee FOM-Shell/Helianthos Industrial Partnership Program *Third generation solar cells*
2015-2016 Member, Scientific Advisory Council Advanced Research Center for Nanolithography
2014-2015 Member, Program Committee, NanoCity National nanoscience and technology conference
2014-2015 Member, FOM Committee Evaluation Industrial Partnership Programs
2014 Co-chair, Workshop Electron Beam Spectroscopy for Nanophotonics, Amsterdam, June 2-4, 2014.
2013-2014 Member, KNAW committee National policy for use of intellectual property
2008-2012 Member, Steering Committee Physics@FOM Veldhoven, yearly national physics conference
2004-2013 Member, Steering Committee FOM-Philips Industrial Partnership Program *Improved solid state light sources*
2005-2008 Chair/Member, Nanophysics and Technology Advisory Board of FOM
2004-2005 Member, Board of Directors, Materials Research Society (Pittsburgh)
2002-2010 Program director, Flagship *Nanophotonics*, Dutch Nanotechnology Program NANONED
1999-2008 Program director, National FOM research program *Photon physics in optical materials*
1998-2008 Secretary/Member, International Committee, Ion Beam Modification of Materials conference

Journal editorships

2014-present Member, Board of Reviewing Editors, Science (AAAS)
2014-present Member, Editorial Advisory Board ACS Photonics (American Chemical Society)
2014-present Member, Editorial Advisory Board Applied Physics Reviews (American Physical Society)
2012-present Member, Editorial Advisory Board Advanced Optical Materials (Wiley)
2007-present Member, Editorial Advisory Board Nano Letters (American Chemical Society)
2000-2006 Member, Advisory Editorial Board of Physica B (Elsevier)
2000 Volume Organizer (co-editor), MRS Bulletin

Industrial collaborations (leading to joint publications/patents/startup)

2013-present ASML: roadmap for nanolithography for photovoltaics
2012-present Delmic: development of cathodoluminescence microscopy
2005-present Philips Research: microphotonic light sources, soft nano-imprint lithography
2005-present FEI Company: focused ion beam nanofabrication, cathodoluminescence
1999-2001 Symmorphix: planar optical amplifiers
1996-2000 AKZO-Nobel: polymer optical amplifiers
1995-2002 ST Microelectronics: silicon-based light sources
1991-1994 PTT/KPN: optical doping, planar optical amplifiers
1989-1991 AT&T Bell Laboratories: optical doping, integrated optics

Polman is cofounder, shareholder and advisor of the start-up company Delmic BV.

Conference Organisation

2014 Co-chair, Symposium *Electron beam spectroscopy for nanophotonics* (Amsterdam)
2012 Co-chair, Symposium *Optical nanostructures and advanced materials for photovoltaics*, Optical Society of America Conference (Eindhoven)
2006 Chair, First Gordon Research Conference *Plasmonics - optics at the nanoscale* (Keene, NH, USA)
2004 Co-organizer, Symposium *Nanophotonic materials*, European MRS (Strasbourg)
2003 Co-chair, MRS Spring Meeting (San Francisco, USA)
1998 Chairman, 11th International Conference on Ion Beam Modification of Materials (Amsterdam)
1997 Co-organiser, Symposium *Materials and devices for Si based opto-electronics*, MRS Spring Meeting (San Francisco, 1997)
1996 Co-organiser, Symposium *Rare earth doped semiconductors II*, MRS Spring Meeting (San Francisco, 1996)
1994 Co-organiser, Symposium *Film synthesis and growth using energetic beams*, MRS Fall Meeting (Boston, 1994)

Recent key publications

1. *Photovoltaic materials: record efficiencies and future challenges*
   A. Polman, E.C. Garnett, B. Ehrler, M.W. Knight, and W.C. Sinke, Science **352**, 207 (2016)
2. *Nanophotonics: shrinking light-based technology,* A.F. Koenderink, A. Alù, and A. Polman, Science **348**, 516 (2015)
3. *Plasmoelectric potentials in metal nanostructures*, M.T. Sheldon, J. van de Groep, A.M. Brown, A. Polman and H.A. Atwater, Science **346**, 828 (2014)
4. *Experimental realization of an epsilon-near-zero metamaterial at visible wavelengths*, R. Maas, J. Parsons, N. Engheta and A. Polman, Nature Photon. **7**, 907 (2013)
5. *Deep-subwavelength imaging of the modal dispersion of light*
   R. Sapienza, T. Coenen, J. Renger, M. Kuttge, N.F. van Hulst, and A. Polman, Nature Mater. **11,** 781 (2012)