

FORSCHUNGSPROFIL

Prof. Dr. Christoph Josef BRABEC

Born on 07.09.1966 in Linz, AT

i-MEET (WW6) / Werkstoffwissenschaften
Martensstrasse 7
D-91058 Erlangen



tel: +49 9131 85-25426
email: christoph.brabec@ww.uni-erlangen.de
Homepage: <http://www.i-meet.ww.uni-erlangen.de/>

ACADEMIC EDUCATION (UNIVERSITÄTSAUSBILDUNG UND WISSENSCHAFTLICHE ABSCHLÜSSE)

- 1985 - 1992: Study of Physics at the Kepler University Linz, Austria with sponson for Dipl.-Ing in physics on the theory of high temperature superconductors under the supervision of Prof. Dr. Wilhelm Macke and Doz. Dr. Ulf Klein.
- 1992 - 1995: PhD study at the Kepler University of Linz, Austria with promotion for Doctor of Science in physics under supervision of Prof. Hermann Janeschitz-Kriegl and Doz. Dr. Alois Schausberger on "rheoloical characterization of polymer blends".
- 1996: Sabbatical at the Institute for Polymers & Organic Solids at the University of California, Santa Barbara (Prof. Alan J. HEEGER, Nobel laureate 2000)
- 2003: Habilitation for the academic title of "docent" at the Kepler University Linz on the topic of plastic solar cells

PROFESSIONAL DEVELOPMENT (BERUFLICHER WERDEGANG)

- 1995 -1998: Appointment to the position of an assistant professor at the Kepler University of Linz, Austria, with specialization in the rheological, optical, electrical and magnetic characterization of polymers.
- 1996: Sabbatical at the Institute for Polymers & Organic Solids at the University of California, Santa Barbara (Prof. Alan J. HEEGER, Nobel laureate 2000 for Chemistry)
- 1998 - 2001: Principal Investigator (PI) at the CD Laboratory for Plastic Solar Cells, Linz, Austria
- 2001 - 2004 Principal research scientist & project leader at Siemens Corporate Technology, Department Microsystems and Materials, Erlangen, Germany

2004 - 2009:	Various positions at Konarka Technologies after a successful outsourcing of the organic photovoltaics activities from Siemens
08/2004:	Appointment to the Director of OPV at Konarka Technologies, Lowell, USA
2005:	Appointment to the CEO for Konarka Austria and Konarka Nuremberg
04/2006	Appointment to the CTO and Vice President at Konarka Technologies, Lowell, USA
2009 - ongoing	W3 Professor at FAU University Erlangen-Nuremberg (Institute Materials for Electronics and Energy Technology – I.MEET)
2009	Appointment to the scientific director of the ZAE Bayern, Erlangen
2009	Appointment as Executive Board Member of the ZAE Bayern
2010	Appointment as Board Member of the Energy Campus Nürnberg eV (EnCN eV)

RESEARCH FOCUS (FORSCHUNGSSCHWERPUNKTE)

- Research and development on organic and hybrid semiconductors, with a strong focus on the photophysics and transport properties of disordered semiconductors.
- Development and investigation of organic and/or printed solar cells, with a strong focus on the development of novel materials, investigation of microstructure & morphology formation in organic semiconductor composites and on the fundamentals of thin film solar cells.
- Development of low cost production technologies for semiconductor devices, with a strong focus on printing and coating technologies.
- Development of optoelectronic devices for renewable energy applications like (i) 3rd generation solar cell technologies (ii) lighting and (iii) light management.
- Development and application of non-destructive imaging methods for optoelectronic devices, like EL or IR imaging.

ACADEMIC ACHIEVEMENTS (BESONDERE LEISTUNGEN IN ACADEMIA / WISS. GEMEINSCHAFT)

2005:	“Inventor of the year” with the highest number of patents in the field of organic PV
2007	Rated among the top ten cited researchers in the field of organic electronics / solar cells
2010	Member of the Advisory Board of Progress in Photovoltaics – Published by Wiley VCH
2009	Chairman of the Board and Founding Member of Advanced Energy Materials – published by Wiley- VCH

- 2010 Member of the Advisory Board and Founding Member of the Journal of Photonics for Energy – published by SPIE
- 2011 **Ranked as #12 among the top 100 material scientists for the last decade (by ISI Thompson)**
- 2011 Member of the Editorial Board of the Journal Emerging Materials Science

ONGOING PUBLIC GRANTS (LAUFENDE FORSCHUNGSFÖRDERUNG)

- Project partner (via ZAE) in 2 BMU (Helios, PV-IR-EL) and 1 BMBF projects (EOS)
- 2 DFG projects (via i-MEET): DFG - BR 4031/1-1 & DFG - BR 4031/2-1
- 1 BFS project (via i-MEET): BFS - DOK-131-10
- Bayerisches Wirtschaftsministerium VIII/4b-3665a/10/7
- PI of the Erlangen Excellence Cluster “Engineering of Advanced Materials”

TRAINING OF STUDENTS (FÖRDERUNG DES WISSENSCHAFTLICHEN NACHWUCHSES)

- advised & finished Diploma-/Master-/thesis: > 10
- advised, finished PhDs: 6

PUBLICATIONS (VERÖFFENTLICHUNGEN)

- Number of refereed publications: 192
- Number of patents: 95
- Hirsch Index: 51

10 selected papers from the last 5 years:

Photophysics and Transport Physics of disordered semiconductors

(1) M. Lenes, M. Morana, C. J Brabec, P. Blom, Adv. Funct. Mat. 19, 1106, (2009)

(2) M. C. Scharber, D. Mühlbacher, M. Koppe, P. Denk, C. Waldauf, A. J. Heeger and C. J. Brabec, Adv. Mat. 8, 789 (2006)

Organic, printed solar cells:

(3) G. Dennler, M. C Scharber and C. J Brabec, Adv. Mat., 21 (13), 1323-1338 (2009)

(4) R. Gaudiana and C. J. Brabec, Nature Photonics, 2, 287 – 289 (2008)

Production & Printing technologies:

(5) C. N. Hoth, P. Schilinsky, S. A. Choulis and C. J. Brabec, Nanoletters, 8(9), 2806-2813, 2008

(6) C. N. Klepek, S. A. Choulis, P. Schilinsky and C. J. Brabec, Adv. Mat. 19, 3973–3978, 2007,

Next generation optoelectronic devices

(7) G. J. Matt, T. Fromherz, M. Bednorz, S. Zamiri, G. Goncalves, C. Lungenschmied, D. Meissner, C. J. Brabec and G. Bauer, Adv. Mat. 22 (5), 647-650 (2010)

(8) M. Lee, R.D. Eckert, K. Forberich, G. Dennler, C.J. Brabec and R. Gaudiana, Science, 324, 232-235, 2009

Imaging

(9) J. Bachmann, C. Buerhop-Lutz, C. Deibel, I. Riedel, H. Hoppe, C. J. Brabec and V. Dyakonov, Solar Energy Materials and Solar Cells 94 (4), 642-647 (2010)

(10) U. Hoyer, M Wagner, T. Swonke, J. Bachmann, R. Auer, A. Osvet and C. J. Brabec, Appl. Phys. Lett. 97 (23), 233303 (2010)