Curriculum vitae

Dr. Nikolay Houbenov

Date and place of birth	02.04.1971, Sofia, Bulgaria
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Current interests of research	Block copolypeptides, hierarchically ordered molecular structures, construction of supramolecular DNA analogues, G-quartet, conducting polymers

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Employment

2008 - present	Research scientist, *Molecular Materials Laboratory, Department of Applied Physics, Helsinki University of Technology.* Joint project “Nanosystems”- NOKIA research centre/Helsinki University of Technology
2006 - 2008	Marie Curie post-doctoral researcher- BioPolySurf, *Molecular Materials Laboratory, Department of Applied Physics, Helsinki University of Technology*
2005 -2006	Post-doctoral researcher, *Leibniz Institute of Polymer Research, Dresden, Germany*
2001 -2005	Research associate, *Leibniz Institute of Polymer Research, Dresden / Technical University of Dresden, Germany*
1997 -2001	Staff scientist, *Bulgarian Academy of Sciences, Institute of Catalysis, Sofia, Bulgaria*

Education

2001 -2005	**Ph.D. degree** in chemistry, *Technical University of Dresden, Leibniz Institute of Polymer Research, Dresden, Germany* Final grade: *magna cum laude* (first rate)

	The title of the Ph.D. thesis is "*Adsorption and grafting of polyelectrolytes at solid-liquid interfaces*".
2002 -2004	Training courses in the frame of "European Graduate College".
1991 -1997	**M.S. degree** in chemistry: joined program at *Sofia University "St. Kliment Ohridski", Bulgaria, and University of Castellon "Jaime I", Spain*

Awards and Grants

Marie Curie grant for research and training at *Helsinki University of Technology*

Skills

- elementary organic synthesis
- preparation of supramolecular complexes; bio-mimetic approaches
- radical and ionic-coordination polymerization.
- radical polymerization on the surface ("grafting from")
- preparation of grafted polymer layers *via* "grafting to" approach
- methods for characterizations of polymers (SAXS/WAXS; DSC; UV, FTIR; TEM; SEM; CD; POM)
- methods for characterization of thin polymer films (AFM; MFM; ellipsometry; contact angle; GISAXS)

AFM background:

8 years of practical experience (5 years at *Leibniz Institute of Polymer Research, Dresden, Germany,* and 3 years at *Helsinki University of Technology, Finland*).

Lecturing **AFM** in the framework of *Microscopy of Nanomaterials* course (since **2006**) and *Modern Chemistry* (since **2009**) at *Helsinki University of Technology*
Leading AFM exercises for graduate and undergraduate students

Visit *Veeco Instruments Inc.* and *Asylum Research Centre*, Santa Barbara, CA, March **2007**, for collaboration and purchasing an **AFM** device.

Operating modes: Contact mode, Tapping mode, Non-contact mode

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Languages
English (fluent), German (good), Russian (good), Bulgarian (native)