

CURRICULUM VITAE

Martin Humenik, PhD.

Chair of Biomaterials
University of Bayreuth
Prof.-Rüdiger-Bormann-Str. 1
D-95447 Bayreuth

Tel.: +49 (0)921 55 6725

Fax: +49 (0)921 55 6702

e-mail: martin.humenik@bm.uni-bayreuth.de;

Website: www.fiberlab.de

Nationality Slovakia

I. Scientific Career

Current position	Akad. Rat (Senior Researcher, permanent position) at the Chair of Biomaterials, University of Bayreuth
Mar. 2009 – June 2013	Senior research assistant, temporary position (Akad. Rat auf Zeit) at the Chair of Biomaterials, University of Bayreuth (Prof. Dr. Thomas Scheibel)
Apr. 2005 – Feb. 2009	Postdoctoral position at the Chair of Biochemistry, University Bayreuth, Germany, Group of Prof. Sprinzl. Research focus: Protein and nucleic acid modifications, synthesis of protein-DNA conjugates and their application in biochip development for bacterial RNA detection; cooperation with Siemens company;
June 2005	PhD thesis defense
Jan. 2004 – Jan. 2007	Research assistant at the Chair of Organic Chemistry, P.J. Safarik University, Slovakia
2000-2004	Diploma Thesis, Chair of Organic Chemistry, P.J. Safarik University, Slovakia;
June 2002 – Jan. 2003	Marie Currie Fellowship at the Chair of Organic Chemistry, University of Milan, Italy, Group of Prof. Russo;

II. Scientific Interests

Research Fields

- Side-specific modification of proteins and nucleic acids
- Synthesis of protein-nucleic acid conjugates
- Protein and DNA self-assembly
- Nanostructured material
- DNA and Protein immobilization on surfaces

Reviewer

Advanced Materials, Nature Comm., Journal of Materials Chemistry B, Nanoscale, Chemical Communication, Biomacromolecules, Scientific Reports, Langmuir, Organic & Biomolecular Chemistry, Advances RCS, Bioinspired, Biomimetic and Nanobiomaterials

III. Publications

1. Molina A, Scheibel T, & **Humenik M*** (2019) Nanoscale patterning of surfaces via DNA directed spider silk assembly. *Biomacromolecules* 20, 347–352.
2. **Humenik M***, Mohrand M, & Scheibel T (2018) Self-Assembly of Spider Silk-Fusion Proteins Comprising Enzymatic and Fluorescence Activity. *Bioconjug. Chem.* 29(4):898–904.
3. **Humenik M**, Lang G, & Scheibel T (2018) Silk nanofibril self-assembly versus electrospinning. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*:e1509.
4. **Humenik M**, Smith AM, Arndt S, & Scheibel T (2015) Ion and seed dependent fibril assembly of a spider core domain. *J. Struct. Biol.* 4:571-576.
5. **Humenik M*** & Scheibel T (2014) Nanomaterial Building Blocks Based on Spider Silk–Oligonucleotide Conjugates. *ACS Nano* 8(2):1342-1349.
6. **Humenik M**, Magdeburg M, & Scheibel T (2014) Influence of repeat numbers on self-assembly rates of repetitive recombinant spider silk proteins. *J. Struct. Biol.* 186:431-437.
7. **Humenik M***, Drechsler M, & Scheibel T (2014) Controlled Hierarchical Assembly of Spider Silk-DNA Chimeras into Ribbons and Raft-Like Morphologies. *Nano Lett.* 14(7):3999-4004.
8. **Humenik M**, Poehlmann C, Wang Y, & Sprinzl M (2008) Enhancement of Electrochemical Signal on Gold Electrodes by Polyvalent Esterase-Dendrimer Clusters. *Bioconjug. Chem.* 19(12):2456-2461.
9. Wang Y, Stanzel M, Gumbrecht W, **Humenik M**, & Sprinzl M (2007) Esterase 2-oligodeoxynucleotide conjugates as sensitive reporter for electrochemical detection of nucleic acid hybridization. *Biosens. Bioelectron.* 22(8):1798-1806.
10. **Humenik M**, Huang Y, Wang Y, & Sprinzl M (2007) C-terminal incorporation of bio-orthogonal azide groups into a protein and preparation of protein-oligodeoxynucleotide conjugates by Cu(I)-catalyzed cycloaddition. *ChemBioChem* 8(10):1103-1106.