

Research profile

Prof. Dr. habil. J. Barbara Nebe



1) General information

- Nebe, J. Barbara, apl. Prof. Dr. agr. habil.
- Department of Cell Biology, Rostock University Medical Center (UMR), Schillingallee 69, 18057 Rostock, +49 381-494-7771, barbara.nebe@med.uni-rostock.de
- apl. Prof. for Cell Biology
- 2 children

2) University training and degree

Animal Sciences (1985-1991), University of Rostock, Dipl.-Ing. agr., Prof. Dr. sc. med. D. Falkenhagen, diploma thesis: "Principle investigations on hollow fiber coatings with collagen I"

3) Advanced academic qualifications

- Habilitation: 2005, joint habilitation process of Faculty of Medicine and Faculty of Agricultural Science, University of Rostock, Prof. Dr. med. vet. habil. E. Mohr, Prof. Dr. med. habil. R. Schmidt, Prof. Dr. C. J. Kirkpatrick (Mainz)
- Promotion: 1995, animal physiology, University of Rostock, Prof. Dr. rer. nat. J. Rychly, Prof. Dr. sc. med. vet. W. Methling, Prof. Dr. H. Robenek (Münster), *summa cum laude*

4) Postgraduate professional career

- since 2013 Chair, Dept. of Cell Biology, Rostock University Medical Center
- 2011 apl. Professor for Cell Biology, University of Rostock
- 2010 tertio loco, W2 Plasma Medicine, University of Greifswald
- 2006-2012 Vice-chair, Dept. of Cell Biology, Rostock University Medical Center
- 1991-2006 Scientific assistant, Dept. of Clinical Research, Medical Faculty of University of Rostock

5) Other

- since 2019 Scientific Board Member PROSEC gGmbH
- 2019 Poster award: M. Grüning/ELAINE; Intelligent Materials, Kiel
- since 2017 Editorial Board Member AIMS Cell and Tissue Engineering
- since 2013 Founder member and curatorship member of the National Center for Plasma Medicine e.V.
- 2008-2013 Member of the Executive Committee of the German Society of Biomaterials (DGBM)
- 2008-2013 Steering Committee BMBF "Campus PlasmaMed"
- 2008-2013 Equal Opportunity Commissioners, University of Rostock, UMR
- 2009-2013 Best poster awards: DGBM (2x) and bone-tec
- 2002 Best lecture award: 118. NGGG
- 1996 Joachim-Jungius Price, awarded from the University of Rostock

Organization und Co-Organization of 10 international congresses:

•THERMEC'2018 Paris •THERMEC'2016 International Conference on Processing and Manufacturing of Advanced Materials, Symposium "Biomimetic Materials, Nanostructured Biomaterials & Biological Interactions", Graz •5th International Symposium Interface Biology of Implants (IBI), Rostock-Warnemünde 2015; •4th IBI, Rostock-Warnemünde 2012; •THERMEC'2013 International Conference on Processing and Manufacturing of Advanced Materials, Symposium "Biomimetic Materials, Nanostructured Biomaterials & Biological Interactions", Las Vegas; •THERMEC'2009, Symposium „Functionalized Materials for Therapeutic Applications“, Berlin; •3th IBI, Rostock-Warnemünde 2009; •E-MRS Fall Meeting, Symposium J „Surface Functionalization and activation of biomaterials“, Warschau 2006; •2^d IBI, Rostock-Warnemünde 2006; •1st IBI, Rostock-Warnemünde 2003

Reviewer

Reviewer for Wallenberg Academy Fellows 2015 Stockholm, for Volkswagen foundation, for Margarete-von-Wrangell stipendium, for Carl Zeiss foundation, for Reutlingen University for Applied Sciences

Reviewer for German Research Society DFG: (i) Collaborative Research Center SFB TRR 67, and (ii) Research Units FOR 2180 and FOR 2165

Reviewer for different Journals on request: e.g. Acta Biomaterialia, Advanced Biomaterials, Acta Polytechnica Biomaterials, Biomedical Materials, eCells and Materials, International Journal of Materials, International Journal of Nanomedicine, Int J Artif Org, Journal of Biomedical Materials Research, Part: A, Journal of the Royal Society Interface, Journal of Materials Chemistry B, J Orthop Res, Materials Science and Engineering C, Plasma Processes and Polymers, RSC Advances

Membership Professional Societies:

German Society for Biomaterials (DGBM), National Center for Plasma Medicine (NZPM)

6) Publications

Scopus (01.07.2019): h-index 29

a) *Articles with scientific quality assurance, and book publications*

- [1] Moerke C, Rebl H, Finke B, Dubs M, Nestler P, Airoudj A, Roucoules V, Schnabelrauch M, Koertge A, Anselme K, Helm CA, **Nebe** JB: Abrogated cell contact guidance on amino-functionalized micro-grooves. ACS Applied Materials & Interfaces. 2017; 9 (12): 10461–10471. doi.org/ 10.1021/acsami.6b16430
- [2] Moerke C, Mueller P, **Nebe** B: Attempted caveolae-mediated phagocytosis of surface-fixed micro-pillars by human osteoblasts. Biomaterials. 2016; 76: 102-114. doi: 10.1016/j.biomaterials.2015.10.030.
- [3] Staehlke S, Koertge A, **Nebe** B: Intracellular calcium dynamics dependent on defined microtopographical features of titanium. Biomaterials. 2015; 46: 48-57.
- [4] Kunz F, Rebl H, Quade A, Matschegewski C, Finke B, **Nebe** JB: Osteoblasts with impaired spreading capacity benefit from the positive charges of plasma polymerized allylamine. European Cells and Materials. 2015; 29: 177-189.
- [5] Rebl H, Finke B, Lange R, Weltmann KD, **Nebe** JB: Impact of plasma chemistry versus titanium surface topography on osteoblast orientation. Acta Biomaterialia. 2012; 8 (10): 3840-3851.
- [6] Matschegewski C, Staehlke S, Loeffler R, Lange R, Chai F, Kern DP, Beck U, **Nebe** JB: Cell architecture–cell function dependencies on titanium arrays with regular geometry. Biomaterials. 2010; 31 (22): 5729-5740.
- [7] **Nebe** JB, Müller L, Luethen F, Ewald A, Bergemann C, Conforto E, Müller FA: Osteoblastic adhesion and function response to biomimetically altered titanium surfaces. Acta Biomaterialia. 2008; 4 (6): 1985-1995.
- [8] Finke B, Luethen F, Schroeder K, Mueller PD, Bergemann C, Frant M, Ohl A, **Nebe** BJ: The effect of positively charged plasma polymerization on initial osteoblastic focal adhesion on titanium surfaces. Biomaterials. 2007; 28 (30): 4521-4534.
- [9] **Nebe** B, Luethen F, Lange R, Beck U: Interface interactions of osteoblasts with structured titanium surfaces and their mathematical correlation. Macromolecular Biosciences. 2007; 7 (5): 567-578.
- [10] Lüthen F, Lange R, Becker P, Rychly J, Beck U, **Nebe** JB: The influence of surface roughness of titanium on beta1- and beta3-integrin adhesion and the organization of fibronectin in human osteoblastic cells. Biomaterials. 2005; 26 (15): 2423-2440.

b) *Other Publications*

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c) *Patents, issued:*

- [1] Guthoff R, Rychly J, Beck R, **Nebe** B: New pharmaceutical applications of Mibefradil in the surgical ophthalmology. DE 199 54 788, A61K 31/4184 (2006.01)
- [2] Bergemann C, Hansmann H, Kunz F, **Nebe** B, Weissmann V, Wetzel J: JPT-3D-Cellnyzer (Cell reactor). DE 10 2010 064 098.0.

Rostock, 2019-07-01