

CURRICULUM

VITAE NAME: Gregor Neuert

OFFICE ADDRESS: Department of Molecular Physiology and Biophysics
813C Light Hall
Vanderbilt University School of Medicine
Nashville, TN 37232-0615

OFFICE PHONE #: 615-343-6404

EDUCATION:

- 1996–2001 **M. Eng.**, Department of Physics, Ilmenau University of Technology, Ilmenau, Germany, Technical Physics
- 2002–2005 **Ph.D.**, Department of Physics & Center for NanoScience (CeNS), **Ludwig Maximilians University, Munich**, Germany,
Mentor: Hermann E. Gaub
Thesis: “Single Molecule Force Spectroscopy of Molecular Machines and Receptor-Ligand”
- 2006-2012 **Postdoctoral Fellow**, Departments of Physics, Biology & the Koch Institute for Integrative Cancer Research,
Massachusetts Institute of Technology, Cambridge, MA,
Mentor: Alexander van Oudenaarden
Project “Dynamic regulation of gene expression in individual cells: A Single Molecule Approach in Systems Biology”

ACADEMIC APPOINTMENTS:

- 2012-present **Assistant Professor**, Department of Molecular Physiology and Biophysics
Vanderbilt University School of Medicine, Nashville, TN
- 2013-present Assistant Professor, Department of Biomedical Engineering
Vanderbilt University School of Engineering, Nashville, TN
- 2015-present Assistant Professor, Department of Pharmacology
Vanderbilt University School of Medicine, Nashville, TN
- 2012-present Member, Program in Systems Biology
- 2013-present Member, Vanderbilt Center for Quantitative Sciences
- 2014-present Member, Vanderbilt Center for Chemical Biology
- 2015-present Member, Vanderbilt Center Cancer Biology

Grants:

- 2006-2008 Postdoctoral Fellowship, German Science Foundation
- 2014-2019 NIH Director’s New Innovator Award

Awards:

- 1998 & 1999 Fellow, Ion Beam Laboratory, Bozeman, MT, USA
- 1999 Undergraduate Research Fellowship, Pacific Northwest National Laboratory, Richland, WA, USA
- 1997 & 2001 Fellow, Nobel Laureate Meeting, Lindau, Germany
- 2005 Mirana Conference Travel Award, Dead Sea, Israel

2006 Best Publication Award, Center for NanoScience (CeNS), Munich, Germany
2006-2008 Postdoctoral Fellowship, German Science Foundation
2014 NIH Director's New Innovator Award

PUBLICATIONS AND PRESENTATIONS:

Articles in refereed journals prior to Vanderbilt:

1. Holland, N. B., T. Hugel, **G. Neuert**, D. Oesterhelt, L. Moroder, M. Seitz and H. E. Gaub, "Single-molecule force spectroscopy of azobenzene polymers: switching elasticity of single photochromic macromolecules", **Macromolecules**, 36 (6), 2015–2023, 2003.
2. Holland, N. B., T. Hugel, **G. Neuert**, M. Seitz and H. E. Gaub, "Photoisomerization studied by atomic force microscopy based force spectrometry: optomechanical switching in polyazopeptide chain", **Microscopy and Microanalysis**, 10, 1420–1421, 2004.
3. **Neuert, G.**, S. Kufer, M. Benoit and H. E. Gaub, "Modular multichannel surface plasmon spectrometer", **Review of Scientific Instruments**, 76 (5), 054303, 1–4, 2005.
4. [#]**Neuert, G.**, C. Albrecht, E. Pamir and H. E. Gaub, "Dynamic force spectroscopy of the digoxigenin – antibody complex", **FEBS Letters**, 580 (2), 505–509, 2006.
[#]Corresponding author
5. **Neuert, G.**, T. Hugel, R. R. Netz and H. E. Gaub, "Elasticity of poly(azobenzene-peptides)", **Macromolecules**, 39 (2), 789–797, 2006.
6. **Neuert, G.**, C. Albrecht and H. E. Gaub, "Predicting the rupture probabilities of molecular bonds in series", **Biophysical Journal**, 93 (4), 1215–1223, 2007.
7. Albrecht, C., **G. Neuert** and H. E. Gaub, "Molecular force balance measurements reveal that double-stranded DNA unbinds under force in rate-dependent pathways", **Biophysical Journal**, 94 (12), 4766–4774, 2008.
8. Zimmermann, J. L., Th. Nicolaus, **G. Neuert** and K. Blank, "Thiol-based, site-specific and covalent immobilization of biomolecules for single-molecule experiments", **Nature Protocols**, 5 (6), 975-985, 2010.
9. ^{*}Bumgarner, S. L., ^{*}**G. Neuert**, B. F. Voight, A. Symbor-Nagrabska, P. Grisafi, A. van Oudenaarden and G. R. Fink, "Single-cell analyses reveal that noncoding RNAs contribute to phenotypic heterogeneity in clonal populations by modulating transcription factor recruitment", **Molecular Cell**, 45 (4), 470-482, 2012.
^{*}Contributed equally
10. ^{**}Munsky, B., ^{**}**G. Neuert**, and A. van Oudenaarden, "Using gene expression noise to understand gene regulation", **Science**, 336 (6078), 183-187, 2012.
^{*}Contributed equally, [#]Corresponding author
11. van Werven, F.J., **G. Neuert**, N. Hendrick, A. Lardenois, A. van Oudenaarden, M. Primig and A. Amon, "Transcription of two long non-coding RNAs mediates mating type control of gametogenesis in budding yeast", **Cell**, 150 (6), 1170–1181, 2012.
12. ^{*}**Neuert, G.**, ^{*}B. Munsky, R. Z. Tan, L. Teytelman, M. Khammash, A. van Oudenaarden, "Systematic Identification of Signal-Activated Stochastic Gene Regulation", **Science**, 339 (6119), 584-587, 2013.
^{*}Contributed equally

Articles in refereed journals at Vanderbilt:

1. ^{**\$}Munsky B., ^{**\$}**G. Neuert**, "From Analog to Digital Gene Regulation", **Physical Biology**, Jun 18;12(4):045004, 2015.
^{*}Contributed equally, [#]Corresponding authors, ^{\$}Co-senior authors
2. Fox Z., **G. Neuert**, B. Munsky, "Finite State Projection Based Bounds to Compare Chemical Master Equation Models Using Single-Cell Data", *The Journal of Chemical Physics*, 145, 2016

Books, book chapters, invited review articles:

Gregor Neuert

1. **Neuert, G.** and H. E. Gaub, "Molecular machines: nano biotechnology towards silicon-carbon hybrids", 261–275, in "Materie in Raum und Zeit", H. Fritzsche, J. Hacker, H. Hopf, ISBN: 3777613754, S. Hirzel Verlag, 2005.
2. ^{*#}Munsky B., Z. Fox, ^{*#}**G. Neuert**, "Integrating Single-Molecule Experiments and Discrete Stochastic Models to Understand Heterogeneous Gene Transcription", **Methods**, Jun 12. pii: S1046-2023(15)00251-0, 2015.
^{*}Contributed equally, [#]Corresponding authors, ^{\$}Co-senior authors