Stanford

Gernot Neumayer

Senior Research Scientist, Stem Cell Bio Regenerative Med Institute

Bio

BIO

I am a passionate Senior Scientist with expertise in basic & translational research: Cancer, Epidermolysis Bullosa, DNA damage response, genome engineering (CRISPR), cell & gene therapy (iPSCs), cellular identity (transdifferentiation; iN cells), and proteomics (interactions, biomarkers, target identification). My extensive experience is reflected by 14 peer reviewed publications. I possess excellent communication and technical writing skills (English/German), as evidenced by collaborations with world renowned institutions and many scholarships, grants & awards. Recent highlights: Postdoctoral Young Investigator Award from Stanford University, “played a big part” in securing three multi-million $ grants for regenerative medicine (CRISPR/stem cell tech.), poster prize (out of 77 entries) at the Department of Pathology, Stanford University 2019 research day.

CURRENT ROLE AT STANFORD

Senior Scientist

HONORS AND AWARDS

- BSc Scholarship for Academic Achievement, University of Salzburg, Austria
- MSc awarded with highest distinction, University of Salzburg, Austria
- Achievers in Medical Science Graduate Recruitment Scholarship, Anonymous Donor via the University of Calgary, Canada
- Faculty of Graduate Studies PhD Scholarship, University of Calgary, Canada
- Travel Award for Scientific Symposium: DNA Damage-From Causes to Cures, The Biochemical Society, London, UK
- DOC-PhD Scholarship, Austrian Academy of Sciences, Vienna, Austria
- 4x Achievers in Medical Science Research Excellence Award, Anonymous Donor via the University of Calgary, Canada
- Travel Award for Gordon Research Conference: Mammalian DNA repair, Gordon Research Conferences, Ventura, USA
- Award for best poster at the 2009 HBI Conference, Hotchkiss Brain Institute, University of Calgary, Canada
- 2x Graduate Student Award, Department of Biochemistry and Molecular Biology, University of Calgary, Canada
- Award for best poster at the 2010 BMB Departmental Retreat, Department of Biochemistry and Molecular Biology, University of Calgary, Canada
- ACF Graduate Studentship, Alberta Cancer Foundation, Calgary/Edmonton, Canada

PROJECTS

- A CRISR- and iPS cell-mediated therapy for Epidermolysis Bullosa
- Defining a role for TPX2 in the nucleus: Regulation of the DNA damage response - University of Calgary
- Epigenetic-based mechanisms of DNA damage response - University of Calgary
- Revealing the protein interface between Staphylococcus aureus and Human - University of Salzburg

- Investigating the function of the SIRT1 deacetylase - University of Calgary

Professional

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, ASCINA-Austrian scientists in North America (2014 - present)

Publications

PUBLICATIONS

- **A scalable and cGMP-compatible autologous organotypic cell therapy for Dystrophic Epidermolysis Bullosa.** *Nature communications*
  Neumayer, G., Torkelson, J. L., Li, S., McCarthy, K., Zhen, H. H., Vangipuram, M., Mader, M. M., Gebeyehu, G., Jaouni, T. M., Jacków-Malinowska, J., Rami, A., Hansen, C., Guo, et al
  2024; 15 (1): 5834

- **A cell therapy approach to restore microglial Trem2 function in a mouse model of Alzheimer's disease.** *Cell stem cell*
  Yoo, Y., Neumayer, G., Shibuya, Y., Marc-Daniel Mader, M., Wernig, M.
  2023; 30 (8): 1043-1053.e6

- **Tip60-mediated H2A.Z acetylation promotes neuronal fate specification and bivalent gene activation.** *Molecular cell*
  Janas, J. A., Zhang, L., Luu, J. H., Demeter, J., Meng, L., Marro, S. G., Mall, M., Mooney, N. A., Schaukowitch, K., Ng, Y. H., Yang, N., Huang, Y., Neumayer, et al
  2022

- **Treatment of a genetic brain disease by CNS-wide microglia replacement.** *Science translational medicine*
  Shibuya, Y., Kumar, K. K., Mader, M. M., Yoo, Y., Ayala, L. A., Zhou, M., Mohr, M. A., Neumayer, G., Kumar, I., Yamamoto, R., Marcoux, P., Liou, B., Bennett, et al
  2022; 14 (636): eabl9945

- **Phosphorylation of Targeting Protein for Xenopus Kinesin-like Protein 2 (TPX2) at Threonine 72 in Spindle Assembly** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Shim, S. Y., Perez de Castro, I., Neumayer, G., Wang, J., Park, S. K., Sanada, K., Minh Dang Nguyen, M. D.
  2015; 290 (14): 9122-9134

- **TPX2 Impacts Acetylation of Histone H4 at Lysine 16: Implications for DNA Damage Response** *PLOS ONE*
  Neumayer, G., Minh Dang Nguyen, M. D.
  2014; 9 (11)

- **TPX2: of spindle assembly, DNA damage response, and cancer** *CELLULAR AND MOLECULAR LIFE SCIENCES*
  Neumayer, G., Belzil, C., Gruss, O. J., Minh Dang Nguyen, M. D.
  2014; 71 (16): 3027-3047

- **p600 regulates spindle orientation in apical neural progenitors and contributes to neurogenesis in the developing neocortex** *BIOLOGY OPEN*
  Belzil, C., Asada, N., Ishiguro, K., Nakaya, T., Parsons, K., Pendolino, V., Neumayer, G., Mapelli, M., Nakatani, Y., Sanada, K., Minh Dang Nguyen, M. D.
  2014; 3 (6): 475-485

- **A Ca2+-dependent Mechanism of Neuronal Survival Mediated by the Microtubule-associated Protein p600** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Belzil, C., Neumayer, G., Vassilev, A. P., Yap, K. L., Konishi, H., Rivest, S., Sanada, K., Ikura, M., Nakatani, Y., Minh Dang Nguyen, M. D.
  2013; 288 (34): 24452-24464

- **Targeting Protein for Xenopus Kinesin-like Protein 2 (TPX2) Regulates gamma-Histone 2AX (gamma-H2AX) Levels upon Ionizing Radiation** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Neumayer, G., Helfricht, A., Shim, S. Y., Hoa Thi Le, H. T., Lundin, C., Belzil, C., Chansard, M., Yu, Y., Lees-Miller, S. P., Gruss, O. J., van Attikum, H., Helleday, T., Minh Dang Nguyen, et al
  2012; 287 (50): 42206-42222

- **The Cytoskeletal Protein Ndel1 Regulates Dynamin 2 GTPase Activity** *PLOS ONE*
  Chansard, M., Wang, J., Hong Chi Tran, C. T., Neumayer, G., Shim, S. Y., Park, Y., Belzil, C., Hoa Thi Le, T. L., Park, S. K., Minh Dang Nguyen, D. N.
  2011; 6 (1)
- **Ndel1 controls the dynein-mediated transport of vimentin during neurite outgrowth** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Shim, S. Y., Samuels, B. A., Wang, J., Neumayer, G., Belzil, C., Ayala, R., Shi, Y., Shi, Y., Tsai, L., Nguyen, M. D.
  2008; 283 (18): 12232-12240
- **Ndel1 Promotes Axon Regeneration via Intermediate Filaments** *PLOS ONE*
  Toth, C., Shim, S. Y., Wang, J., Jiang, Y., Neumayer, G., Belzil, C., Liu, W., Martinez, J., Zochodne, D., Nguyen, M. D.
  2008; 3 (4)
- **Protein 600 is a microtubule/endoplasmic reticulum-associated protein in CNS neurons** *JOURNAL OF NEUROSCIENCE*
  Shim, S. Y., Wang, J., Asada, N., Neumayer, G., Tran, H. C., Ishiguro, K., Sanada, K., Nakatani, Y., Nguyen, M. D.
  2008; 28 (14): 3604-3614