

## **Gernot Neumayer, PhD**

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**Summary of Qualifications:** I am a passionate scientist with expertise in **basic and translational research** related to ageing, cancer, genomic instability, **DNA damage response (HDR & NHEJ)**, **genome editing (CRISPR)**, regenerative medicine (iPSCs), cellular identity (reprogramming), and proteomics (interactions, biomarkers, target identification). My **extensive experience** is reflected by **10 peer reviewed publications**. I possess **excellent communication and technical writing skills (English/German)**, as evidenced by collaborations with world renowned institutions and >\$460,000 won from scholarships, grants & awards. **Recent highlights: Postdoctoral Young Investigator Award from Stanford University** for scientific merit, commitment & leadership. “Played a big part” in **securing a CRISPR-based \$5.1M grant** for regenerative medicine at Stanford University. **Poster prize** (out of 77 entries) at the Department of Pathology, Stanford University 2019 research day.

### **Academic Education & Training**

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**Postdoctoral Research Associate** 2014 – today  
**Stanford University, USA**

*School of Medicine, Institute for Stem Cell Biology and Regenerative Medicine*

*Project: “CRISPR & iPSC-mediated therapy of Dystrophic Epidermolysis Bullosa”*

*Project: “Cellular and molecular mechanisms of transdifferentiation”*

**Postdoctoral Research Associate** 2013 – 2014  
**University of Calgary, CANADA**

*Faculty of Medicine, Department of Clinical Neurosciences*

*Project: “Epigenetic-based mechanisms of DNA damage response”*

**PhD, Biochemistry and Molecular Biology (Grade Point Average 4.0 on 4.0)** 2007 – 2013  
**University of Calgary, CANADA**

*Faculty of Medicine, Department of Biochemistry and Molecular Biology*

*Thesis: “Defining a role for TPX2 in the nucleus: Regulation of the DNA damage response”*

**BSc & MSc, Genetics, Molecular Biology and Biotechnology (with highest distinction)** 2000 – 2006  
**University of Salzburg, AUSTRIA**

*Faculty of Science; sponsored by ProComCure*

*Thesis: “Revealing the protein interface between Staphylococcus aureus and Human”*

*Major: Immunology*

### **Research Experience**

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**Research Assistant - Investigating the function of the SIRT1 deacetylase** 2006 – 2007  
**Hotchkiss Brain Institute, Calgary, CANADA**

**Intern (funded by the European Union) - Genotyping *Fraxinus* spp.** 06/2004 – 09/2004  
**Federal Institute for Forest Genetics, Vienna, AUSTRIA** 10/2003 – 11/2003

## **Special Practical Skills**

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**Biochemistry/Molecular Biology:** broad experience; e.g. (dd)PCR, WB, IF, analysis of chromatin/DNA/proteins, next-generation molecular cloning, high-throughput assays, sequence analysis, etc.;

**Cell Biology:** establishing/culturing of many cancer cell, primary cell and (induced) stem cell lines, pharmacological manipulation, transdifferentiation (induced muscles and neurons), cell cycle analysis, DNA damage response pathways, FACS, (immuno)fluorescence (confocal) microscopy, microbiological techniques, stable (virus- and CRISPR-mediated)/transient expression of proteins, RNAi, CRISPR/Cas9;

**Other:** Computer skills (database mining, MS Office, Photoshop), advanced project management, excellent communication and presentation techniques, proficient technical writing abilities (data manuscripts, grant applications, reviews, SOPs), detailed knowledge of cellular and molecular biology (biomarkers, cell cycle, DNA damage response, epigenetics, genomics, microtubule dynamics, oncology);

## **Publications (10) – total impact factor > 45**

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*in preparation* – Neumayer G, Mall M & Wernig M. FOXN3 regulates fibroblast to iN transdifferentiation.

1. Shim SY, Perez de Castro I, Neumayer G, Wang J, Park SK, Sanada K & Nguyen MD. Phosphorylation of TPX2 at threonine 72 in spindle assembly. **J Biol Chem.** (2015) Apr 3;290(14):9122-34.

2. Neumayer G & Nguyen MD. TPX2 impacts acetylation of Histone H4 at lysine 16: Implications for DNA damage response. **PLoS One.** (2014) Nov 3;9(11):e110994.

3. Neumayer G, Belzil C, Gruss OJ & Nguyen MD. TPX2: of spindle assembly, DNA damage response, and cancer. **Cell Mol Life Sci.** (2014) Aug;71(16):3027-47. – *art for journal cover adapted from article*

4. Belzil C, Asada N, Ishiguro KI, Nakaya T, Parsons K, Pendolino V, Neumayer G, Mapelli M, Nakatani Y, Sanada K & Nguyen MD. p600 regulates spindle orientation in apical neural progenitors and contributes to neurogenesis in the developing neocortex. **Biol Open.** (2014) May 8;3(6):475-85.

5. Belzil C, Neumayer G, Vassilev AP, Yap KL, Konishi H, Rivest S, Sanada K, Ikura M, Nakatani Y & Nguyen MD. A Ca<sup>2+</sup>-dependent mechanism of neuronal survival mediated by the microtubule-associated protein p600. **J Biol Chem.** (2013) Aug 23;288(34):24452-64.

6. Neumayer G, Helfricht A, Shim SY, Le HT, Lundin C, Belzil C, Chansard M, Yu Y, Lees-Miller SP, Gruss OJ, van Attikum H, Helleday T & Nguyen MD. Targeting protein for *Xenopus* kinesin-like protein 2 (TPX2) regulates  $\gamma$ -histone 2AX ( $\gamma$ -H2AX) levels upon ionizing radiation. **J Biol Chem.** (2012) Dec 7;287(50):42206-22.

7. Chansard M, Wang J, Tran HC, Neumayer G, Shim SY, Park YU, Belzil C, Le HT, Park SK & Nguyen MD. The cytoskeletal protein Ndel1 regulates dynamin 2 GTPase activity. **PLoS One.** (2011) Jan 25;6(1):e14583.

8. Shim SY, Samuels BA, Wang J, Neumayer G, Belzil C, Ayala R, Shi Y, Shi Y, Tsai LH & Nguyen MD. Ndel1 controls the dynein-mediated transport of vimentin during neurite outgrowth. **J Biol Chem.** (2008) May 2;283(18):12232-40.

9. Toth C, Shim SY, Wang J, Jiang Y, Neumayer G, Belzil C, Liu WQ, Martinez J, Zochodne D & Nguyen MD. Ndel1 promotes axon regeneration via intermediate filaments. **PLoS One.** (2008) Apr 23;3(4):e2014.

## **Publications (continued)**

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10. Shim SY, Neumayer G, et al. Protein 600 is a microtubule/endoplasmic reticulum-associated protein in CNS neurons. *J Neurosci.* (2008) Apr 2;28(14):3604-14.

## **Awards, Grants & Scholarships (total >\$460,000)**

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**DEBRA International Research Grant** 2015 – 2018  
*Dystrophic Epidermolysis Bullosa Research Association*

**Postdoctoral Young Investigator Award** 09/2016  
*Stanford University, USA*

**ACF Graduate Studentship** 08/2011 – 03/2013  
*Alberta Cancer Foundation, Calgary/Edmonton, CANADA*

**“Best Poster Award” at the 2010 BMB Departmental Retreat** 05/2010  
*Department of Biochemistry and Molecular Biology, University of Calgary, CANADA*

**2x Graduate Student Award** 03/2010  
*Department of Biochemistry and Molecular Biology, University of Calgary, CANADA* 03/2012

**“Best Poster Award” at the 2009 HBI Research Day** 04/2009  
*Hotchkiss Brain Institute, University of Calgary, CANADA*

**DOC-PhD Scholarship** 02/2009 – 02/2011  
*Austrian Academy of Sciences, Vienna, AUSTRIA*

**Achievers in Medical Science Research Excellence Award** 02/2009 – 09/2011  
*Anonymous Donor via the University of Calgary, CANADA*

**Travel Award for Scientific Symposium: DNA Damage-From Causes to Cures** 12/2008  
*The Biochemical Society, London, UK*

**Achievers in Medical Science Graduate Recruitment Scholarship** 09/2007 – 09/2008  
*Anonymous Donor via the University of Calgary, CANADA*

**BSc Scholarship for Academic Achievement** 12/2004  
*University of Salzburg, AUSTRIA*

## **Other Accomplishments**

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**Teaching:** 1 MSc student at Stanford University/EPFL (graduated with highest grade); numerous BSc/PhD students; managed numerous RAs; Instructor for StemRem200 course at Stanford University;

**Sport:** Underwater Rugby - former member of National Team (European championship 2005, World championship 1999); Climbing - featured athlete on the back cover of “Banff Rock” by Perry C, Cimitech Press 2012 (front cover features Tommy Caldwell, first ascensionist of the Dawn Wall);