

## **Judith Hagenbuchner**

### **Biographical sketch**

My main interest is regulation of cell death and metabolic activity in normal and malignant neuronal cells as well as the development of strategies to overcome therapy resistance of tumor cells. The main focus thereby lies on mitochondrial dynamics and the relationship between certain death resistance mediating oncogenes and mitochondrial respiration, reactive oxygen species, glycolysis and auto- and mitophagy. By founding the first 3D Bioprinting Laboratory in Austria we establish an important technology to develop complex, multi-cellular tissue models to reduce and replace animal experiments in life science.

### **CURRICULUM VITAE**

Medical University Innsbruck  
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ORCID: [0000-0003-1396-3407](#)

Place of Birth: Linz, Upper Austria;  
Date of Birth: 31. May 1983  
Nationality: Austria Citizenship  
Acad. Degree: Priv.Doz. Dipl.Ing(FH), Dr.rer.nat

### **Education**

Oktober 2009 Graduation at the University of Innsbruck: doctor of philosophy (Dr.rer.nat.)  
Okt. 2006-Okt. 2009 PhD thesis at the Tyrolean Cancer Research Institute and at the Department of Pediatrics I  
September 2006 Graduation at the FH Wels (Dipl.Ing)  
Jän. 2006 - Aug.2006 Master thesis at the Department of Pediatrics I of the Medical University Innsbruck  
Okt. 2002- Sep.2006 Study of bio- and environmental-technologies at the Fachhochschule Wels  
1994 - 2002 “Naturwissenschaftliches Bundesrealgymnasium“ Traun

## Career History

- Feb. 2011-present     **Senior Researcher** at the Medical University Innsbruck, Department of Pediatrics II (Group leader: *3D Bioprinting and Metabolism*)
- June 2016             **Venia Docendi (Priv.-Doz.)** in Pathophysiology at the Medical University Innsbruck
- Nov. 2009-Dec.2013   **Postdoctoral Position** at the Tyrolean Cancer Research Institute, Pediatric Oncology

## Awards

- 2018                    “**RTF OÖ Award 2018 – Young Scientist**”, Council for Research and Technology of Upper Austria
- 2014                    “**Sanofi-Preis**” Sanofi-Foundation, Vienna
- 2012                    “**Otto-Seibert Preis**” of the Medical University Innsbruck, Tyrol, Austria
- 2010                    „**PhD-Thesis Award**“ of the Österreichische Krebshilfe Krebsgesellschaft Tirol

## Teaching activities

Teaching at MUI and FH-gesundheit at all levels of education (Bacc, Master and PhD) on the topics molecular biology, gene technology, tissue engineering, 3D bioprinting and rapid prototyping. Developed and coordinates elective module “3D Bioprinting, stem cells and rapid prototyping” for master studies in Molecular Medicine, MUI together with M. Ausserlechner.

## Important achievements

Austria’s first Laboratory of 3D Bioprinting (Head together with M. Ausserlechner)  
“RTF OÖ Award 2018 – Young Scientist”, Council for Research and Technology of Upper Austria  
“Sanofi-Preis 2014” Sanofi-Foundation, Vienna

## Selected Research Grants

- 2018                    Tyrolean Science Fund Grant
- 2013                    Tyrolean Cancer Society Grant
- 2012                    MUI-START Grant
- 2007-2012            Tyrolean Cancer Society Grant

## Publications (link to all publications via <https://orcid.org/0000-0003-1396-3407>)

Author/coauthor of 19 papers with IF and 2 book chapters (> 600 citations, h-index 11)

## Most important scientific publications

1. Hagenbuchner J., Oberacher H., Arnhart K., Kiechl-Kohlendorfer U., Ausserlechner M.J. (2019) Modulation of Respiration and Mitochondrial Dynamics by SMAC-Mimetics for Combination Therapy in Chemoresistant Cancer. *Theranostics*. 2019 Jul 9;9(17):4909-4922. doi: 10.7150/thno.33758.
2. Rupp M.#, Hagenbuchner J.#, Rass B., Fiegl H., Kiechl-Kohlendorfer U., Obexer P., Ausserlechner M.J. (2017) FOXO3-mediated chemo-protection in high-stage neuroblastoma depends on wild-type TP53 and SESN3. *Oncogene*. 36(44): 6190-6203. doi: 10.1038/onc.2017.288. #contributed equally
3. Hagenbuchner J.\*, Kiechl-Kohlendorfer U., Obexer P., Ausserlechner M.J. (2016) BIRC5/Survivin as target for glycolysis inhibition in high-stage neuroblastoma. *Oncogene*, 35(16):2052-61. doi: 10.1038/onc.2015.264. \* corresponding author
4. Hagenbuchner, J.#, Rupp, M., Salvador, C., Meister, B., Kiechl-Kohlendorfer, U., Thomas Müller, T., Geiger, K., Sergi, C., Obexer, P., Ausserlechner, M.J. (2016) Nuclear FOXO3 predicts adverse clinical outcome and promotes tumorangiogenesis in neuroblastoma in vivo. *Oncotarget*, 7(47):77591-77606. doi: 10.18632/oncotarget.12728.
5. Hagenbuchner J, Kuznetsov AV, Obexer P, and Ausserlechner MJ (2013). BIRC5/Survivin enhances aerobic glycolysis and drug resistance by altered regulation of the mitochondrial fusion/fission machinery, *Oncogene*, 32(40):4748-57. doi: 10.1242/jcs.092098.
6. Hagenbuchner, J., Kuznetsov, A. V., Hermann, M., Hausott, B., Obexer, P., Ausserlechner, M. J.# (2012) FOXO3-induced reactive oxygen species are regulated by BCL2L1/Bim and SESN3. *Journal of Cell Science*. 125(Pt5): 1191-203. doi: 10.1242/jcs.092098.