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Highly experienced biomedical researcher in autophagy, tumor pathology and resistance mechanisms to cancer therapies. Accomplished researcher with continuous funding since 2006 and teacher who can motivate students to challenge their mind and constantly expand their education.

1. Current position

2015 – Present **Principal Investigator, Associate Professor**
Tumor Pathology, Division of Experimental Pathology, University of Bern, Switzerland

2. Education

2016 – 2017 CAS Research Management (15 ECTS), ZUW, University of Bern, Switzerland;
Graduation planned September 2017

2016 How to lead/chair discussions, 2-day workshop, ZUW, University of Bern, Switzerland

2013 Certificates for directing animal experiments (LTK1, 2, and 5; 12 days), University of Zürich, Switzerland

2008 Visiting Scientist, Genomics Institute of the Novartis Research Foundation (GNF, 3 months), La Jolla, California

2008 Organizing and Conducting Exams, 2-day workshop, ZUW, University of Bern, Switzerland

2005 Introductory Course for Biosafety Coordinators, 1-day meeting, Jenal & Partners Biosafety Consulting

1996 – 1999 Ph.D., Laboratory of Professor M.F. Fey & Professor A. Tobler, University and Inselspital, Bern, Switzerland (Summa cum laude)

1994 – 1996 Master of Science, Molecular Biology & Ecology, University of Fribourg, Switzerland

1994 – 1995 Master of Arts, College Teacher's Degree in Biology, University of Fribourg, Switzerland

1990 – 1994 Bachelor of Science, Molecular Biology, Genetics & Microbiology, Biochemistry, Statistics, University of Fribourg, Switzerland

1989 – 1990 Officers Academy, Swiss Army, Platoon & Company Leader

3. Professional and academic experience

2017 – Present Founding member, first president of the LS² Section Autophagy (2017-2020) and Executive Committee member

2016 – 2020 Swiss representative and vice leader working group Biomedical Research in the managing committee of the European Cooperation in Science and Technology (COST) Transautophagy

2015 – Present **Principal Investigator, Associate Professor**
Tumor Pathology, Division of Experimental Pathology, University of Bern, Switzerland

2014 – Present Member of the Study Committee Biomedical Sciences and Study Coordinator Tumor Biology, Medical Faculty, University of Bern, Switzerland

2014 – Present Member of the Scientific Advisory Board of the College of Higher Education "medi|Zentrum für medizinische Bildung", Biomedical Analysts.

2013 – Present Deputy Director Experimental Pathology

2013 – Present Representative of the "Vereinigung der Dozentinnen und Dozenten der Medizinischen Fakultät Bern (VDM)" in the Medical Faculty, University of Bern, Switzerland

2012 – Present Member Interfaculty PhD Committee and of the Expert Committee Cell Biology of the Graduate School for Cellular and Biomedical Sciences (GCB), University of Bern, Switzerland

2012 – 2015 **Principal Investigator, Assistant Professor (Privatdozent)**
Tumor Pathology, Division of Experimental Pathology, University of Bern, Switzerland

2009 – 2012 **Principal Investigator, Assistant Professor (Privatdozent)**
Laboratory of Experimental Oncology/Hematology, Department of Clinical Research

2005 – 2009 **Postdoctoral Fellow**, Laboratory of Experimental Oncology/Hematology, Department of Clinical Research, Professor M.F. Fey & Professor A. Tobler, University and Inselspital, Bern, Switzerland

2000 – 2005 **Postdoctoral Fellow**, Laboratory of Professor Bruce E. Torbett, TSRI, La Jolla, California

4. Research career breaks

1989 – 2000 Several military services, including officer's academy, roughly 18 months

5. Mentorship activities

- Successful PhD or MD-PhD graduates (20): C. Britschgi, M. Rizzi, M. Jenal, A. Britschgi, J. Batliner, M. Humbert, E. Federzoni, D. Brigger, A. M. Schläfli, J. Wampfler, A. Haimovici, J. Jing, T. Wiedmer, J. Parts, O. Adams, F. Bill-Janser, K. Uth, N. N. Niklaus, K. Seiler, I. Tokarchuk.
- Successful MD graduates (9): V. Halter, E. Buehrer, E. Stutz, J. Wampfler, C. Mueller, S. Gloor, M. Messikommer, S. Jutzi, M. Hardegger.
- Successful Molecular Life Science and Pharmacy Master graduates (11): P. Auf der Maur, N. Niklaus, S. Pajero, S. Mosimann, S. Milesi, R. Schweri, I. Mungure, P. Poddar, Filip Manevski, P. Stegmann, S. Gund.
- Successfully mentored 40+ PhD students from the Graduate School for Cellular and Biomedical Sciences (GCB), University of Bern.

6. Teaching and administrative duties

- Lecturer in General and Molecular Pathology
- Lecturer (Teaching Block Blood) and Organizer (Teaching Block Tumor Biology), Biomedical Sciences, Medical Faculty
- Lecturer at the College of Higher Education "medi|Zentrum für medizinische Bildung" (Viral vectors)
- Tutorials in Problem-based Learning for 1st year MD students.
- Organizer and Lecturer Postgraduate Courses in Tumor Biology (3 ECTS) and Translational Cancer Research (3 ECTS).

7. Research projects as leading investigator

- Continuous research funding since 2006 as PI or Co-PI: 5.8 Mio CHF
- Selected recent projects: Swiss Cancer Research Foundation "DAPK2 - a versatile kinase at the crossroad of differentiation, apoptosis and autophagy in AML?"; SNSF "Identification and analysis of PU.1 cell death pathways to improve leukemia therapy"; Clinical and Experimental Tumor Research Bern "Implications for autophagy in resistance mechanisms that occur during targeted therapies in breast cancer"; SNF "Function and regulation of CDX2 in colon cancer tumor budding and dissemination".

8. Prizes, fellowships, distinguished memberships

- 2004 Accepted for Pathobiology of Cancer Workshop, AACR
- 2002 Postdoctoral Fellowship, Swiss Cancer League, for one year
- 2001 Travel Grant Award, American Society of Hematology
- 2000 SNSF Postdoctoral Fellowship, SNF NFP37, for two years
- 1998 Travel Grant Award, The International Society for Preventive Oncology
- American Association for Cancer Research, American Society of Hematology, Swiss Society of Hematology, LS² Life Sciences Switzerland.

9. Organization of conferences and meetings

- Co-Organizer Swiss Apoptosis Meetings, 2014, 2016, 2018, and 2021
- Co-Organizer Swiss Autophagy Workshop, 2019 and 2020
- Organizer Autophagy/Cell Death Symposium and Scientific Committee Member, LS² annual meeting 2018
- Chair LS² virtual annual meeting 2021
- Organizer of the weekly Bern Cancer Research Cluster (BCRC) meetings. The BCRC consists of 18 cancer research groups from six different Institutes (DCR, IBMM, TKI, PKI, Vetsuisse, Pathology) at the University of Bern.

10. Outreach activities

- 2013 – 2018 Yearly public charity concert in Tafers (Fribourg) organized by Ms. Riccarda Melchior to honor her best friend, who died of breast cancer. The donations allowed my laboratory to start a pilot project on breast cancer therapy resistance to retinoic acids. I give a short lay talk at the concert and my whole group is present during the break to answer questions on cancer research from the audience. On average 100-200 lay people attend.
- 2013 Talk at the Inauguration of the Swiss Integrative Center for Human Health, blueFactory, University of Fribourg, Switzerland; general talk about the relationship between academia and industry.
- 2015 – 2020 Several laymen articles/comments in local (Freiburger Nachrichten) and national newspapers (Tamedia)/magazines on different aspects of autophagy.

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1. Publications (peer-reviewed)

Links to complete lists:

https://scholar.google.com/citations?user=xK_pWLoAAAAJ&hl=en

http://www.pathology.unibe.ch/research/research_groups/group_tschan/publications/index_eng.html

Research Articles

- Losmanova T, Zens P, Scherz A, Schmid RA, **Tschan MP**, Berezowska S. Chaperone-Mediated Autophagy Markers LAMP2A and HSPA8 in Advanced Non-Small Cell Lung Cancer after Neoadjuvant Therapy. *Cells*. **2021** Oct 13;10(10):2731.
- Yang Z, Liang SQ, Saliakoura M, Yang H, Vassella E, Konstantinidou G, **Tschan MP**, Hegedüs B, Zhao L, Gao Y, Xu D, Deng H, Marti TM, Kocher GJ, Wang W, Schmid RA, Peng RW. Synergistic effects of FGFR1 and PLK1 inhibitors target a metabolic liability in KRAS-mutant cancer. *EMBO Mol Med*. **2021** Sep 7;13(9):e13193.
- Tokarchuk I, Janser FA, Schläfli AM, Pinto MT, Humbert M, Niklaus NJ, Berezowska S, Langer R, **Tschan MP**. Increased LAMP2A levels correlate with a shorter disease-free survival of HER2 negative breast cancer patients and increased breast cancer cell viability. *Biochem Biophys Res Commun*. **2021** Jul 3;569:47-53.
- Schläfli AM, Tokarchuk I, Parejo S, Jutzi S, Berezowska S, Engedal N, **Tschan MP**. ALK inhibition activates LC3B-independent, protective autophagy in EML4-ALK positive lung cancer cells. *Sci Rep*. **2021** Apr 27;11(1):9011.
- Humbert M, Seiler K, Mosimann S, Rentsch V, Sharma K, Pandey AV, McKenna SL, **Tschan MP**. Reducing FASN expression sensitizes acute myeloid leukemia cells to differentiation therapy. *Cell Death Differ*. **2021** Aug;28(8):2465-2481.
- Losmanová T, Janser FA, Humbert M, Tokarchuk I, Schläfli AM, Nepl C, Schmid RA, **Tschan MP**, Langer R, Berezowska S. Chaperone-Mediated Autophagy Markers LAMP2A and HSC70 Are Independent Adverse Prognostic Markers in Primary Resected Squamous Cell Carcinomas of the Lung. *Oxid Med Cell Longev*. **2020** Sep 21;2020:8506572.
- Dommann N, Sánchez-Taltavull D, Eggs L, Birrer F, Brodie T, Salm L, Baier FA, Medová M, Humbert M, **Tschan MP**, Beldi G, Candinas D, Stroka D. The LIM Protein Ajuba Augments Tumor Metastasis in Colon Cancer. *Cancers (Basel)*. **2020** Jul 15;12(7):1913.
- Orfali N, Shan-Krauer D, O'Donovan TR, Mongan NP, Gudas LJ, Cahill MR, **Tschan MP**, McKenna SL. Inhibition of UBE2L6 attenuates ISGylation and impedes ATRA-induced differentiation of leukemic cells. *Mol Oncol*. **2020** Jun;14(6): 1297-1309.
- Gavini J, Dommann N, Jakob MO, Keogh A, Bouchez LC, Karkampouna S, Julio MK, Medova M, Zimmer Y, Schläfli AM, **Tschan MP**, Candinas D, Stroka D, Banz V. Verteporfin-induced lysosomal compartment dysregulation potentiates the effect of sorafenib in hepatocellular carcinoma. *Cell Death Dis*. **2019** Oct 3;10(10):749.
- Janser FA, Ney P, Pinto MT, Langer R, **Tschan MP**. The Chick Chorioallantoic Membrane (CAM) Assay as a Three-dimensional Model to Study Autophagy in Cancer Cells. *Bio Protoc*. **2019** Jul 5;9(13):e3290.
- Janser FA, Adams O, Bütler V, Schläfli AM, Dislich B, Seiler CA, Kröll D, Langer R, **Tschan MP**. Her2-Targeted Therapy Induces Autophagy in Esophageal Adenocarcinoma Cells. *Int J Mol Sci*. **2018** Oct 8;19(10).
- Graule J, Uth K, Fischer E, Centeno I, Galván JA, Eichmann M, Rau TT, Langer R, Dawson H, Nitsche U, Traeger P, Berger MD, Schnüriger B, Hädrich M, Studer P, Inderbitzin D, Lugli A, **Tschan MP**, Zlobec I. CDX2 in colorectal cancer is an independent prognostic factor and regulated by promoter methylation and histone deacetylation in tumors of the serrated pathway. *Clin Epigenetics*. **2018** Sep 26;10(1):120.
- Langer R, Nepl C, Keller MD, Schmid RA, **Tschan MP**, Berezowska S. Expression Analysis of Autophagy Related Markers LC3B, p62 and HMGB1 Indicate an Autophagy-Independent Negative Prognostic Impact of High p62 Expression in Pulmonary Squamous Cell Carcinomas. *Cancers (Basel)*. **2018** Aug 21;10(9).
- Niklaus NJ, Humbert M, **Tschan MP**. Cisplatin sensitivity in breast cancer cells is associated with particular DMTF1 splice variant expression. *Biochem Biophys Res Commun*. **2018** Sep 18;503(4):2800-2806.
- Adams O, Janser FA, Dislich B, Berezowska S, Humbert M, Seiler CA, Kroell D, Slotta-Huspenina J, Feith M, Ott K, **Tschan MP**, Langer R. A specific expression profile of LC3B and p62 is associated with nonresponse to neoadjuvant chemotherapy in esophageal adenocarcinomas. *PLoS One*. **2018** Jun 13;13(6):e0197610.
- Jin J, Britschgi A, Schläfli AM, Humbert M, Shan-Krauer D, Batliner J, Federzoni EA, Ernst M, Torbett BE, Yousefi S, Simon HU, **Tschan MP**. Low Autophagy (ATG) Gene Expression Is Associated with an Immature AML Blast Cell

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- Phenotype and Can Be Restored during AML Differentiation Therapy. *Oxid Med Cell Longev.* **2018** Mar 18;2018:1482795.
- Schläfli AM, Isakson P, Garattini E, Simonsen A, Tschan MP. The autophagy scaffold protein ALFY is critical for the granulocytic differentiation of AML cells. *Sci Rep.* **2017** Oct 11;7(1):12980.
 - Humbert M, Federzoni EA, **Tschan MP**. Distinct TP73-DAPK2-ATG5 pathway involvement in ATO-mediated cell death versus ATRA-mediated autophagy responses in APL. *J Leukoc Biol.* **2017** Dec;102(6):1357-1370.
 - Niklaus M, Adams O, Berezowska S, Zlobec I, Graber F, Slotta-Huspenina J, Nitsche U, Rosenberg R, **Tschan MP**, Langer R. Expression analysis of LC3B and p62 indicates intact activated autophagy is associated with an unfavorable prognosis in colon cancer. *Oncotarget.* **2017** May 2;8(33):54604-54615.
 - Wiedmer T, Blank A, Pantasis S, Normand L, Bill R, Krebs P, **Tschan MP**, Marinoni I, Perren A. Autophagy Inhibition Improves Sunitinib Efficacy in Pancreatic Neuroendocrine Tumors via a Lysosome-dependent Mechanism. *Mol Cancer Ther.* **2017** Nov;16(11):2502-2515.
 - Bakula D, Müller AJ, Zuleger T, Takacs Z, Franz-Wachtel M, Thost AK, Brigger D, **Tschan MP**, Frickey T, Robenek H, Macek B, Proikas-Cezanne T. WIPI3 and WIPI4 β -propellers are scaffolds for LKB1-AMPK-TSC signalling circuits in the control of autophagy. *Nat Commun.* **2017** May 31;8:15637.
 - Haimovici A, Humbert M, Federzoni EA, Shan-Krauer D, Brunner T, Frese S, Kaufmann T, Torbett BE, **Tschan MP**. PU.1 supports TRAIL-induced cell death by inhibiting NF- κ B-mediated cell survival and inducing DR5 expression. *Cell Death Differ.* **2017** May;24(5):866-877.
 - Adams O, Dislich B, Berezowska S, Schläfli AM, Seiler CA, Kröll D, **Tschan MP**, Langer R. Prognostic relevance of autophagy markers LC3B and p62 in esophageal adenocarcinomas. *Oncotarget.* **2016** Jun 28;7(26):39241-39255.
 - Schläfli AM, Adams O, Galván JA, Gugger M, Savic S, Bubendorf L, Schmid RA, Becker KF, **Tschan MP**, Langer R, Berezowska S. Prognostic value of the autophagy markers LC3 and p62/SQSTM1 in early-stage non-small cell lung cancer. *Oncotarget.* **2016** Jun 28;7(26):39544-39555.
 - Rothschild SI, Gautschi O, Batliner J, Gugger M, Fey MF, **Tschan MP**. MicroRNA-106a targets autophagy and enhances sensitivity of lung cancer cells to Src inhibitors. *Lung Cancer.* **2017** May;107:73-83.
 - Prognostic relevance of autophagy markers LC3B and p62 in esophageal adenocarcinomas. Adams O, Dislich B, Berezowska S, Schläfli AM, Seiler CA, Kroell D, **Tschan MP**, Langer R. *Oncotarget.* **2016** May 26. doi: 10.18632/oncotarget.9649.
 - Prognostic value of the autophagy markers LC3 and p62/SQSTM1 in early-stage non-small cell lung cancer. Schläfli AM, Adams O, Galván JA, Gugger M, Savic S, Bubendorf L, Schmid RA, Becker KF, **Tschan MP**, Langer R, Berezowska S. *Oncotarget.* **2016** May 26. doi: 10.18632/oncotarget.9647.
 - miR-29b Mediates NF- κ B Signaling in KRAS-Induced Non-Small Cell Lung Cancers. Langsch S, Baumgartner U, Haemmig S, Schlup C, Schäfer SC, Berezowska S, Rieger G, Dorn P, **Tschan MP**, Vassella E. *Cancer Res.* **2016** Jul 15;76(14):4160-9.
 - Activated tumor cell integrin α v β 3 cooperates with platelets to promote extravasation and metastasis from the blood stream. Weber MR, Zuka M, Lorger M, **Tschan M**, Torbett BE, Zijlstra A, Quigley JP, Staflin K, Eliceiri BP, Krueger JS, Marchese P, Ruggeri ZM, Felding BH. *Thromb Res.* **2016** Apr;140 Suppl 1:S27-36.
 - The RNA binding proteins RBM38 and DND1 are repressed in AML and have a novel function in APL differentiation. Wampfler J, Federzoni EA, Torbett BE, Fey MF, **Tschan MP**. *Leuk Res.* **2016** Feb;41:96-102.

Review Articles and Book Chapters

- Rafiq S, McKenna SL, Muller S, **Tschan MP**, Humbert M. Lysosomes in acute myeloid leukemia: potential therapeutic targets? *Leukemia.* **2021** Oct;35(10):2759-2770.
- Niklaus NJ, Tokarchuk I, Zbinden M, Schläfli AM, Maycotte P, **Tschan MP**. The Multifaceted Functions of Autophagy in Breast Cancer Development and Treatment. *Cells.* **2021** Jun 9;10(6):1447.
- Seiler K, **Tschan MP**. Autophagy and coronavirus infection - a Trojan horse or Achilles heel? *Swiss Med Wkly.* **2021** Jan 17;151:w20468.
- Bonam SR, Bayry J, **Tschan MP**, Muller S. Cells. Progress and Challenges in The Use of MAP1LC3 as a Legitimate Marker for Measuring Dynamic Autophagy In Vivo. **2020** May 25;9(5):1321.
- Humbert M, Morán M, de la Cruz-Ojeda P, Muntané J, Wiedmer T, Apostolova N, McKenna SL, Velasco G, Balduini W, Eckhart L, Janji B, Sampaio-Marques B, Ludovico P, Žerovnik E, Langer R, Perren A, Engedal N, **Tschan MP**. Assessing Autophagy in Archived Tissue or How to Capture Autophagic Flux from a Tissue Snapshot. *Biology (Basel).* **2020** Mar 21;9(3):59.

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- Janser FA, **Tschan MP**, Langer R. The role of autophagy in HER2-targeted therapy. *Swiss Med Wkly.* **2019** Oct 27;149:w20138.
- Parejo S, **Tschan MP**, Muraro MG, Garattini E, Spagnoli GC, Schläfli AM. Assessing Autophagy During Retinoid Treatment of Breast Cancer Cells. *Methods Mol Biol.* **2019**;2019:237-256.
- Djavaheri-Mergny M, Giuriato S, **Tschan MP**, Humbert M. Therapeutic Modulation of Autophagy in Leukaemia and Lymphoma. *Cells.* **2019** Jan 30;8(2).