

1. Personal Details

Name & Address

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University Studies

October 1977 - March 1980, "Technical Chemistry" at the Technical University of Graz

May 1980 - December 1982, "Biochemistry and Food Biotechnology", Technical University of Graz

December 1982, "Dipl.-Ing." (MSc) Defense with "First Class Honours"

March 1983 - June 1986, PhD student of Prof. Friedrich Paltauf, Technical University of Graz.

1986, PhD Thesis "*Phospholipid Biosynthesis in Yeast*" PhD Defense with "First Class Honours"

Honors, Academic Prizes & Awards

1983 - 1986 "Österreichisches Begabtenstipendium" (for excellence in university studies)

September 1988 - March 1990, Postdoctoral Fellow of the Max Kade Foundation Inc.

October 1989 - March 1991, Postdoctoral Fellow of the Austrian Chamber of Commerce

April 1990 - March 1991, Erwin Schrödinger Postdoctoral Fellow of the Austrian Science Foundation FWF

April 1991 - March 1992, Postdoctoral Fellow of the Alberta Heritage Foundation for Medical Research

1996, Novartis Prize for Biology (formerly Sandoz Prize)

June – September 1996, Fulbright Visiting Professor at City of Hope National Medical Center, Duarte, USA

2007, *Life-Time Honorary Member* of the Austrian Society of Biochemistry & Molecular Biology

2011- Winner of the *ScienceSlam* Contest at the annual Open Day of the Medical University of Vienna

2014 – *Wolfgang Seeliger Prize* for Mycology; German Seeliger Foundation

Research & Professional Experience

July 1986 - September 1988, postdoctoral fellow with Prof. Günther Kreil at the Institute of Molecular Biology of the Austrian Academy of Sciences in Salzburg

October 1988 - March 1991, postdoctoral fellow with Prof. Jeremy Thorner in the Department of Molecular and Cell Biology at the University of California at Berkeley, USA

April 1991 - March 1992, senior research associate in the Lipid and Lipoprotein Research Group of the Department of Biochemistry at the University of Alberta in Edmonton, Canada

April 1992 - date, Faculty position in the Department of Molecular Genetics of at the Vienna Biocenter

August 1994 - date, Tenured Position - *Associate Professor of Molecular Genetics* in Department of Medical Biochemistry; Max F. Perutz Laboratories, Medical University of Vienna, Campus Vienna Biocenter

June 1996 - October 1996, Fulbright Sabbatical Fellow at the City of Hope National Cancer Center, USA

1999, Visiting Professor of the University of Kyoto supported by the Austrian Academic Exchange

May 2000 - November 2001, Cluster Manager for "*Biotechnology & Molecular Medicine*" at the Vienna Business Agency to coordinate the development of the Vienna Biotechnology Cluster

2008, Guest Professor and teaching semester at the Katholieke Universiteit Leuven, Belgium

2008, Guest Professor and teaching ("*Capita Selecta Program*"), Comenius University Bratislava

March 2008 - 2012, Director *Christian Doppler Laboratory for Infection Biology* Vienna Biocenter

Memberships in Professional Societies

Austrian Society for Biochemistry & Molecular Biology – OeGMBT

Austrian Society for Medical Mycology - OeGMM

Genetics Society of America – GSA & American Society of Microbiology – ASM

American Society for Biochemistry & Molecular Biology – ASBMB

2. Research Interests & Management Experience

2.1. Current Research Interests

We are studying fundamental problems in **infection and inflammation biology** related to **antifungal immunity** using a combination of molecular, as well as genome-wide and systems biology approaches. We are particularly interested to decipher the dynamics underlying **host-pathogen interplay**, and in the mechanisms through which pathogenic *Candida* spp can cause invasive diseases of high mortality. We use primarily mouse models, but translating our work to the human patient situation whenever possible in collaboration with national and international clinical scientists. We have become interested to dissect mechanisms of **barrier immune surveillance** that is essential for controlling colonization of tissues and organs by microbial pathogens. Finally, a long-standing work by my group has been addressing the molecular basis of **multidrug resistance** mediated by members of the ATP-binding cassette transporter family such as ABCG transporter family. As for **fungal pathogens**, we wish to:

- i) use ChIP-Seq/RNA-Seq/ATAC-seq to identify fungal genes required for drug resistance and pathogenicity,
- ii) decipher the role of chromatin-modifying enzymes such as HDACs / HATs in morphogenetic switching, cell fate determination and multidrug resistance,
- iii) use animal models study the genetic and genomic adaptation processes occurring in fungal pathogens during specific host niche colonization, and

On the **host immune response signaling** side, we:

- (i) use RNA-Seq / ATAC-seq / Chip-seq to study immune activation and inflammation in primary innate immune cells, as well as in mouse models infected with fungal pathogens, including signaling via TLR/CLR receptors
- (ii) decipher the signaling cross-talk of adaptive and innate immunity during immune surveillance,
- (iii) study the role of type I interferons (i.e. IFN-beta in fungal virulence and host dissemination, and which mechanism IFN-beta signaling exploits to stimulate recruitment, activation and migration of inflammatory phagocytes (monocytes, neutrophils and dendritic cells) or to control iron homeostasis
- (iv) dissect the signaling mechanisms by which TEC kinases provide instructions for adaptive T cell / innate lymphoid cell responses to control hyperinflammatory responses and fungal sepsis
- (v) delineate the molecular function of histone deacetylases in T-cell mediated antifungal immunity

2.3 Leadership & Management Skills

First, I was actively engaged in community services through my activities in the **Federation of European Biochemical Societies (FEBS)** for almost ten years. I was elected **Chair** of the *FEBS Advanced Courses Committee*, and member of the Executive Board. FEBS is one of the largest scientific societies in the world, with more than 46.000 members in 43 FEBS constituent countries. My responsibilities included fostering the potential as well as the excellence of young scientists through supporting their training and mobility, and the organization of advanced training courses, meetings and workshops. More than 200 meetings, workshops and courses received funding through my committee, and more than 3000 student fellowships were awarded. In this capacity, I have gained ample experience in setting up websites and web-based electronic submission systems (www.febs.org under *courses*), as well as implementing peer-review evaluation procedures in areas ranging from basic science to translational biotechnology.

Second, I have worked for almost two years as **Cluster Manager Biotechnology** for the City Government of Vienna (on a partial leave of absence from my medical university affiliation), to coordinate the structural development of the Biotechnology Cluster in Vienna, especially at the Campus Vienna Biocenter. During this time, I was involved in setting up the Vienna Biocenter campus VBC2 building as a startup incubator building, now housing the GMI and other research institutions. Further, I was involved in drafting the concept for a research building on campus, and I was involved in attracting biotech start-up companies to Vienna. In collaboration with the *Innovation Agency*, and on behalf of the City of Vienna in 2001, I initiated and co-organized the first international Austrian **business plan competition "Best of Biotech – BOB"** to stimulate translational biotechnology from university research.

Third, I have considerably contributed to **scientific developments** on the **VBC campus**. I was responsible for setting up the new *Department of Molecular Genetics* at the Vienna Biocenter in 1992/1993, ranging from all bidding processes to concluding the purchases. Moreover, in 2005, we succeeded to start the bioinformatics institute **Center of Integrative Bioinformatics (CIBIV)** by raising substantial funds sufficient to establish a dedicated and attractive inter-university professorship. The CIBIV was implemented by WWTF support (*Vienna Science & Technology Fund*), as well as major funds from three universities (VetMed, MUW, UniVie) with a total funding of around 5 Mio €. The CIBIV was instrumental for the strategic implementation of a new inter-university research area, and it eventually served as the basis for the foundation of the former Max F. Perutz Laboratories (MFPL) now **Max Perutz Labs Vienna (MPL)** at the Campus Vienna Biocenter.

3. Experience in Peer-Review Evaluation & Public Understanding of Science

3.1. International Reviewing for Scientific Journals & Research Funding Bodies

Scientific Journals

Throughout the past 15 years, continuous peer-reviewing activities for major scientific journals in biological sciences, including Cell Journals, Nature Journals, Nature Comm., Mol. Cell, PLoS Genetics, PLoS Pathogens, PLoS Biology, EMBO J., EMBO Rep., Proc. Natl. Acad. Sci. (USA), J. Immunol., J. Biol. Chem., Cancer Res., Mol. Microbiol., Mol. Cell. Biol., Mol. Biol. Cell, Yeast, Biochim. Biophys. Acta, FEBS Lett., Mol. Gen. Genetics, Eukaryotic Cell, Exp. Cell Res., J. Cell Science, Microbiology, Cell. Mol. Life Sci., Biol. Chem. J. Pharmacol. Exp. Therap., Int. J Antimic. Agents, Microbiology, Vaccine, Fungal Genet. Biol., J. Innate Immunity, Infection & Immunity, Pathogens & Disease, Virulence, Frontier Science, Sci. Reports

Editorial & Advisory Boards of Journals

1999 - 2003, Member of the Advisory Board "*Cellular and Molecular Life Sciences*".

2004 - 2007, Member of the Editorial Board "*Molecular Microbiology*"

2005 – 2012, Associate Editor & Editorial Board "*Current Genetics*"

2008 – 2014, Associate Editor & Editorial Board "*Microbiology*"

2010 – date, Associate Editor & Editorial Board "*Frontiers in Microbiology*"

2012 – 2017, Associate Editor & Editorial Board "*Systems Biomedicine*"

2013 – on, Editorial Board "*Pathogens & Disease*" (a FEMS journal) & "*Virulence*" (Landes Bioscience)

2013 – on, Editorial Board "*Microbial Cell*"

2014 - on, Editorial Board "*Journal of Biological Chemistry*" (an ASBMB Journal)

2019 – on, Speciality Chief Editor (SCE) section *Infectious Diseases* in *Frontiers Microbiology*

Grant Reviewing for Funding Bodies

I have acquired an extensive reviewing experience, which provided me with an excellent overview of how funding bodies support both basic and translational research projects across Europe and at the global level. Continuous reviewing of **both grant and fellowship applications** for many major European and North American funding bodies, including the Wellcome Trust, German Science Foundation DFG, German Ministry of Science bmbf, German Projektträger Jülich and DLR, Human Frontiers of Science HFS, BBSRC UK, EPSRC UK, Suisse National Foundation SNF, Genome Canada, NSF-USA, Austrian National Bank, Leuven University Foundation, Slovenian Science Foundation, Grant Agency of the Czech Republic, Italian Science Foundation MIUR-CINECA, Hungarian Ministry of Science and OKTA, CNR Italy, FWO Belgium, NWO The Netherlands, EC panels during FP5, FP6 and FP7, Horizon, MSCA, and ERC Junior Investigators.

Advisory Boards of Funding Bodies, Steering Committees & Policy-Making

2003 - 2005, member of the **Steering Committee** for "*HepatosSys - Systems Biology of the Hepatocyte*"

2003 – date, participation in international review panels **NGFNII-Proteomics, NGFNII-Exploratory Grants, & QuantPro** (German Ministry for Education and Science, **bmb+f**)

2004 - 2005, member **Steering Committee** for **ESF Forward Look** on "*Systems Biology*"

2001 – 2003, Panel member of the **bmb+f "Bio-Chance"** scheme for biotech start-up companies

2003 - date, Member Jury for the Deutsche Messe **Biotechnica Award** for small biotech companies

2005 - 2010, Elected Chair of the "*FEBS Advanced Courses Committee*"

2007 - date, Chair Scientific Advisory Board CIBIV "*Center Integrative Bioinformatics Vienna*"

2009 – 2010, Member international expert panel (CNR Institutes) in the **Italian CNR Evaluation**

2010 – date, Member expert review panel (*Bio2 – Functional Biology*) in the Belgian **FWO Agency**

2011 – date, Chair, Scientific Advisory Board, CNR Institute IBP Naples, Italy

3.2. Experience in Meeting & Congress Organization & Other Professional Activities

1993, 1997 - 2000, Organizer of the annual "**1st, 5th, 6th & 7th Vienna Biocenter Recess**"

1995 - 2003, Officer in charge for biosafety and recombinant gene technology work at the Department of Molecular Genetics according to the Austrian Biosafety Law "GTG94"

1997, 1999, 2001 & 2003, Organizer and Chair of the international **1st-4th FEBS Advanced Lecture Courses on ABC Proteins** ("*ABC Transporters: From Multidrug Resistance to Genetic Disease*"), each with up to 250 participants in Gosau, Austria.

1997 - 1998, Planning and organization of the Austrian-wide exhibit "**gentechnik pro & contra**" for the information of the broad public on safety and risks of recombinant DNA technologies.

2000 – 2006, Board of directors and founding member of **dialog<>gentechnik** (formerly "*Gentechnik & Wir*") – now *Open Science*, a non-profit agency devoted to public understanding science & biotechnology.

May 2000 – October 2001, **Cluster Manager** for "**Biotechnology**" at the Vienna Business Agency to coordinate the development of the Vienna Region Biotechnology Cluster.

2001 – 2002, Co-Organizer of the international biotechnology business plan competition in life sciences "**Best of Biotech - BOB**" with the Vienna Business Agency and the Innovation Agency.

2004 – date, Co-Chair & Co-Organizer of **1st-6th Advanced Lecture Courses on Systems Biology** ("*Systems Biology: From Molecules to Life*"), each with 200 participants in Gosau in March 2005 & 2007 in Gosau, 2009 in Alpbach, and 2011, 2013, 2016, 2018 and 2020 in Innsbruck.

2003 - 2004, Co-Organizer & Member of the Organizing Committee of the "**International Conference on Systems Biology ICSB2004**" in October 2004 in Heidelberg.

2003 – 2011, Vice-President *Max Kade Alumni Section* of the Academy of Sciences Alumni Club

2003 – 2013, Board & Treasurer "*Friends of the Austrian Academy of Sciences Association*"

2005, Co-Founder of the CIBIV - "**Centre for Integrative Bioinformatics Vienna**" at the Vienna Biocenter

2005 - 2007, Chair & main organizer of the **32nd Annual FEBS Congress FEBS2007** ("*Molecular Machines*") with 2400 participants, July 7-12, 2007 in Vienna, Austria

2005 – 2008, Member Executive Committee of *Austrian Society Biochemistry & Molecular Biology*

2005 - 2010, Executive Board & *FEBS* Trustee "*Federation of European Biochemical Societies*"

2009, Co-Organizer of the **MYK2010 Congress** with ~300 participants in Vienna

2009, 2011, Co-Organizer of **1st & 2nd Joint OeGMM / ÖGACH Workshop MedMyc2009: Medical Mycology – From Basic Science to Clinical Needs**. Vienna Biocenter, Vienna

2012– 2013, President of the *Alumni Association of the Austrian Academy of Sciences*

2013 – 2014, Vice-President of the *Austrian Society for Medical Mycology*

2005 – date, Organizer & Chair of **1st- 9th FEBS Special Meetings on ABC Proteins** ("*ABC Transporters, From Multidrug Resistance to Genetic Disease*") – ABC2006, ABC2008, ABC2010, ABC2012, ABC2014, ABC2016, ABC2018 and ABC2020 – each with 250-320 participants in Innsbruck, Austria.

3.3. Public Understanding of Science – Activities Related to Science in & for Society

I have a long-standing experience and track record in interaction with journalists and media, and public perception of science, outreach to high schools, as well as to political decision-makers. Moreover, I was one of the **co-founders**, and then until 2006 vice-speaker, of **dialog<>gentechnik** (DGT – now *Open Science* - <http://www.openscience.or.at>), a non-profit public body devoted to fostering public understanding of science. During this time, numerous interviews, commentaries in the **daily / weekly print media**, including interviews on TV and radio on public perception of science and biotechnology.

Many of the current DGT highlight projects (biology teacher education, journalist biology education, "*Genkoffer for Rent*", gene technology exhibits for the public, etc.) were based on concepts and visions I have developed with DGT leaders. I acted as initiator and co-founder of the **Vienna Open Lab** (<http://www.viennaopenlab.at/>) to train and educate pupils and teachers basic methods in modern molecular biology through hands-on activities.

I have given numerous **lectures** for the **public** and **high schools**, as well as in primary schools on basic biology, science, gene technology, and on the role of today's biotechnology in day-to-day life in a modern society. Moreover, I regularly participate in annual educational programmes offering teaching for the public and schools ("**University Meets Public**"). Basic scientific lectures in the area *Infection Biology & Drug Resistance* for the interested broad public audience in public school facilities.

Initiator and Organizer of the "**Kids Congress**" in collaboration with the *Childrens University Vienna* with some 800 school children aged 7-12 attending two scientific lectures at the Vienna FEBS2007 Congress

2011 - Winner of the *ScienceSlam* Contest during the Open Day of the Medical University of Vienna – Oral presentation to the public – "*Immune cells - our eating and cleaning machines*".

4. Experience in Academic Teaching & List of Completed Diploma & PhD Theses

4.1 National & International Teaching Experience

I have a long-standing experience in teaching molecular biology and genetics at both graduate and undergraduate levels at both Austrian and international universities or research centers, including teaching at international practical as well as advanced lecture course. I have been participating in teaching at the MedUniWien since 1992 and my teaching received highly positive evaluations by students.

Technical University of Graz

1983 - 1986: Department of Biochemistry at the Technical University of Graz (chair Prof. Dr. F. Paltauf). As a graduate student, responsible for independent teaching of sections in the major classes: "**Biochemistry**" (cell fractionation, phospholipids, metabolites); "**Advanced Biochemistry**" (protein purification, phospholipid biosynthesis, advanced cell fractionation); "**Methods in Biochemistry**" (chromatography methods).

1985 - 1986: Department of Biochemistry at the Technical University of Graz. Organization, planning and teaching of the *laboratory course* and seminar: "**Methods in yeast genetics**" (yeast genetics, complementation analysis, random spore analysis, strain micromanipulation).

University of Salzburg

1987 - 1988: Teaching affiliation with the Department of Biochemistry at University of Salzburg while affiliated with the Austrian Academy of Sciences; teaching and organization of a *laboratory course* and seminar ("**Methods in DNA sequence analysis**") held at the Institute of Molecular Biology of the Austrian Academy of Sciences in Salzburg.

University of Graz

1996 - 2000: Teaching affiliation as **Guest Professor** at the in the Department of Microbiology & Genetics of the University of Graz to teach the main classes "**Genetics**" and "**Recombinant DNA Technology**" for 80-100 *Microbiology* undergraduate students per year.

Medical University of Vienna & University of Vienna

1992 - date: Continuous teaching of lab courses and several classes at the **Medical Faculty** of the **University of Vienna**, to become the Medical University Vienna later on. ("**Medicinal Chemistry**" and "**Biochemistry**"), as well as **speciality classes** (i.e. "*ABC Proteins in anticancer and microbial multidrug resistance*") in several Blocks of the new curriculum of the Medical University of Vienna.

1993, 1995, 1998, 2001: Teaching the main class at **Medical Faculty** of the **University of Vienna**. "*Introduction Medicinal Chemistry*" for 300 first year medical students in each year.

4.2 Foreign Universities & International Teaching & Student Lecture Courses

2008: **Guest Professorship** with the **Katholieke University of Leuven**, Belgium teaching several seminars in the area of *Infection Biology* (Host – "*Molecular basis of host immune response against fungal pathogens*", Pathogens – "*The molecular basis of fungal virulence and host invasion - virulence genes*", as well as classes on multidrug resistance such as "*Molecular mechanism of drug resistance in microbial pathogens and cancer cells*"). Furthermore, teaching **soft-skills** such as **grant-writing** ("*How to write and NOT to write grant applications*").

2009: **Guest Lectureship Series** at the **Comenius University Bratislava** in Slovakia (*Capita Selecta Programme*) – teaching seminars in the area of *Infection Biology* (Host – "*Molecular basis of host immune response against fungal pathogens*", Pathogens – "*The molecular basis of fungal virulence and host invasion - virulence genes*").

1997, 1999, 2001 & 2003: Organizer & Chair of the international **1st-4th FEBS Advanced Lecture Courses** on **ABC Proteins** ("*ABCs: From Multidrug Resistance to Genetic Disease*") with 120 student /PhD participants.

2005 - date: Co-Organizer & Co-Chair of **1st-6th FEBS Advanced Lecture Courses** on **Systems Biology** ("*Systems Biology: From Molecules to Life*") with 120 young scientists and PhD students

4.3 Supervision of Completed & Ongoing Diploma Thesis Students (M.Sc.) – 37 in Total

Michael Gmachl ("Regeneration der Hautdrüsen von *Xenopus laevis*"; 1989)
Veronika Huter ("Analyse der Membrantopologie des Hefe Ste6 Peptidtransporters"; 1994)
Rudy Pandjaitan ("Charakterisierung des Hefe *STS1/PDR5* ABC Transporters"; 1994)
Birgit Zimmerl ("Expression einer Lecithin-Cholesterin-Acyl-Transferase"; 1995)
Susanne Bach ("Klonierung eines P-Glykoproteins aus *Gallus domesticus*"; 1996)
Hubert Wolfger ("Molekulare Klonierung von Dynamin cDNAs aus *G. domesticus*"; 1996)
Helmut Klinger ("Expressionsstudien von Activin/Inhibin Untereinheiten des Huhns "; 1996)
Julius Halaschek-Wiener ("Chicken Activin/Inhibin β B Subunit"; 1997)
Winfried Wunderlich ("Expression analysis of chicken activin, inhibin and follistatin; 1997)
Andrea Pichler ("Expression of yeast Pdr5 multidrug transporters in mammalian cells"; 1997)
Tobias Sieberer ("Molecular cloning and regulation of a chicken HMG-CoA reductase"; 1998)
Peter Duchek ("Functional expression of the avian *CABC1* transporter in higher cells"; 1998)
Michael Schuster ("Membrane topology of the yeast Ste6 pheromone transporter"; 1998)
Harald Sevcik ("Intracellular targeting and folding of the yeast Pdr5 pump"; May 1999)
Nicole Foeger ("Molecular characterization of avian granulosa cells"; September 1999)
Chantal Schwartz ("Molecular cloning of regulators controlling weak acid resistance"; 1999)
Thomas Heimbucher ("Activin signaling in the avian ovary"; 2000)
Angelika Kren ("Weak acid resistance in yeast"; 2001)
Alena Shkumatava ("TGF- β signaling in the avian ovary"; 2001)
Christa Gregori ("Molecular analysis of the yeast War1p regulator"; 2003)
Gerd Krapf ("Molecular crosstalk of stress response and translation"; 2003)
Valerie Fleisch ("Molecular functions of Zn(II)2Cys6 regulators in *C. albicans*"; 2004)
Alisina Sarabi ("Molecular analysis of Zn(II)2Cys6 regulators in *C. albicans*"; 2005)
Maria Halaschek-Wiener ("A novel method to study protein-protein interaction in yeast"; 2005)
Ingrid Frohner ("Molecular functions of a Yeast Weak Acid Regulator"; 2005)
Andrijana Jevremovic ("Cross-talk of MAP kinase signal transduction in yeast; 2008)
Fabian Istel ("Virulence & drug resistance of *Candida glabrata*"; 2010)
Eva Stappler ("Chromatin modifiers in DNA repair in *Candida*"; 2011)
Jaqueline Langenecker ("Mechanisms of host immunity to *Candida* spp"; 2012)
Saren Tasciyan ("Host immune signaling to fungal pathogens"; 2014)
Michael Riedlberger ("Host immune signaling to fungal pathogens"; 2014)
Valentina Stolz ("Host immune signaling to fungal pathogens"; 2015)
Philipp Penninger ("HDACs in T cell antifungal immunity"; ongoing)
Shirin Shargi ("Monoclonal antibodies in antifungal diagnostics"; ongoing)
Theresia Mair ("Histone chaperones in fungal virulence"; ongoing)

Supervision of Completed & Ongoing Doctoral (PhD) Thesis Students – 25 in Total

Yannick Mahé („The yeast PDR network“; October 1997)
Rudy Pandjaitan ("Regulation of pleiotropic drug resistance in yeast"; October 2000)
Hubert Wolfger ("ABC transporters in yeast and pleiotropic drug resistance"; July 2002)
Yasmine Mamnun ("Regulation of pleiotropic drug resistance in yeast"; October 2002)
Bernhard Schmierer ("TGF β signaling in the avian ovary"; November 2002)
Manuela Schützer-Mühlbauer ("Fungal ABC transporters and antifungal resistance"; June 2003)
Michael Schuster ("TGF β signaling in the avian ovary and granulosa cells"; December 2003)
Robert Ernst ("Purification and reconstitution of yeast multidrug ABC transporters"; 2008)
Denes Hnisz - VBC PhD Student ("Epigenetics in W/O switching in *Candida*"; September 2008)
Christa Gregori ("Molecular analysis of the yeast War1p regulator"; April 2008)
Tobias Schwarzmüller ("Reverse genetics to understand drug resistance"; September 2009)
Nathalie Landstetter ("Antiviral drug target gene identification in yeast"; September 2010)
Ingrid Frohner - VBC PhD Student ("ROS signaling during *Candida*-host invasion"; June 2010)

Olivia Majer – OeAW DOCff PhD Student ("Innate immune response to pathogens"; May 2012)
Lanay Tierney - VBC PhD Student ("The molecular basis of fungal commensalism" December 2012)
Cornelia Klein – Marie-Curie ESR ("Structure-function of yeast ABC transporters")
Michael Tscherner – VBC PhD Student ("Chromatin & fungal pathogenicity of *Candida*"; 2012)
Florian Zwolanek – MFPL PhD Student ("Tec signaling in fungal immune response"; October 2016)
Fabian Istel – MFPL PhD Student ("Antifungal drug resistance"; November 2016)
Sabrina Jenull – MFPL PhD Student ("Chromatin in virulence of candida pathogens, December 2018)
Raju Shivarathri – Marie-Curie ITN-ESR PhD ("Signaling during Host-Pathogen Interplay"; ongoing)
Michael Riedelberger ("Type I interferons in antifungal immunity; ongoing)
Irina Tsymala – TissueHome PhD ("T cells in antifungal immunity & barrier protection"; ongoing)
Hossein Arzani - TissueHome PhD ("T cell response to fungal infections"; ongoing)
Philipp Penninger – SFB-HIT PhD ("HDACs in T cell response to fungal infections"; ongoing)

5. Invited Lectures & Seminars since 2011

To date, I have delivered more than **140 invited lectures** and **seminars** at international meetings, conferences and at university or research institutions, respectively. The conferences, meetings and courses I have attended as invited speaker or chair include:

5.1. Invited Lectures at International Meetings & Conferences (Selection)

- 2019:** Invited Plenary Speaker HFP2019 on Human Fungal Pathogens, La-Colle sur Loup, Nice, France
- 2018:** Invited Keynote Plenary Speaker Annual Australian Society Microbiology Meeting, Brisbane
 Invited Keynote Plenary Speaker at Symposium on Complex Biodynamics & Networks, Singapur
 Invited speaker ASM2018 Meeting on Candida & Candidiasis, Providence, USA
 Invited Plenary Speaker at Chromosome Stability Meeting in Bangalore, India
- 2017:** Invited Speaker GRC on Multidrug Efflux Transporters, Galveston, Texas, USA
- 2016** Invited teacher / lecturer at the 2016 MOMY *Molecular Mycology Course*, Woods Hole, USA
 Invited speaker ASM2016 Meeting on Candida & Candidiasis, Seattle, USA
 Invited plenary speaker at *CESC-2016 Mycology Course*, Szeged, Hungary
 Invited plenary speaker 2016 Chromosome Stability, IISER Thiruvananthapuram, India
- 2015:** Invited plenary speaker GRC-2015 *Fungal Immunology*, Galveston, Texas, USA
 Invited plenary speaker at the *DMYKG-2015* at the HKI for Infection Biology, Jena, Germany
 Plenary speaker HFP2015 on Human Fungal Pathogens, Nice, France
 Invited plenary speaker 2015 Drug Resistance Symposium, Tropical Institute, Basel, Switzerland
- 2014:** Invited plenary speaker at Annual *VAAM/DGHM Conference Microbes & Infection* in Dresden
 Invited plenary speaker *PCM2014 International Meeting of Paracoccidioides & Mycoses, Brasilia, Brazil*
 Invited plenary speaker at *CESC Fungal Pathogen Training Course* Szeged, Hungary
 Invited plenary speaker Smolenice Yeast Conference 2014, Smolenice Castle, Slovakia
 Invited speaker SystemsX-SysBio2014 Lecture Course on Systems Biology, Innsbruck, Austria
 Invited plenary speaker CDR120 Conference of CDR Transporters, Neu Delhi, India
- 2013:** Invited plenary speaker GRC-2013 *Immunology of Fungal Infections*, Galveston, Texas, USA
 Invited plenary speaker HFP2013 FEBS Course on Human Fungal Pathogens, Nice, France
 Invited plenary speaker at the GRC2013 *Membrane Transporters*, Ventura, USA
- 2012:** Invited speaker at the ICSB-2012 on Systems Biology in Toronto, Canada
 Invited speaker at ARECES Fundacion Ramon Symposium on *Candida Drug Discovery*, Badajoz
 Invited plenary speaker and chair at ISHAM2012 (*Human & Animal Mycology*) in Berlin, Germany
 Invited keynote plenary speaker at *CESC Fungal Pathogen Course*, Debrecen, Hungary
 Invited keynote speaker "*European Conference on Microbial Communication*" MiCom2012 Jena
- 2011:** Invited plenary speaker and chair CSH2011 Microbial Pathogenesis Conference, CSH, New York
 Invited plenary speaker at YGMB2011 Yeast Genetics Conference, Olsztyn, Poland
 Invited speaker International Workshop on Systems Biology of Microbial Infection, Jena, Germany
 Invited teacher at the FEBS Advanced Lecture Course on Systems Biology, Innsbruck, Austria
 Invited plenary speaker HFP2011 FEBS Course on Human Fungal Pathogens, Nice, France
 Invited chair at the GRC2011 Multidrug Membrane Transporter Conference, Le Diablerets, Suisse
 Invited speaker at the *2nd International iCeMS Symposium* in Kyoto, Japan

5.2 Invited Seminars at Universities & Biotech / Pharma Companies

2018: Monash University, Melbourne, Australia

2017: Rutgers University, Public Health Research Institute, New Jersey Medical School, New Jersey, USA

2016: University of Göttingen, Department of Molecular Microbiology & Genetics, Göttingen, Germany

2015: Stockholm University, Wennegren Institute, Sweden
Institute für Medical Genetics, Medical University of Vienna, Vienna

2014: Institute Pasteur, Department Microbiologie et Fongiques Pathogeniques, Paris France
University of Washington, St. Louis Missouri, USA

2012: University of Würzburg, Institute for Molecular Infection Biology

2011: ETH Zürich, Institute for Microbiology, Switzerland
St. Anna Children's Research Hospital Vienna
LMU University Munich, Max Pettenkofer Institute, Germany

6. List of Publications

Overall, more than **145 publications** listed in *ISI Web of Knowledge*, including papers in peer-reviewed journals, reviews, book chapters; editor of several textbooks and special journal issues. The cumulative impact factor of all publications is currently exceeding **900**. Based on *Scopus*, the scientific publications received more than **7800** citations, with a current life-time Hirsch **h Index** of **53**

6.1 Peer-reviewed Publications in Chronological Order

1. Kuchler, K., G. Daum, & F. Paltauf (1986). Subcellular and submitochondrial localization of phospholipid-synthesizing enzymes in *S. cerevisiae*. **J. Bacteriology** 165: 501-510
2. Kohlwein, S., K. Kuchler, C. Sperka-Gottlieb, S. Henry, & F. Paltauf (1988). Identification of mitochondrial and microsomal phosphatidylserine synthase in *Saccharomyces cerevisiae* as the gene product of the *CHO1* structural gene. **J. Bacteriology** 170: 3778-3781
3. Kuchler, K., G. Kreil, & I. Sures (1989). The genes for the frog skin peptides GLa, xenopsin, levitide and caerulein contain a homologous export exon encoding a signal sequence and part of an amphiphilic peptide. **Eur. J. Biochem.** 179: 281-285
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6.2 Reviews, Book Chapters & Special Journal Issues (without peer-review)

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6.3 Editor of Text Books & Special Journal Issues

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6.4 Selection of 10 Most Important Career Publications (only as first or corresponding author)

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7. Zwolanek, F., M. Riedelberger, V. Stolz, W. Ellmeier & **K. Kuchler** (2015). The non-receptor tyrosine kinase TEC controls fungal virulence by activating the caspase-8 inflammasome. **PLoS Pathogens**. 10:e1004525. doi: 10.1371/journal.ppat.1004525
8. Wirnsberger* G., F. Zwolanek*, Asaoka T, Kozieradzki I, Tortola L, RA Wimmer, F Fresser, G Baier, WY Langdon, A Kavirayani, F Ikeda, **K. Kuchler*** & JM. Penninger* (2016). Inhibition of CBLB protects from lethal *Candida albicans* sepsis. **Nature Medicine** 22:915-23. doi: 10.1038/nm.4134. Epub 2016 Jul 18 (*Equal first & equal corresponding authors)
9. Khunweeraphong N, D. Szöllösi, Stockner T & **K. Kuchler** (2019). The human ABCG2 multidrug transporter operates as a peristaltic pump gated by a hydrophobic di-leucine valve. **Nature Comm.** 10(1):5433. doi: 10.1038/s41467-019-13302-2
10. Riedelberger, M., P. Penninger, M. Tscherner, M. Seifert, S. Jenull, C. Brunnhofer, B. Scheidl, C. Bourgeois, A. Petryshyn, W. Glaser, A. Limbeck, G. Weiss, & **K. Kuchler** (2020). IFN-I-mediated dysregulation of Fe homeostasis enhances fitness and survival of the human fungal pathogen *Candida glabrata*. **Cell Host Microbe, in press**

6.5 Patents

2001 “Improved yeast strain”. DSM (formerly Gist-Brocades), European Patent as *Inventor* with Peter Piper and Rutger van Rooijen filed by Gist-Brocades. European Patent Office No. 98201094.4-2105

2005 “Method for detoxification of mycotoxins”. European Patent as *Co-Inventor* with Gerhard Adam and Josef Glössl (BOKU Vienna) and others filed by AWS. European Patent Office No. 03450194.0-Poppenberger, B., Adam, G., Berthiller, F., Krska, R., Kuchler, K., Luschnig, C., Glössl, J., Lucyshyn, D., Schumacher, R., and Sieberer, T., (2005) Method for detoxification of mycotoxins. World wide patent W02005021740-2005-03-10

2016 “Inhibitors of CBLB as Antifungal Agents”. Inventors Gearld Wirmsberger, Joseph Penninger, Florian Zwolanek, Karl Kuchler. Patent application EP1617374

6.6 Selection of International Collaborators (in alphabet. order with joint publications since 2010)

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