

Name & Address

Karl Kuchler – *Professor of Molecular Genetics*

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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*"

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 *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 at the Katholieke Universiteit Leuven, Belgium

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

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

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

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

1996, Novartis Prize (formerly Sandoz Prize) for Biology

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

Experience in Management, Congress Organization & 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, 2nd, 3rd & 4th FEBS Advanced Lecture Courses on ABC Proteins** ("*ABC Transporters: From Multidrug Resistance to Genetic Disease*") 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*") – 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, 2nd, 3rd, 4th & 5th FEBS Advanced Lecture Courses on Systems Biology** ("*Systems Biology: From Molecules to Life*") with 200 participants in Gosau in March 2005 & 2007 in Gosau, 2009 in Alpbach, and 2011 and 2013 in Innsbruck.

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

2005, Co-Founder CIBIV - "**Center Integrative Bioinformatics Vienna**" at the Vienna Biocenter

2005 – date, Organizer & Chair of **1st, 2nd, 3rd & 4th FEBS Special Meetings on ABC Proteins** ("*ABC Transporters, From Multidrug Resistance to Genetic Disease*") – ABC2006, ABC2008, ABC2010 and ABC2012 - with about 300 participants in Innsbruck, Austria.

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

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

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*

2003 – date, Member Executive Committee of *Austrian Society for Medical Mycology*

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

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

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

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

International Activities as Peer-Reviewer for Scientific Journals

Ongoing and continuous peer-reviewing activities for scientific journals, including *Cell*, *Nature*, *Mol. Cell*, *PLoS Genetics*, *PLoS Pathogens*, *PLoS Biology*, *PLoS One*, *EMBO J.*, *EMBO Rep.*, *Proc. Natl. Acad. Sci. (USA)*, *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.*, *App. Env. Microbiol.*, *Biol. Chem. J. Pharmacol. Exp. Therap.*, *Int. J. Antimic. Agents*, *Microbiology*, *Vaccine*, *Fungal Genet. Biol.*, *Infection & Immunity*, *Frontier Science*,

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

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

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

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

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

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

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

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

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

Experience in International Science Funding, Policy-Making & Advisory Boards

Review of both grant and fellowship applications for the *ERC*, *Wellcome Trust Foundation*, *German Science Foundation DFG*, *Human Frontiers of Science HFS*, *BBSRC UK*, *EPSRC UK*, *Suisse National*

Foundation SNF, Genome Canada, Austrian National Bank, Leuven University Foundation, Slovenian Science Foundation, Grant Agency of the Czech Republic, Italian Science Foundation MUIR-CINECA; Hungarian Ministry of Science, CNR Italy, FWO Holland, EC panels during FP5, FP6 and FP7.

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 biotech companies

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, Member Scientific Advisory Board, CNR Institute IBP Naples (Director Daniela Corda), Italy

2012 – date, Member Scientific Advisory Board, BBSRC Programme Grant CRISP (Chair Alistair Brown)

Public Understanding of Science – Activities in Science in & for Society

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.

Regular participation 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

Co-founder of **dialog<>gentechnik** (<http://www.dialog-gentechnik.at/index.php>), a public body dedicated to public outreach activities in biosciences. Numerous interviews, commentaries in the **daily / weekly print media**, including interviews on TV and radio on public perception of science and biotechnology.

Co-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.

2011 - Winner of the *ScienceSlam* Contest during the Open Day of the Medical University of Vienna – Title of the the oral presentation to the public – „*Immune cells - our eating and cleaning machines*“

Membership in Professional Societies

Austrian Society for Biochemistry Molecular Biology & Austrian Society for Medical Mycology

Genetics Society of America & American Society of Microbiology

American Society of Cell Biology & American Society for Biochemistry & Molecular Biology

Selected International Collaborators - with joint publications since 2009

Shizuo Akira	University of Osaka, Osaka JP - sakira@biken.osaka-u.ac.jp
Charlie Boone	University of Toronto, CA - charlie.boone@utoronto.ca
Duccio Cavalieri	University of Firenze, Italy, IT - duccio.cavalieri@unifi.it
Brendan Cormack	Johns Hopkins University, US - bcormack@jhmi.edu
Christophe d'Enfert	Pasteur Institute Paris, FR - christophe.denfert@pasteur.fr
Toni Gabaldon	CGR Barcelona, ES - toni.gabaldon@crg.es
Reinhard Guthke	Microbial Systems Biology, HKI Jena, GE - Reinhard.Guthke@hki-jena.de
Ken Haynes	University of Exeter, UK - jamfactoryken@googlemail.com
Bernhard Hube	HKI Infektionsbiologie Jena, GE - Bernhard.Hube@hki-jena.de
Alexander Johnson	UCSF Medical School, US - ajohnson@cgl.ucsf.edu
Mathias Mack	University of Regensburg, DE - matthias.mack@klinik.uni-regensburg.de
Steffen Rupp	IGB Fraunhofer, Stuttgart, DE - Steffen.Rupp@igb.fraunhofer.de
Lutz Schmitt	University of Düsseldorf, GE - lutz.schmitt@hhu.de
Jeremy Thorner	University of California at Berkeley, US - jthorner@berkeley.edu

Supervision of Completed & Ongoing Diploma Thesis (MSc) – 30 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* 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)
Robin Klemm ("Purification and reconstitution of yeast multidrug transporters"; 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"; ongoing)

Supervision of Completed & Ongoing Doctoral (PhD) Thesis – 19 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 Schwarz Müller ("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)
Laney Tierney - VBC PhD Student ("The Molecular basis of fungal commensalism“ December 2012)
Cornelia Klein – Marie-Curie ESR ("Structure-function of yeast ABC transporters"; ongoing)
Michael Tscherner – VBC PhD Student ("Chromatin & fungal pathogenicity of *Candida*"; ongoing)
Florian Zwolanek – MFPL PhD Student ("Tec signaling in the host immune response"; ongoing)
Fabian Istel – MFPL PhD Student ("Reverse genetics to understand antifungal resistance"; ongoing)
Sabrina Jenull – MFPL PhD Student ("Chromatin function in virulence of *Candida* pathogens, ongoing)

National & International Teaching Experience

I have a long-standing experience in teaching molecular biology and genetics at both graduate and undergraduate levels at Austrian as well as international universities.

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. A copy of selected onlineevaluations from one *MCW Block (BL7) from WS2005 and WS2007* is included.

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.

Foreign Universities & International Teaching at 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 and Chair of the international **1st, 2nd, 3rd and 4th FEBS Advanced Lecture Courses** on **ABC Proteins** ("*ABC Transporters: From Multidrug Resistance to Genetic Disease*") with 120 student /PhD participants.

2005, 2007, 2009, 2011 & 2013: Co-Organizer & Co-Chair of **1st, 2nd, 3rd, 4th & 5th FEBS Advanced Lecture Courses** on **Systems Biology** ("*Systems Biology: From Molecules to Life*") with 120 young scientists and PhD students

Main Research Interests

We study fundamental problems in infection biology 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 relationships and which mechanisms *Candida* spp utilize to initiate the commensal-pathogenic switch. On the pathogen side, we use reverse genetics, systems biology and timely genomics strategies (RNA-Seq / Chip-Seq) to (i) identify virulence and antifungal drug resistance genes, (ii) to decipher the role of histone modifications in gene regulation, morphogenetic switching or cell fate determination, and (iii) we study the genetic/genomic adaptations occurring in fungal morphogenesis during host colonization. Further, we decipher structure-function relationships of ABC transporters mediating xenobiotic and antifungal resistance, and we wish to answer how stress-signaling pathways impact growth control and proliferation in yeast. On the host immune side, we use primary phagocytes and genomic strategies (RNA-Seq) to study (i) immune signaling in primary innate cells in vitro and mouse models in vivo, (ii) the interplay of adaptive and innate immunity in fungal immune surveillance, and (iii) the role of type I interferon signaling (i.e. IFN- β) in controlling the function and activity of inflammatory phagocytes (monocytes, neutrophils) to determine the magnitude and outcome of fungal sepsis.

As for **fungal pathogens**, we wish to:

- i) identify fungal virulence and genes implicated in antifungal drug resistance,
- ii) decipher the role of histone-modifying enzymes such as histone deacetylases / histone acetyl transferases (HDAC/HAT) in morphogenetic switching or cell fate determination,
- iii) study the genetic and genomic adaptation processes occurring in fungal pathogens during specific host niche colonization, and
- iv) decipher the structure-function relationships of ABC transporters conferring antifungal drug resistance in relevant *Candida* spp.

On the **host immune response aspect**, we are delineating:

- (i) the signaling response in primary *ex vivo* innate immune cells, as well as in mouse models infected with fungal pathogens, including the function of novel microbial pathogen receptors
- (ii) the signaling cross-talk of adaptive and innate immunity during immune surveillance,
- (iii) the role of type I interferons (i.e. IFN- β) in fungal virulence and host dissemination, and which mechanism IFN- β signaling exploits to stimulate migration of inflammatory phagocytes
- (iv) the signaling mechanisms by which innate phagocytes provide instructions for the adaptive immune response, but also how signaling drives the recruitment of inflammatory phagocytes and controls the outcome of fungal infections.

List of Publications

Overall, more than **130 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 about **700**. More than **130 invited talks** at international meetings, conferences and university institutions. Based on *Google Scholar*, scientific publications have been cited some **6500** times, with a current life-time Hirsch **h Index** of **41**

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
4. Kuchler, K., M. Gmachl, M.J. Sippl, & G. Kreil (1989). Analysis of the cDNA for phospholipase A₂ from honeybee venom glands: The deduced amino acid sequence reveals homology to the corresponding vertebrate enzymes. **Eur. J. Biochem.** 184: 249-254
5. Kuchler, K., R. Sterne, & J. Thorner (1989). *Saccharomyces cerevisiae* STE6 gene product: A novel pathway for protein export in eukaryotic cells. **EMBO J.** 8: 3973-3985
6. Sperka-Gottlieb, C., E.-V. Fasch, K. Kuchler, A.M. Bailis, S.A. Henry, F. Paltauf, & S.D. Kohlwein (1990). The hydrophilic and acidic N-Terminus of the enzyme phosphatidylserine synthase is required for efficient membrane insertion. **Yeast** 6: 331-343

7. Kuchler, K., K. Richter, J. Trnovsky, R. Egger, & G. Kreil (1990). Two precursors of thyrotropin releasing hormone from Skin of *Xenopus laevis*. Each contains seven copies of the end product. **J. Biol. Chem.** 265:11731-11735
8. Kuchler, K., & J. Thorner (1992). Functional expression of human *mdr1* in the yeast *Saccharomyces cerevisiae*. **Proc. Natl. Acad. Sci. (USA)** 89: 2302-2306
9. Kuchler, K., & J. Thorner (1992). Secretion of proteins lacking hydrophobic signal sequences: the role of ATP-driven membrane translocators. **Endocrine Rev.** 13:499-14
10. Bulant, M., K. Richter, K. Kuchler & G. Kreil (1992). A cDNA from brain of *Xenopus laevis* coding for a new precursor of thyrotropin-releasing hormone. **FEBS Lett.** 296: 292-296
11. Kuchler, K., H. Dohlman, & J. Thorner (1993). The *a*-factor transporter (*STE6* gene product) from *Saccharomyces cerevisiae* and cell polarity. **J. Cell Biol.** 120:1203-1215
12. Kuchler, K. (1993). Unusual routes of protein secretion: the easy way out. **Trends Cell Biol** 3:421-26
13. Bissinger, P. & K. Kuchler (1994). Molecular cloning and expression of the *Saccharomyces cerevisiae* *STS1* gene product: A yeast ABC-transporter conferring mycotoxin resistance. **J. Biol. Chem.** 269: 4180-4187
14. Egner, R., Mahé Y., Pandjaitan, R., & K. Kuchler (1995). Endocytosis and vacuolar degradation of the plasma membrane localized yeast Pdr5 ATP-binding cassette multidrug transporter. **Mol. Cell. Biol.** 15: 5879-5887
15. Sanglard, D., Kuchler, K., Ischer, F., Pagani, J.-L., Monod, M. K., & J. Bille (1995). The mechanisms of azole antifungals resistance in *Candida albicans* isolates from AIDS patients involve specific multidrug transporters. **Antimicrob. Agents Chemoth.** 39: 2378-2386
16. Vieira, A. K, Kuchler, & W. Schneider (1995). Retinol in avian oogenesis: Molecular properties of the carrier protein. **DNA Cell Biol.** 14: 403-410
17. Ottnad-Hengstschläger, E., Kuchler, K. & W.J. Schneider (1995). Chicken LCAT: cDNA cloning and developmental pattern of expression. **J. Biol. Chem.** 270: 26139-26145
18. Mahé Y., A. Parle-McDermott, A. Nourani, A. Delahodde, A. Lamprecht & K. Kuchler (1996). The ATP-binding cassette multidrug transporter Snq2 of *Saccharomyces cerevisiae*: a novel target for the transcription factors Pdr1 and Pdr3. **Mol. Microbiol.** 20: 109-117
19. Egner, R. & K. Kuchler (1996). The yeast multidrug transporter Pdr5 is ubiquitinated prior to endocytosis and degradation in the vacuole. **FEBS Lett.** 378: 177-181
20. Mahé Y., Y. Lemoine, & K. Kuchler (1996). The ATP-binding cassette multidrug transporters Pdr5 and Snq2 of *Saccharomyces cerevisiae* can mediate transport of steroids *in vivo*. **J. Biol. Chem.** 271: 25167-25173
21. Urlinger, S., K. Kuchler, T. H. Meyer, S. Uebel & R. Tampé (1997). Intracellular location, complex formation and function of the transporter associated with antigen processing in yeast. **Eur. J. Biochem.** 245: 266-272
22. Bartl, S., Taplick, J., Lagger, G., Khier, H., K. Kuchler, & C. Seiser (1997). Identification of histone deacetylase1 as a growth factor-inducible gene. **Mol. Cell. Biol.** 17: 5033-5043
23. Kean, L. S., Grant, A. M., Angeletti, C., Mahé, Y., Kuchler, K., Fuller, R. S., & W. J. Nichols. (1997). Plasma membrane translocation of fluorescent-labeled phosphatidylethanolamine is controlled by the transcription regulators *PDR1* and *PDR3*. **J. Cell. Biol.** 138: 255-270
24. Wendler, F. H. Bergler, K. Prutej, H. Jungwirth, G. Zisser, Kuchler, K., & G. Högenauer (1997). Diazaborine resistance in the yeast *S. cerevisiae* reveals a link between *YAP1* and the pleiotropic drug resistance genes *PDR1* and *PDR3*. **J. Biol. Chem.** 272: 27091-27099
25. Wolfger, H., Mahé, Y., Parle-McDermott, A., Delahodde A., & K. Kuchler (1997). The yeast ATP-binding cassette (ABC) protein genes *PDR10* and *PDR15* are novel targets for the Pdr1 and Pdr3 transcriptional regulators. **FEBS Lett.** 418: 269-274
26. Egner, R., F. E. Rosenthal, N. Kralli, D. Sanglard & K. Kuchler (1998). Genetic separation of FK506 susceptibility and drug transport in the yeast Pdr5 ABC multidrug resistance transporter. **Mol. Biol. Cell.** 9: 523-543
27. Metz, M., A. Pichler, Kuchler, K., & S. Kane (1998). Construction and characterization of novel tricistronic retroviral vectors using two EMCV-based internal ribosome entry sites. **Som. Cell Mol. Genet.** 24: 53-69

28. Piper, P., Y. Mahé, S. Thompson, R. Pandjaitan, C. Holyoak, R. Egner, M. Mühlbauer, P. Coote, & K. Kuchler (1998). The Pdr12 ABC transporter is required for the development of weak organic acid resistance in yeast. **EMBO J.** 17: 4257-4265
29. Plemper, R. K, R. Egner, K. Kuchler & D.H. Wolf (1998). Endoplasmic reticulum degradation of a mutated ATP-binding cassette transporter Pdr5 proceeds in a concerted action of Sec61 & the proteasome. **J. Biol. Chem.** 273: 32848-32856 (DHW & KK equal senior authors)
30. Edelmann, H., P. Duchek, F. E. Rosenthal, N. Föger, C. Glackin, S.E. Kane & K. Kuchler (1999). *CMDR1*, a chicken P-glycoprotein, confers multidrug resistance and interacts with estradiol. **Biol. Chem.** 380: 231-241
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Invited Lectures at International Meetings & Conferences since 2005

Since 1989, I have delivered more than **130 invited lectures** and **seminars** at international meetings, conferences and university or research institutions, respectively.

- 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 GRC-2013 *Membrane Transporters*, Ventura, USA
- 2012:** Invited speaker at the ICSB-2012 on Systems Biology in Toronto, Canada
Invited speaker at ICY-2012 in Madison, USA
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 *ESC Fungal Pathogen Course*, Debrecen, Hungary
Invited keynote speaker "*European Conference on Microbial Communication*" MiCom2012 Jena
Invited chair at the 4th FEBS Special Meeting on ABC Proteins, Innsbruck, Austria
- 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
- 2010:** Invited keynote speaker at the Smolenice Yeast Conference, Smolenice Castle, Slovakia
Invited keynote plenary speaker at the PYFF4 Conference, Rotterdam, The Netherlands
Workshop speaker at the YGMB2010 Conference – Genomics Workshop, Vancouver, Canada
Platform speaker at the YGMB2010 Conference, Vancouver, Canada
Invited keynote plenary speaker at the HDBMB2010 Conference in Opatja, Croatia
Invited speaker at German DFG Priority Programme SPP1160 Meeting, Kloster Banz, Germany
Invited speaker at the FWO Workshop on Fungal Biofilms, Leuven, Belgium
- 2009:** Invited speaker at the Practical Course on *Candida* Pathogenesis in Madrid, Spain
Invited chair at the FEBS Advanced Lecture Course Systems Biology, Alpbach, Austria
Invited speaker at the Lecture Course on Yeast Systems Biology, Göteborg, Sweden
Invited speaker ERA-SysBio Meeting European on Standards for SysBio PhD Training, Alpbach
Invited speaker at the Fungal Cell Wall Meeting, Warsaw, Polen
Invited speaker at the *Takeda Foundation Symposium* in Tokyo, Japan
Invited keynote plenary speaker, Annual Yeasterday Meeting, Amsterdam, The Netherlands
Invited speaker at the *1st International iCeMS Symposium* in Kyoto, Japan
Invited chair at the Gordon Research Conference on Multidrug Transporters, Galveston, USA
Invited speaker at the "27th SMYTE Meeting" in Leuven, Belgium
- 2008:** Invited chair at ABC2008 - 2nd FEBS Special Meeting on ABC Proteins in Innsbruck, Austria
Invited speaker at the "14th Söllerhaus Meeting" of the University of Stuttgart in Riezlern
Invited chair & speaker at YGMB2008 – Yeast Genetics & Molecular Biology, Toronto, Canada
Invited chair at ASM2008 – ASM *Candida* and Candidiasis Meeting in New York, USA
- 2007:** Invited chair at the 32st FEBS Congress FEBS2007 in Vienna, Austria
Invited speaker, 2nd Course on Human Fungal Pathogens, La Colle Sur Loup, France
- 2006:** Invited speaker at the 31st FEBS Congress in Istanbul, Turkey
Invited speaker at the "24th SMYTE Meeting" in Prague, Czech Republic
Invited speaker at the Symposium "*The Chemistry of Life*", University of Stuttgart, Stuttgart
Platform speaker the YGMB2006 Yeast Genetics & Molecular Biology Meeting, Princeton, USA
Invited speaker ERA-Net Symposium on Pathogenomics at Schloss Hohenkammer, Germany
Invited chair ABC2006, the 1st FEBS Special Meeting on ABC Proteins in Innsbruck, Austria
Invited chair MYK006, the joint German-Austrian Annual Meeting of Mycological Societies
- 2005:** Invited speaker at the 1st FEBS Course on Systems Biology in Gosau, Austria
Invited speaker at the Course on Human Fungal Pathogens, La Colle Sur Loup, France
Invited speaker at the EuroCase Workshop in Brussels

Invited Lectures at Universities & Biotech / Pharma Companies since 2005

- 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
- 2010:** University of Frankfurt Biocenter, Department of Biochemistry, Frankfurt, Germany
Novartis Pharma, Boston USA
- 2009:** University of Iowa, Iowa City, USA
University of Tokyo, Department of Pharmaceutical Sciences, Japan
Comenius University of Bratislava, Slovak Republic
Swammerdam University of Amsterdam, The Netherlands
- 2008:** Medical University of Innsbruck, Institute of Medical Biochemistry
State University of New York, Stony Brook, Department of Microbiology
Danube University Krems, Department Clinical Medicine & Biotechnology
Katholieke Universiteit Leuven, Department of Molecular Microbiology
Comenius University of Bratislava, Slovak Republic
- 2007:** University of Göttingen Department of Medical Microbiology, Germany
- 2006:** Ruder Boskovic Institute, Department for Molecular Biology, Croatia
University of Stuttgart, Department of Biochemistry, Germany
- 2005:** University of Stuttgart, Department of Biochemistry, Germany
University of Graz, Department of Microbiology, Austria