

## CURRICULUM VITAE

### NAME

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### UNIVERSITY EDUCATION, CURRENT AND PREVIOUS APPOINTMENTS

- 10/1978-7/1984 School of Veterinary Medicine, Hannover, Germany  
July 12, 1984 Veterinary medical civil-service examination  
Dec. 3, 1984 Licence to practice  
6/1985-12/1987 Graduate course in Veterinary Pathology, School of Veterinary Medicine Hannover  
Dec. 19, 1987 Award of doctoral degree Dr. med. vet.  
1/1988-6/1989 Postdoctoral Associate, Department of Pathology, Cancer Biology Laboratories,  
Cornell University, Ithaca, NY, USA  
7/1989-9/1992 Graduate Student, Department of Pathology, Cancer Biology Laboratories,  
Cornell University, Ithaca, NY, USA  
Aug. 24, 1992 PhD (Cornell University) in Experimental Pathology, subspecialty Cancer Cell Biology  
10/1992-2/2001 Research Assistant Professor (C1, C2), Head of the Cell Biology Laboratory, Clinic for  
Gynecology and Obstetrics, University of Göttingen Medical School, Göttingen, Germany  
Nov. 5, 1997 Venia legendi (Habilitation) in Molecular Cell Biology, Univ. of Göttingen, Germany  
3/2001-12/2006 Head, Dept. of Vascular Biology & Angiogenesis Research, Institute of Molecular Oncology,  
Tumor Biology Center, Freiburg, Germany  
12/2002-4/2006 Adjunct Professor, Medical Faculty of the Albert-Ludwigs-University Freiburg, Germany  
5/2006- Aventis Foundation-endowed Chair for Vascular Biology and Angiogenesis Research, Joint  
Research Division Vascular Biology of the Medical Faculty Mannheim, University of  
Heidelberg, and the German Cancer Research Center Heidelberg, Germany

### COORDINATING FUNCTIONS

- 2/1997 Founder of the German vascular biology network (with biannual meeting series)  
9/1998- 5/2006 Coordinator of nationwide German angiogenesis Priority Research Grant (SPP1069,  
[www.angiogenese.de](http://www.angiogenese.de))  
5/2005- Coordinator of the nationwide German tumor-vessel interaction Priority Research Grant  
(SPP1190, [www.tumorstemcell.de](http://www.tumorstemcell.de))  
5/2005- Founding member and Chairman of VWFB e.V. (Verein zur Förderung wissenschaftlicher  
Fachtagungen e.v.; [www.vwfb.de](http://www.vwfb.de))

7/2005- Vice Speaker of the SFB-TR23 "Vascular Differentiation and Remodeling" of the Universities Frankfurt, Heidelberg, and Freiburg ([www.transregio23.de](http://www.transregio23.de))

### RESEARCH PROFILE AND MISSION STATEMENT

The lab studies 1.) the molecular mechanisms of tumor angiogenesis focusing on angiogenesis regulating receptor tyrosine kinases, most notably on the Angiopoietin-Tie and the ephrinB-EphB ligand-receptor systems, 2.) the molecular mechanisms of physiological blood and lymphatic vessel formation, assembly, and maturation focusing on selected novel candidate molecules, 3.) the molecular mechanisms of tumor progression focusing on tumor-vessel interactions during metastasis (role of tumor cell – endothelial cell interactions in the control of site-specific metastasis), and 4.) translational tumor angiogenesis experiments aimed at defining the therapeutic window of anti-angiogenic tumor therapies. Conceptually, the lab's work is considered as basic tumor biology research with the aim of identifying and validating novel therapeutic targets.

### FUNDED PROJECTS

Continuous DFG funding since 1994; continuous funding by Deutsche Krebshilfe since 1996; continuous funding by EU since 2001; present funding through DFG (SFB-TR23, project A3 [[www.transregio23.de](http://www.transregio23.de)]; SPP1190 [[www.tumorvessel.de](http://www.tumorvessel.de)]), EU (integrated project lymphangiogenomics [[www.lymphomic.org](http://www.lymphomic.org)]), Austrian FWF (Priority Grant Angiogenesis). The lab has trained more than 20 PhD students and a number of MD and DVM students. There are presently 10 PhD students in the lab.

### AWARDS

Erich Aehnelt Memorial Award (Prize for best doctoral thesis; School of Vet. Medicine Hannover; 12/1987); Postdoctoral Fellowship - Deutsche Forschungsgemeinschaft (7/1989-6/1991); Cornell University Research Assistantship (7/1991-6/1993); Tertio loco - Professorship for Exp. Pathology (C3), LMU München (12/1999); Primo et unico loco - Professorship for Pathology, University Ulm (9/2000, declined); Binder Innovation Prize of the German Society for Cell Biology (6/2003); Full Professorship (W3) for Biochemistry at the University of Giessen (5/2005, declined), Full Professorship (W3) for the Aventis-endowed Chair for Vascular Biology and Tumor Angiogenesis at the University of Heidelberg (Mannheim Campus) and the German Cancer Research Center (9/2005, accepted in 2/2006)

### ORIGINAL PUBLICATIONS (last 3 years)

1. Krauss T, Pauer U, Augustin HG: Prospective analysis of placenta growth factor (PlGF) concentrations in the plasma of women with normal pregnancy and pregnancies complicated by preeclampsia. **Hypertens. Pregnancy** 22: 101-111, 2004
2. Goettsch W, Augustin HG, Morawietz H: Down-regulation of endothelial EphrinB2 expression by laminar shear stress. **Endothelium** 11:259-265, 2004
3. Stahl A, Wenger A, Weber H, Stark GB, Augustin HG, Finkenzeller G: Bi-directional cell contact-dependent regulation of gene expression between endothelial cells and osteoblasts in a three-dimensional spheroidal coculture model. **Biochem. Biophys. Res. Commun.** 322: 684-692, 2004
4. Wenger A, Stahl A, Weber H, Finkenzeller G, Augustin HG, Stark GB, Kneser U: Modulation of in vitro angiogenesis in a three-dimensional spheroidal co-culture model for bone tissue engineering. **Tissue Eng.** 10: 1536-1547, 2004
5. Korff T, Krauss T, Augustin HG: Three-dimensional spheroidal culture of cytotrophoblast cells mimics the phenotype and differentiation of cytotrophoblasts from normal and preeclamptic pregnancies. **Exp. Cell Res.** 297: 415-423, 2004
6. Hegen A, Koidl S, Weindel K, Marme D, Augustin HG, Fiedler U: Expression of angiopoietin-2 in endothelial cells is controlled by positive and negative regulatory promoter elements. **Arterioscler. Thromb. Vasc. Biol.** 24: 1803-1809, 2004
7. Fiedler U, Scharpfenecker M, Koidl S, Hegen A, Grunow V, Schmidt JM, Kriz W, Thurston G, Augustin HG: The Tie-2 ligand Angiopoietin-2 is stored in and rapidly released upon stimulation from endothelial cell Weibel-Palade bodies. **Blood**, 103: 4150-4156, 2004

8. Martiny-Baron G, Korff T, Schaffner F, Esser N, Eggstein S, Marmé D, Augustin HG: Inhibition of tumor growth and angiogenesis by soluble EphB4. **Neoplasia**, 6: 248-257, 2004
9. Scharpfenecker M, Fiedler U, Reiss Y, Augustin HG: The Tie-2 ligand Angiopoietin-2 destabilizes quiescent endothelium through an internal autocrine loop mechanism. **J. Cell Sci.**, 118:771-780, 2005
10. Saharinen P, Kerkela K, Ekman N, Marron M, Brindle N, Lee GM, Augustin H, Koh GY, Alitalo K: Multiple angiopoietin recombinant proteins activate the Tie1 receptor tyrosine kinase and promote its interaction with Tie2. **J. Cell Biol.**, 169:239-243, 2005.
11. Müller SM, Terszowski G, Blum C, Haller C, Anquez V, Kuschert S, Carmeliet P, Augustin HG, Rodewald HR: Gene targeting of VEGF-A in thymus epithelium disrupts thymus blood vessel architecture. **Proc. Natl. Acad. Sci. USA** 102: 10597-10592, 2005
12. Athanasopoulos AN, Economopoulou M, Orlova VV, Sobke A, Schneider D, Weber H, Augustin HG, Eming SA, Schubert U, Linn T, Nawroth PP, Hussain M, Hammes HP, Herrmann M, Preissner KT, Chavakis T: The extracellular adherence protein (Eap) of Staphylococcus aureus inhibits wound healing by interfering with host defense and repair mechanisms. **Blood** 107: 2720-2727, 2006
13. Korff T, Dandekar G, Pfaff D, Füller T, Goettsch W, Morawietz H, Schaffner F, Augustin HG: Endothelial ephrinB2 is controlled by microenvironmental determinants and associates context dependently with CD31. **Arterioscl. Thromb. Vasc. Biol.** 26:468-474, 2006
14. Fiedler U, Christian S, Koidl S, Kerjaschki D, Emmett MS, Bates DO, Christofori G, Augustin HG: The sialomucin CD34 is a marker of tumor-associated lymphatic endothelial cells in human tumors. **Am. J. Pathol.**, 168:1045-1053, 2006
15. Nacak TG, Leptien K, Fellner D, Augustin HG, Kroll J: The BTB-kelch protein LZTR-1 is a novel trans-Golgi network protein and is degraded upon induction of apoptosis. **J. Biol. Chem.**, 281: 5065-5071, 2006
16. Krneta J, Kroll J, Alves F, Prahst C, Sananbenesi F, Dullin C, Kimmina S, Phillips DJ, Augustin HG: Dissociation of angiogenesis and tumorigenesis in activin and follistatin expressing tumors. **Cancer Res.**, 66: 5685-5695, 2006
17. Fiedler U, Reiss Y, Scharpfenecker M, Grunow V, Koidl S, Thurston G, Gale NW, Witzenzath M, Rosseau S, Suttrop N, Sobke A, Herrmann M, Preissner K, Vajkoczy P, Augustin HG: Angiopoietin-2 sensitizes endothelial cells to TNF $\alpha$  and plays a crucial role in the induction of inflammation. **Nat. Med.**, 12:235-239, 2006
18. Shraga-Heled N, Kessler O, Prahst C, Kroll J, Augustin HG, Neufeld G: Neuropilin-1 and neuropilin-2 enhance VEGF<sub>121</sub> stimulated signal transduction by the VEGFR-2 receptor. **FASEB J.**, 21: 915-926, 2007
19. Nacak TG, Alajati A, Leptien K, Fulda C, Weber H, Miki T, Czeplich FS, Waltenberger J, Wieland T, Augustin HG, Kroll J: The BTB-kelch protein KLEIP controls endothelial migration and sprouting angiogenesis. **Circ. Res.**, 100: 1155-1163, 2007
20. Potiron VA, Sharma G, Nasarre P, Clarhaut JA, Augustin HG, Gemmill RM, Roche J, Drabkin HA: Semaphorin SEMA3F affects multiple signalling pathways in lung cancer cells. **Cancer Res**, 67: 8708-8715, 2007
21. Goettsch W, Gryczka C, Korff T, Ernst E, Goettsch C, Seebach J, Schnittler HJ, Augustin HG, Morawietz H: Flow-dependent regulation of Angiopoietin-2. **J Cell Physiol**, in press, 2007
22. Klein D, Demory A, Peyre F, Kroll J, Augustin HG, Helfrich W, Kzhyshkowska J, Schledzewski K, Arnold B, Goerdt B: Wnt2 acts as a cell type-specific, autocrine growth factor in rat hepatic sinusoidal endothelial cells cross-stimulating the VEGF pathway. **Hepatology**, in press, 2007