

CURRICULUM VITAE

Thomas Benzing

Professor of Medicine
Chairman Department II of Internal Medicine
Director Center for Molecular Medicine Cologne
Vice Dean, Faculty of Medicine
University of Cologne

Kerpener Str. 62, 50937 Cologne, Germany
Ph: +49 221 478 4480, Fax: +49 221 478 5959
E-Mail: thomas.benzing@uk-koeln.de

Date of Birth May 12, 1965
Citizenship Germany

Education

1985 High School, Grade point average: 1.0 (with highest distinction)
1985-1987 Civilian Service
1987-1994 Medical School, University of Freiburg
1994 MD thesis with distinction, Thesis title: Regulation of endothelial autacoid synthesis, Department of Physiology, University of Freiburg (Laboratory of Rudi Busse)

Research Career

1995-1996 Internship and Residency in Medicine, University Hospital Freiburg
1996-1998 Postdoctoral Fellow, Institute for Cardiovascular Physiology, University Hospital Frankfurt
1998-2000 Research Fellow in Nephrology, BIDMC/Harvard Medical School, Boston, Fellow of the German Research Foundation (Laboratory of Gerd Walz)
2000-2002 Research Group Leader, University Hospital Freiburg
2002 Venia Legendi for Internal Medicine, Instructor in Medicine (Assistant Professor in Medicine)
2003 Attending Physician, Department of Medicine, University of Freiburg
2003-2005 Heisenberg Fellow of the German Research Foundation (Associate Professor)
2005-2007 Board Member Center for Systems Biology, University of Freiburg
2006-2007 Full Professor (W3), University Hospital Freiburg.
Vice-Chief Renal Division, University Hospital Freiburg
2007- Full Professor of Medicine (W3), Chairman Department II of Internal Medicine, University of Cologne (UoC)
2007- Co-Coordinator of the Cologne Excellence Cluster on Cellular Stress Responses in Aging-Associated Diseases (CECAD), UoC
2010- Acting Director of the Center for Molecular Medicine Cologne, UoC
2011- Coordinator of Systems Biology of Ageing Cologne (Sybacol), UoC
2015- Vice Dean for Finances, Faculty of Medicine
2017- Deputy Chair of the Excellence Cluster CECAD

Medical Licensure and Board Certification

1995 German Medical License
2002 Board Certification in Internal Medicine, Germany
2003 Board Certification in Nephrology, Germany
2005 Hypertension Specialist, Deutsche Hochdruckliga
2014 Human genetic counseling, Germany

Awards and Honors (selection)

1985	Laufenburg Award as top graduating student of the state
2003	Heisenberg Fellowship of the German Research Foundation (DFG)
2004	Adalbert Buding Research Award, German Society of Hypertension
2005	Honorary Fellow of the American Society of Nephrology (FASN)
2005	Franz-Volhard-Award, German Society of Nephrology
2005	Advisory activity for the NIDDK and NIH, USA
2006	Young Investigator Award of the American Society of Nephrology
2008	Honorary Member of the Ludwig Heilmeyer Society
2008	Ernst Jung-Award for Medicine, Ernst-Jung Society Hamburg
2010-	President, Scientific Advisory Board of the KfH Foundation on Prevention of Renal Disease
2010	Elected Member German Academy of Sciences Leopoldina
2010-	Scientific Committee of the International Podocyte Meetings
2013	Congress President of 29 th Klenk Symposium for Molecular Medicine on Systems Approaches in Translational Medicine
2014	Congress President of the 10 th International Podocyte Meeting
2015	Congress President of the Annual Meeting of the German Society of Nephrology
2015	Elected Member American Society of Clinical Investigation
2018	Elected Member of the American Clinical and Climatological Association (ACCA)
2018	Elected Mentor Academicus Scholarium Internationalum of the Association of International Medical Students

Professional Societies, Memberships:

American Society of Nephrology
German Society of Nephrology
European Society of Nephrology ERA/EDTA
International Society of Nephrology
Deutsche Hochdruckliga
Deutsche Gesellschaft für Innere Medizin

Scientific Journals and Editorial Boards:

Editorial board member Journal of the American Society of Nephrology, Kidney International, Nephrology Dialysis Transplantation, American Journal of Physiology Cell Physiology, Science Signaling, Nature Reviews in Nephrology

Reviewer for Cell, Science, Nature, New England Journal of Medicine, Journal of Biological Chemistry, Journal of the American Society of Nephrology, Kidney International, Nephrology Dialysis Transplantation, American Journal of Physiology, Science Signaling, Nature Reviews in Nephrology, Journal for Clinical Investigation ...

Publications (only peer-reviewed) (H-index: 57, as to September 2, 2019)

- Wöstmann, F., Müller, R.U., Göbel, H., **Benzing, T.**, Becker, J.U., Bartram, M.P. (2019) Case Report: a peculiar glomerulopathy in a patient suffering from nephrotic syndrome. **BMC Nephrol**, 20, 326.
- Meyer, A.M., Siri, G., Becker, I., Betz, T., Bödecker, A.W., Robertz, J.W., Krause, O., **Benzing, T.**, Pilotto, A., Polidori, M.C. (2019) The Multidimensional Prognostic Index in general practice: One-year follow-up study. **Int J Clin Pract**, e13403, doi: 10.1111/ijcp.13403.
- Völker, L.A., Burkert, K., Scholten, N., Grundmann, F., Kurschat, C., **Benzing, T.**, Hampl, J., Becker, J.U., Müller, R.U. (2019) A case report of membranoproliferative glomerulonephritis after kidney transplantation due to ventriculoatrial shunt infection. **BMC Nephrol**, 20, 296.
- Kaiser, R.W.J., Ignarski, M., Van Nostrand, E.L., Frese, C.K., Jain, M., Cukoski, S., Heinen, H., Schaechter, M., Seufert, L., Bunte, K., ..., Schermer, B., **Benzing, T.**, Höpker, K., Dieterich, C., Yeo, G.W., Müller, R.U., Fabretti, F. (2019) A protein-RNA interaction atlas of the ribosome biogenesis factor AATF. **Sci Rep**, 9, 11071.
- Burgmaier, K., Kilian, S., Bammens, B., **Benzing, T.**, Billing, H., ..., Wicher, D., Wühl, E., Dötsch, J., Schaefer, F., Liebau, M.C. (2019) Clinical courses and complications of young adults with Autosomal Recessive Polycystic Kidney Disease (ARPKD). **Sci Rep**, 9, 7919.
- Brinkkoetter, P.T., Bork, T., Salou, S., Liang, W., Mizi, A., Özel, C., Koehler, S., Hagmann, H.H., Ising, C., Kuczkowski, A., Schnyder, S., Abed, A., Schermer, B., **Benzing, T.**, Kretz, O., Puellas, V.G., Lagies, S., Schlimpert, M., Kammerer, B., Handschin, C., Schell, C., Huber, T.B. (2019) Anaerobic glycolysis maintains the glomerular filtration barrier independent of mitochondrial metabolism and dynamics. **Cell Rep**, 27, 1551-1566.
- Völker, L.A., Ehren, R., Grundmann, F., **Benzing, T.**, Weber, L.T., Brinkkötter, P.T. (2019) A newly established clinical registry of minimal change disease and focal and segmental glomerulosclerosis in Germany. **Nephrol Dial Transplant**, doi: 10.1093/ndt/gfz046.
- Braun, F., Blomberg, L., Brodesser, S., Liebau, M.C., Schermer, B., **Benzing, T.**, Kurschat, C.E. (2019) Enzyme replacement therapy clears Gb3 deposits from a podocyte cell culture model of Fabry disease but fails to restore altered cellular signaling. **Cell Physiol Biochem**, 52, 1139-1150.
- Meyer, A.M., Becker, I., Siri, G., Brinkkoetter, P.T., **Benzing, T.**, Pilotto, A., Polidori, M.C. (2019) The prognostic significance of geriatric syndromes and resources. **Aging Clin Exp Res**, doi: 10.1007/s40520-019-01168-9.
- Braun, F., Suarez, V., Dinter, J., Haneder, S., Quaas, A., **Benzing, T.**, Nierhoff, D., Müller, R.U. (2019) Successful use of TNFa blockade in a severe case of idiopathic non-granulomatous ulcerative jejunoileitis associated with thrombotic thrombocytopenic purpura. **BMJ Open Gastroenterol**, 6, e000252.
- Ignarski, M., Rill, C., Kaiser, R.W.J., Kaldirim, M., Neuhaus, R., Esmailie, R., Li, X., Klein, C., Bohl, K., Petersen, M., Frese, C.K., Höhne, M., Atanassov, I., Rinschen, M.M., Höpker, K., Schermer, B., **Benzing, T.**, Dieterich, C., Fabretti, F., Müller, R.U. (2019) The RNA-

- protein interactome of differentiated kidney tubular cells. **J Am Soc Nephrol**, 30, 564-576.
- Assady, S., **Benzing, T.**, Kretzler, M., Skorecki, K.L. (2019) Glomerular podocytes in health and disease. **Lancet**, 393, 856-858.
- Phipps, E.A., Thadhani, R., **Benzing, T.**, Karumanchi, S.A. (2019) Pre-eclampsia: pathogenesis, novel diagnostics and therapies. **Nat Rev Nephrol**, 15, 275-289.
- Jain, M., Kaiser, R.W.J., Bohl, K., Hoehne, M., Göbel, H., Bartram, M.P., Habbig, S., Müller, R.U., Fogo, A.B., **Benzing, T.**, Schermer, B., Höpker, K., Slaats, G. G. (2019) Inactivation of apoptosis antagonizing transcription factor in tubular epithelial cells induces accumulation of DNA damage and nephronophthisis. **Kidney Int**, 95, 846-858.
- Schermer, B., **Benzing, T.** (2019) Genome editing with CRISPR/Cas9: First steps towards a new era in medicine? **Dtsch Med Wochenschr**, 144, 276-281.
- Müller, R.U., **Benzing, T.** (2019) Management of autosomal-dominant polycystic kidney disease: state of the art. **Clin Kidney J**, 11 (suppl 1), i2-i13.
- Späth, M.R., Bartram, M.P., Palacio-Escat, N., Hoyer, K.J.R., Debes, C., Demir, F., Schroeter, C.B., Mandel, A.M., Grundmann, F., Ciarimboli, G., Beyer, A., Kizhakkedathu, J.N, Brodesser, S., Göbel, H., Becker, J.U., **Benzing, T.**, Schermer, B., Hoehne, M., Burst, V., Saez-Rodriguez, J., Huesgen, P.F., Müller, R.U., Rinschen, M.M. (2019) The proteome microenvironment determines the protective effect of preconditioning in cisplatin-induced acute kidney injury. **Kidney Int**, 95, 333-349.
- Meyer, A.M., Becker, I., Siri, G., Brinkkötter, P.T., **Benzing, T.**, Pilotto, A., Polidori, M.C. (2018) New associations of the Multidimensional Prognostic Index. **Z Gerontol Geriatr**, 52, 460-467.
- Völker, L., Maar, B., Pulido, B., Bilkei-Gorzo, A., Zimmer, A., Brönneke, H., Dafinger, C., Bertsch, S., Wagener, R.J., Schweizer, H., Schermer, B., **Benzing, T.**, Hoehne, M. (2018) Neph2/Kirrel3 regulates sensory input, motor coordination, and home cage activity in rodents. **Genes Brain Behav**, 17, e12516.
- Slaats, G., Braun, F., Hoehne, B., Frech, L.E., Blomberg, L., **Benzing, T.**, Schermer, B., Rinschen, M.M., Kurschat, C.E. (2018) Urine-derived cells: a promising diagnostic tool in Fabry disease patients. **Sci Rep**, 8, 11042.
- Dafinger, C., Rinschen, M.M., Borgal, L., Ehrenberg, C., Basten, S.G., Franke, M., Hoehne, M., Rauh, M., Göbel, H., Block, W., Wunderlich, F.T., Peters, D.J.M., Tasche, D., Mishra, T., Habbig, S., Dötsch, J., Müller, R.U., Brüning, J.C., Persigehl, T., Giles, R.H., **Benzing, T.**, Schermer, B., Liebau, M.C. (2018) Targeted deletion of the AAA-ATPase Ruvbl1 in mice disrupts ciliary integrity and causes renal disease and hydrocephalus. **Exp Mol Med**, 50, 75.
- Karaiskos, N., Rahmatollahi, M., Botengagen, A., Liu, H., Hoehne, M., Rinschen, M., Schermer, B., **Benzing, T.**, Rajewsky, N., Kocks, C., Kann, M., Müller, R.U. (2018) A single-cell transcriptome atlas of the mouse glomerulus. **J Am Soc Nephrol**, 29, 2060-2068.

- Rinschen, M.M., Gödel, M., Grahammer, F., Zschiedrich, S., Helmstädter, M., Kretz, O., Zarei, M., Braun, D.A., Dittrich, S., Pahmeyer, C., Schroder, P., ..., **Benzing, T.***, Huber, T.B.* (2018) A multilayered quantitative in vivo expression atlas of the podocyte unravels kidney disease candidate genes. **Cell Rep**, 23, 2495-3508. *corresponding author
- Burgmaier, K., Kunzmann, K., Ariceta, G., ..., ESCAPE Study Group (2018) Risk factors for early dialysis dependency in autosomal recessive kidney disease. **J Pediatr**, 199, 22-28.
- Schroeter, C.B., Koehler, S., Kann, M., Schermer, B., **Benzing, T.**, Brinkkoetter, P.T., Rinschen, M. (2018) Protein half-life determines expression of proteostatic networks in podocyte differentiation. **FASEB J**, 32, 4696-4713.
- Müller, R.U., **Benzing, T.** (2018) Cystic kidney diseases from the adult nephrologist's point of view. **Front Pediatr**, 6, 65.
- Grundmann, F., Müller, R.U., Reppenhorst, A., Hülswitt, L., Späth, M.R., Kubacki, T., Schermer, M., Faust, M., Becker, I., Wahlers, T., Schermer, B., **Benzing, T.**, Burst, V. (2018) Preoperative short-term calorie restriction for prevention of acute kidney injury after cardiac surgery: a randomized, controlled, open-label pilot trial. **J Am Heart Assoc**, 7, pii: e008181.
- Hoehne, M., Frese, C.K., Grahammer, F., Dafinger, C., Ciarimboli, G., Butt, L., Binz, J., Hackl, M.J., Rahmatollahi, M., Kann, M., Schneider, S., Alintas, M.M., Schermer, B., Reinheckel, T., Göbel, H., Reiser, J., Huber, T.B., Kramann, R., Seeger-Nukpezah, T., Liebau, M.C. Beck, B.B., **Benzing, T.**, Beyer, A., Rinschen, M.M. (2018) Single nephron proteomes connect morphology and function in proteinuric kidney disease. **Kidney Int**, 93, 1308-1319.
- Welcker, D., Jain, M., Khurshid, S., Jokic, M., Hoehne, M., Schmitt, A., Frommolt, P., Niessen, C.M., Spiro, J., Persigehl, T., Wittersheim, M., Büttner, R., Fanciulli, M., Schermer, B., Reinhardt, H.C. *, **Benzing, T. ***, Hoepker, K. (2018) AATF suppresses apoptosis, promotes proliferation and is critical for Kras-driven lung cancer. **Oncogene**, 37, 1503-1518. *corresponding author
- Siedek, F., Persigehl, T., Mueller, R.U., Burst, V., **Benzing, T.**, Maintz, D., Haneder, S. (2018) Assessing renal changes after remote ischemic preconditioning (RIPC) of the upper extremity using BOLD imaging at 3T. **MAGMA**, epub ahead of print, 31, 367-374.
- Hagmann, H., Mangold, N., Rinschen, M.M., Koenig, T., Kunzelmann, K., Schermer, B., **Benzing, T.**, Brinkkoetter, P.T. (2018) Proline-dependent and basophilic kinases phosphorylate human TRPC6 at serine 14 to control channel activity through increased membrane expression. **FASEB J**, 32, 208-219.
- Rinschen, M.M., Hoppe, A.K., Grahammer, F., Kann, M., Völker, L.A., Schurek, E.M., Binz, J., Hoehne, M., Demir, F., Malisic, M., Huber, T.B., Kurschat, C., Kizhakkedathu, J.N., Schermer, B., Huesgen, P.F., **Benzing, T.** (2017) N-degradomic analysis reveals a proteolytic network processing the podocyte cytoskeleton. **J Am Soc Nephrol**, 28, 2867-2878.
- Kohli, P., Hoehne, M., Jüngst, C., Bertsch, S., Ebert, L.K., Schauss, A.C., **Benzing, T.**, Rinschen, M.M., Schermer, B. (2017) The ciliary membrane-associate proteome reveals actin-binding proteins as key components of cilia. **EMBO Rep**, 18, 1521-1535

- Franke, M., Baeßler, B., Vechtel, J., Dafinger, C., Hoehne, M., Borgal, L., Göbel, H., Hoerber, F., Maintz, D., **Benzing, T.**, Schermer, B., Persigehl, T. (2017) Magnetic resonance T2 mapping and diffusion-weighted imaging for early detection of cystogenesis and response to therapy in a mouse model of polycystic kidney disease. **Kidney Int**, 92, 1544-1554.
- Cremaschi, L., von Versen, R., **Benzing, T.**, Wiesener, M., Zink, N., Milkovich, G., Paivanas, T., Galagher, M., Thaiss, F. (2017) Induction therapy with rabbit antithymocyte globulin versus basiliximab after renal transplantation: A health economic analysis from the German perspective. **Transplant Int**, 30, 1011-1019.
- Bartram, M.P., Mishra, T., Reintjes, N., Fabretti, F., Gharbi, H., Adam, A.C., Göbel, H., Franke, M., Schermer, B., Haneder, S., **Benzing, T.**, Beck, B., Müller, R.U. (2017) Characterization of a splice-site mutation in the tumor suppressor gene FLCN associated with renal cancer. **BMC Med Genet**, 18, 53.
- Rinschen, M.M., Grahammer, F., Hoppe, A.K., Kohli, P., Hagmann, H., Kretz, O., Bertsch, S., Hoehne, M., Göbel, H., Bartram, M.P., Gandhirajan, R.K., Krüger, M., Brinkkötter, P.T., Huber, T.B., Kann, M., Wickström, S.A., **Benzing, T.** *, Schermer, B. * (2017) YAP-mediated mechanotransduction determines the podocyte's response to damage. **Science Signal**, 10, pii: eaaf8165. *corresponding author
- Ebner, K., Dafinger, C., Ortiz-Bruechle, N., Koerber, F., Schermer, B., **Benzing, T.**, Doetsch, J., Zerres, K., Weber, L.T., Beck, B., Liebau, M.C. (2017) Challenges establishing genotyp-phenotype correlations in ARPKD: case report on a toddler with two severe *PKHD1* mutations. **Pediatr Nephrol**, 32, 1269-1273.
- Voskarides, K., Stefanou, C., Pieri, M., Demosthenous, P., Flekkis, K., Arsali, M., ..., Hoehne, M., Völker, L., **Benzing, T.**, ..., Deltas, C. (2017) A functional variant in the NEPH3 gene confers high risk in renal failure in primary hematuric glomerulopathies. **PLOS One**, 6, 35400.
- Ebner, K., Schäfer, F., Liebau, M., and the ARegPKD consortium. (2017) Recent progress of the ARegPKD study on Autosomal Recessive Polycystic Kidney Disease. **Front Pediatr**, 5, 18.
- Köhler, S., Brähler, S., Braun, F., Hagmann, H., Rinschen, M.M., Späth, M.R., Hoehne, M., Wunderlich, T., Schermer, B., **Benzing, T.**, Brinkkötter, P.T. (2017) Construction of a viral T2a-peptide based knock-in mouse model for enhanced Cre recombinase activity and fluorescent labeling of podocytes. **Kidney Int**, 91, 1510-1517.
- Röhrig, G., Polidori, M.C., Rascher, K., Schaller, M., **Benzing, T.**, von Gersdorff, G. (2016) Burden of multimorbidity and outcome in ambulatory geriatric hemodialysis patients: report from the QiN registry in Germany. **Z Gerontol Geriatr**, 51, 60-66.
- Köhler, S., Brähler, S., Kuczkowski, A., Binz, J., Hackl, M.J., Hagmann, H., Hoehne, M., Vogt, M.C., Wunderlich, C.M., Wunderlich, F.T., Schweda, F., Schermer, B., **Benzing, T.**, Brinkkötter, P.T. (2016) Single and transient calcium peaks in podocytes do not induce changes in glomerular filtration and perfusion. **Sci Rep**, 6, 35400.
- Johnsen, M., Späth, M.R., Denzel, M.S., Göbel, H., Kubacki, T., Hoyer, K.J., Hinze, Y., **Benzing, T.**, Schermer, B., Antebi, A., Burst, V., Müller, R.U. (2016) Oral

supplementation of glucosamine fails to alleviate acute kidney injury in renal ischemia-reperfusion damage. **Plos One**, 11, e0161315.

- Grahammer, F., Wigge, C., Schell, C., Kretz, O., Patrakka, J., Schneider, S., Klose, M., Arnold, S.J., Habermann, A., Bräuniger, R., Rinschen, M.M., Völker, L., Bregenzer, A., Rubbenstroth, D., Boerries, M., Kerjaschki, D., Miner, J.H., Walz, G., **Benzing, T.**, Fornoni, A., Frangakis, A.S., Huber, T.B. (2016) A flexible, multilayered protein scaffold maintains the slit in between glomerular podocytes. **JCI Insight**, 1, e86177.
- Roeseler, E., Julius, U., Heigl, F., Spitthoever, R., Heutling, D., Breitenberger, P., Leebmann, J., Lehmacher, W., Kamstrup, P.R., Nordestgaard, B.G., Maerz, W., Noureen, A., Schmidt, K., Kronenberg, F., Heibges, A., Klingel, R., Pro(a)LiFe-Study Group (2016) Lipoprotein apheresis for lipoprotein(a)-associated cardiovascular disease: prospective 5 years of follow-up and Apo(a) characterization. **Arterioscler Thromb Vasc Biol**, 36, 2019-2027.
- Rinschen, M.M., Schroeter, C.B., Koehler, S., Ising, C., Schermer, B., Kann, M., **Benzing, T.**, Brinkkoetter, P.T. (2016) Quantitative deep mapping of the cultured podocyte proteome uncovers shifts in proteostatic mechanisms during differentiation. **Am J Physiol Cell Physiol**, 311, C404-417.
- Scholz, P., Auler, M., Brachvogel, B., **Benzing, T.**, Mallmann, P., Streichert, T., Klatt, A.R. (2016) Detection of multiple annexin autoantibodies in a patient with recurrent miscarriages, fulminant stroke and seronegative antiphospholipid syndrome. **Biochem Med**, 26, 272-278.
- Grahammer, F., Ramkrishnan, S.K., Rinschen, M.M., Larionov, A.A., Syed, M., Khatib, H., Roerden, M., Sass, J.O., Helmstaedter, M., Osenberg, D., Kühne, L., Wanner, N., Jouret, F., **Benzing, T.**, Artunc, F., Huber, T.B., Theilig, F. (2016) mTOR regulates endocytosis and nutrient transport in proximal tubular cells. **J Am Soc Nephrol**, 28, 230-241.
- Koehler, S., Tellkamp, F., Niessen, C.M., Bloch, W., Kerjaschki, D., Schermer, B., **Benzing, T.**, Brinkkötter, P.T. (2016) Par3 is dispensable for the function of the glomerular filtration barrier of the kidney. **Am J Physiol Renal Physiol**, 311, F112-119.
- Laghmani, K., Beck, B.B., Yang, S.S., ..., **Benzing, T.**, Levtchenko, E., Seyberth, H.W., Klaus, G., Yigi, G., Lin, S.H., Timmer, A., de Koning, T.J., Scherjon, S.A., Schlingmann, K.P., Bertrand, M.J., Rinschen, M.M., de Backer, O., Konrad, M., Kömhoff, M. (2016) Polyhydramnios, transient antenatal Bartter's syndrome, and MAGED2 mutations. **N Engl J Med**, 374, 1853-1863.
- Ising, C., Bharill, P., Brinkkoetter, P.T., Brähler, S., Schroeter, C., Koehler, S., Hagmann, H., Merkwirth, C., Hoehne, M., Müller, R.U., Fabretti, F., Schermer, B., Bloch, W., Kerjaschki, D., Kurschat, C.E., **Benzing, T.**, Brinkkötter, P.T. (2016) Prohibitin-2 depletion unravels extra-mitochondrial functions at the kidney filtration barrier. **Am J Pathol**, 186, 1128-1139.
- Bartram, M.P., Amendola, E., **Benzing, T.**, Schermer, B., de Vita, G., Müller, R.U. (2016) Mice lacking microRNAs in Pax8-expressing cells develop hypothyroidism and endstage renal failure. **BMC Mol Biol**, 17, 11.

- Ghandirajan, R.K., Jain, M., Walla, B., Johnsen, M., Bartram, M.P., **Benzing, T.**, Schermer, B. (2015) Cysteine S-glutathionylation Promotes Stability and Activation of the Hippo Downstream Effector Transcriptional Co-activator with PDZ-binding Motif (TAZ). **J Biol Chem**, 291, 11596-11607.
- Steculorum, S.M., Ruud, J., Karakasitioti, I., Backes, H., Engström Ruud, L., Timper, K., ..., **Benzing, T.**, Rahmouni, K., Wunderlich, F.T., Kloppenburg, P., Brüning, J.C. (2016) AgRP neurons control systemic insulin sensitivity via myostatin expression in brown adipose tissue. **Cell**, 165, 125-138.
- Borgal, L., Rinschen, M.M., Dafinger, C., Liebrecht, V.I., Abken, H., **Benzing, T.**, Schermer, B. (2016) Jade-1S phosphorylation induced by CK1alpha contributes to cell cycle progression. **Cell Cycle**, 15, 1034-1045.
- Gansevoort, R.T., Arici, M., **Benzing, T.**, Birn, H., Capasso, G., Covic, A., Devuyst, O., Drechsler, C., Eckardt, K.U., Emma, F., Knebelmann, B., Le Meyr, Y., ..., Zoccali, C., Van Biesen, W. (2016) Recommendations for the use of tolvaptan in autosomal dominant polycystic kidney disease. **Nephrol Dial Transplant**, 31, 337-348.
- Benzing, T.** (2016) Hypertension: Testing for pre-eclampsia: paving the way to early diagnosis. **Nature Reviews Nephrol**, 12, 200-202.
- Braun, F., Rinschen, M.M., Bartels, V., Frommolt, P., Habermann, B., Hoeijmakers, J.H., Schumacher, B., Dolle, M.E., Müller, R.U., **Benzing, T.**, Schermer, B., Kurschat, C.E. (2016) Altered lipid metabolism in the aging kidney identified by three layered omic analysis. **Aging**, 8, 441-457.
- Rinschen, M.M., Bharill, P., Wu, X., Kohli, P., Reinert, M.J., Kretz, O., Saez, I., Schermer, B., Hoehne, M., Bartram, M.P., Aravamudhan, S., Brooks, B.R., Vilchez, D., Huber, T.B., Müller, R.U., Krüger, M., **Benzing, T.** (2016) The ubiquitin ligase Ubr4 controls stability of podocin/MEC-2 supercomplexes. **Hum Mol Genet**, 25, 1328-1344.
- Schermer, B., **Benzing, T.** (2016) Endothelial cilia protect against atherosclerosis. **Embo Rep**, 17, 125-126.
- Bartram, M.P., Habbig, S., Pahmeyer, C., Hoehne, M., Weber, L.T., Thiele, H., Altmüller, J., Kottoor, N., Wenzel, A., Krueger, M., Schermer, B., **Benzing, T.**, Rinschen, M.M., Beck, B. B. (2016) Three-layered proteomic characterization of a novel ACTN4 mutation unravels its pathogenic potential in FSGS. **Hum Mol Genet**, 25, 1152-1164.
- Rauen, T., Eitner, F., Fitzner, C., Sommerer, C., Zeier, M., ..., Floege, J., STOP-IgAN Investigators (2015) Intensive supportive care plus immunosuppression in IgA nephropathy. **N Engl J Med**, 373, 2225-2236.
- Ebner, K., Feldkoetter, M., Ariceta, G., Bergmann, C., Buettner, R., Doyon, A., Duzova, A., Goebel, H., Haffner, D., ..., Liebau, M.C., ESCAPE Study Group; GPN Study Group (2015) Rationale, design and objectives of ARegPKD, a European ARPKD registry study. **J BMC Nephrol**, 16, 22.
- Thadhani, R., Hagmann, H., Schaarschmidt, W., Roth, B., Cingoz, T., Karumanchi, S.A., Wenger, J., Lucchesi, K.J., Tamez, H., Lindner, T., Fridman, A., Thome, U., Kribs, A., Danner, M., Hamacher, S., Mallmann, P., Stepan, H., **Benzing, T.** (2015) Removal of

- soluble Fms-like tyrosine kinase-1 by dextran sulfate apheresis in preeclampsia. **J Am Soc Nephrol**, 27, 903-913.
- Kurschat, C., **Benzing, T.** (2015) Renal diagnostics in arterial hypertension. **MMW Fortschr Med**, 157, 65-68.
- Brähler, S., Ising, C., Barrera Aranda, B., Hoehne, M., Schermer, B., **Benzing, T.**, Brinkkötter, P.T. (2015) The NF-κB essential modulator NEMO controls podocyte cytoskeletal dynamics independent of NF-κB. **Am J Physiol Renal Physiol**, 309, F617-626.
- Desantis, A., Bruno, T., Catena, V., De Nicola, F., Goeman, F., Iezzi, S., Sorino, C., Gentileschi, M.P., Germoni, S., ..., **Benzing, T.**, Blandino, G., Fanciulli, M. (2015) Che-1 modulates the decision between cell cycle arrest and apoptosis by its binding to p53. **Cell Death Dis**, 6, e1764.
- Rinschen, M.M., **Benzing, T.**, Limbutara, K., Pisitkun, T. (2015) Proteomic analysis of the kidney filtration barrier. **Proteomics Clin Appl**, 9, 1053-1068.
- Bartram, M.P., Dafinger, C., Habbig, S., **Benzing, T.**, Schermer, B., Müller, R.U. (2015) Loss of Dgcr8-mediated microRNA expression in the kidney results in hydronephrosis and renal malformation. **BMC Nephrol**, 16, 55.
- Seeger-Nukpezah, T., Geynisman, D.M., Nikonova, A.S., **Benzing, T.**, Golemis, E.A. (2015) The hallmarks of cancer: relevance to the pathogenesis of polycystic kidney disease. **Nature Reviews Nephrol**, 11, 515-534.
- Kann, M., Bae, E., Lenz, M.O., Li, L., Trannguyen, E., Schumacher, V.A., Taglienti, M.E., Bordeianou, L., Hartwig, S., Rinschen, M.M., Schermer, B., **Benzing, T.**, Fan, C.M., Kreidberg, J.A. (2015) WT1 targets Gas1 to maintain nephron progenitor cells by modulating FGF signals. **Development**, 142, 1254-1266.
- Grahammer, F., **Benzing, T.**, Huber, T.B. (2015) New insights into mechanisms of glomerular injury and repair from the 10th International Podocyte Conference 2014. **Kidney Int**, 87, 885-893.
- Ising, C., Koeler, S., Braehler, S., Merkwirth, C., Hoehne, M., Baris, O.R., Hagmann, H., Kann, M., Fabretti, F., Dafinger, C., Bloch, W., Schermer, B., Linkermann, A., Brüning, J.C., Kurschat, C., Müller, R.U., Wiesner, R., Langer, T., **Benzing, T.***, Brinkkötter, P.T.* (2015) Inhibition of insulin/IGF-1 receptor signaling protects from mitochondria-mediated kidney failure. **Embo Mol Med**, 7, 275-287. *corresponding author
- Kann, M., Ettou, S., Jung, Y.L., Lenz, M.O., Taglienti, M.E., Park, P.J., Schermer, B., **Benzing, T.**, Fan, C.M., Kreidberg, J.A. (2015) Genome-wide analysis of Wilms' Tumor 1-controlled gene expression in podocytes reveals key regulatory mechanisms. **J Am Soc Nephrol**, 26, 2097-2104.
- Trachtmann, H., **Benzing, T.**, Sever, S., Harris, R.C., Reiser, J. (2015) The grand challenge of nephrology. **Front Med**, 1, 28.
- Benzing, T.** (2015) HALTING PKD progression - revival of blood pressure control. **Nature Reviews Nephrol**, 11, 129-131.

- Hagmann, H., Taniguchi, Y., Pippin, J., Kauerz, H.M., **Benzing, T.**, Shankland, S., Brinkkötter, P.T. (2015) Cyclin I and p35 determine the subcellular distribution of Cdk5. **Am J Physiol Cell Physiol**, 308, C339-347.
- Rinschen, M.M., Pahmeyer, C., Pisitkun, T., Schnell, N., Wu, X., Maas, M., Bartram, M.P., Lamkemeyer, T., Schermer, B., **Benzing, T.**, Brinkkötter, P.T. (2015) Comparative phosphoproteomic analysis of mammalian glomeruli reveals conserved podocin C-terminal phosphorylation as a determinant of slit diaphragm complex architecture. **Proteomics**, 15, 1326-1331.
- Mueller, M.M., Castells-Rocca, L., Babu, V., Ermolaeva, M.A., Müller, R.U., Frommolt, P., Williams, A.B., Greiss, S., Schneider, J.L., **Benzing, T.**, Schermer, B., Schumacher, B. (2014) DAF-16/FoxO and EGL-27/GATA promote developmental growth in response to persistent somatic DNA damage. **Nat Cell Biol**, 16, 1168-1179.
- Kurschat, C.E., Müller, R.U., Franke, M., Maintz, D., Schermer, B., **Benzing, T.** (2014) An approach to cystic kidney disease: the clinician's view. **Nature Reviews Nephrol**, 10, 687-699.
- Borgal, L., Rinschen, M.M., Dafinger, C., Hoff, S., Reinert, M.J., Lamkemeyer, T., Lienkamp, S.S., **Benzing, T.**, Schermer, B. (2014) Casein kinase 1 alpha phosphorylates the Wnt regulator Jade-1 and modulates its activity. **J Biol Chem**, 289, 26344-26356.
- Zilinski, J., Zillmann, R., Becker, I., **Benzing, T.**, Schulz, R.J., Roehrig, G. (2014) Prevalence of anemia among elderly inpatients and its association with multidimensional loss of function. **Ann Hematol**, 93, 1645-1654.
- Gravemann, S., Brinkkoetter, P.T., Vehreschild, J.J., Franke, B., Ehren, K., Bünemann, E., Orbach, H., Weiss, V., Hellmich, M., **Benzing, T.**, Fätkenheuer, G. (2014) Low-grade proteinuria is highly prevalent in HIV-positive patients on antiretroviral treatment. **AIDS**, 28, 1783-1789.
- Kohli, P., Bartram, M., Habbig, S., Pahmeyer, C., Lamkemeyer, T., **Benzing, T.**, Schermer, B., Rinschen, M. (2014) Label-free quantitative proteomic analysis of the YAP and TAZ interactome. **Am J Physiol Renal Physiol**, 306, C805-818.
- Schurek, E.M., Völker, L.A., Tax, J., Lamkemeyer, T., Rinschen, M.M., Unglue, D., Kratz J.E., Sirianant, L., Kunzelmann, K., Chalfie, M., Schermer, B., **Benzing, T.**, Hoehne, M. (2014) A disease-causing mutation illuminates the protein membrane topology of the kidney-expressed prohibitin homology domain protein podocin. **J Biol Chem**, 289, 11262-11271.
- Rinschen, M.M., Schermer, B., **Benzing, T.** (2014) Vasopressin-2 receptor signaling and autosomal dominant polycystic kidney disease: from bench to bedside and back again. **J Am Soc Nephrol**, 25, 1140-1147.
- Rinschen, M.M., Wu, X., König, T., Pisitkun, T., Hagmann, H., Pahmeyer, C., Lamkemeyer, T., Kohli, P., Schnell, N., Schermer, B., Dryer, S., Brooks, B.R., Beltrao, P., Krueger, M., Brinkkoetter, P.T., **Benzing, T.** (2014) Phosphoproteomic analysis reveals regulatory mechanisms at the kidney filtration barrier. **J Am Soc Nephrol**, 25, 1509-1522.
- Hagmann, H., Bossung, V., Belaidi, A.A., Fridmann, A., Karumanchi, S.A., Thadhani, R., Schermer, B., Mallmann, P., Schwarz, G., **Benzing, T.**, Brinkkoetter, P.T. (2014) Low-

- molecular weight heparin increases circulating sFlt-1 levels and enhances urinary elimination. **PLoS One**, 9, e85258.
- Hagmann, H., Kuczkowski, A., Ruehl, M., Lamkemeyer, T., Brodesser, S., Horke, S., Dryer, S., Schermer, B., **Benzing, T.**, Brinkkoetter, P.T. (2014) Breaking the chain at the membrane: paraoxonase 2 counteracts lipid peroxidation at the plasma membrane. **FASEB J**, 28, 1769-1779.
- Hackl, M., Burford, J.L., Villanueva, K., Lam, L., Susztak, K., Schermer, B., **Benzing, T.**, Peti-Peterdi, J. (2013) Tracking the fate of glomerular epithelial cells in vivo using serial multiphoton imaging in new mouse models with fluorescent lineage tags. **Nature Med**, 19, 1661-6.
- Kim, E.Y., Anderson, M., Wilson, C., Hagmann, H., **Benzing, T.**, Dryer, S. (2013) NOX2 interacts with podocyte TRPC6 channels and contributes to their activation by diacylglycerol: essential role of podocin in formation of this complex. **Am J Physiol**, 305, C960-971.
- Schermer, B., Bartels, V., Frommolt, P., Habermann, B., Braun, F., Schultze, J.L., Roodbergen, M., Hoeijmakers, J.H., Schumacher, B., Nürnberg, P., Dolle, M.E., **Benzing, T.**, Müller, R.U., Kurschat, C.E. (2013) Transcriptional profiling reveals progeroid *Ercc1(-/delta)* mice as a model system for glomerular aging. **BMC Genomics**, 14, 559.
- Liebau, M.C., Braun, F., Höpker, K., Weitbrecht, C., Bartels, V., Müller, R.U., Brodesser, S., Saleem, M.A., **Benzing, T.**, Schermer, B., Cybulla, M., Kurschat, C.E. (2013) Dysregulated autophagy contributes to podocyte damage in Fabry's disease. **Plos One**, 8, e63506.
- Grundmann, F., Witthus, M., Göbel, H., Kisner, T., Siewert, R., **Benzing, T.**, Kurschat, C.E. (2013) Monoclonal gammopathy-associated pauci-immune extracapillary-proliferative glomerulonephritis successfully treated with bortezomib. **Clin Kidney J**, 6, 327-329.
- Anderson, M., Kim, E.Y., Hagmann, H., **Benzing, T.**, Dryer, S. (2013) Opposing effects of podocin on the gating of podocyte TRPC6 channels evoked by membrane stretch or diacylglycerol. **Am J Physiol**, 305, C276-289.
- Völker, L.A., Schurek, E.M., Rinschen, M.M., Tax, J., Schutte, B.A., Lamkemeyer, T., Ungru, D., Schermer, B., **Benzing, T.**, Hoehne, M. (2013) Characterization of a short isoform of the kidney protein podocin in human kidney. **BMC Nephrol**, 14, 102.
- Brinkkötter, P.T., Ising, C., **Benzing, T.** (2013) The role of the podocyte in albumin filtration. **Nature Reviews Nephrol**, 9, 328-336.
- Gharbi, H., Fabretti, F., Bharill, P., Rinschen, M.M., Brinkkötter, P.T., Frommolt, P., Burst, V., Schermer, B., **Benzing, T.**, Müller, R.U. (2013) Loss of the Birt-Hogg-Dube gene product folliculin induces longevity in a hypoxia-inducible factor-dependent manner. **Aging Cell**, 12, 592-603.
- Schuster, J., Moinzadeh, P., Kurschat, C., **Benzing, T.**, Krieg, T., Weber, M., Hunzelmann, N. (2013) Proteinuria in systemic sclerosis: reversal by ACE inhibition. **Rheumatol Int**, 33, 2225-2230.

- Frank, V., Habbig, S., Bartram, M.P., Eisenberger, T., Veenstra-Knol, H.E., Decker, C., Boorsma, R.A., Göbel, H., Nürnberg, G., Griessmann, A., Franke, M., Borgal, L., Kohli, P., Völker, L.A., Dötsch, J., Nürnberg, P., **Benzing, T.**, Bolz, H.J., Johnson, C., Gerkes, E.H., Schermer, B., Bergmann, C. (2013) Mutations in NEK8 link multiorgan dysplasia with altered Hippo signaling and increased c-myc expression. **Hum Mol Genet**, *22*, 2177-2185.
- Bartram, M.P., Hoehne, M., Dafinger, C., Völker, L.A., Albersmeyer, M., Heiss, J., Göbel, H., Brönneke, H., Burst, V., Liebau, M.C., **Benzing, T.**, Schermer, B., Müller, R.U. (2013) Conditional loss of kidney microRNAs results in congenital anomalies of the kidney and urinary tract (CAKUT). **J Mol Med**, *91*, 739-748.
- Hoehne, M., Ising, C., Hagmann, H., Völker, L.A., Brähler, S., Schermer, B., Brinkkoetter, P.T., **Benzing, T.** (2013) Light microscopic visualization of podocyte ultrastructure demonstrates oscillating glomerular contractions. **Am J Pathol**, *182*, 332-338.
- Burst, V., Pütsch, F., Kubacki, T., Völker, L.A., Bartram, M.P., Müller, R.U., Gillis, M., Kurschat, C.E., Grundmann, F., Müller-Ehmsen, J., **Benzing, T.**, Teschner, S. (2012) Survival and distribution of injected haematopoietic stem cells in acute kidney injury. **Nephrol Dial Transplant**, *28*, 1131-1139.
- Habbig, S., Bartram, M.P., Sägmüller, J.G., Griessmann, A., Franke, M., Müller, R.U., Schwarz, R., Hoehne, M., Bergmann, C., Tessmer, C., Reinhardt, H.C., Burst, V., **Benzing, T.**, Schermer, B. (2012) The ciliopathy disease protein NPHP9 promotes nuclear delivery and activation of the oncogenic transcriptional regulator TAZ. **Hum Mol Gen**, *21*, 5528-5538.
- Höpker, K., Hagmann, H., Khurshid, S., Chen, S., Schermer, B., **Benzing, T.**, Reinhardt, H.C. (2012) Putting the brakes on p53-driven apoptosis. **Cell Cycle**, *11*, 4122-4128.
- Brähler, S., Ising, C., Hagmann, H., Rasmus, M., Hoehne, M., Kurschat, C., Kisner, T., Goebel, H., Shankland, S., Addicks, K., Thaiss, F., Schermer, B., Pasparakis, M., **Benzing, T.**, Brinkkoetter, P.T. (2012) Intrinsic proinflammatory signaling in podocytes contributes to podocyte damage and prolonged proteinuria. **Am J Renal Physiol**, *303*, F1473-1485.
- Höpker, K., Hagmann, H., Khurshid, S., Chen, S., Hasskamp, P., Seeger-Nukpezah, T., Schilberg, K., Heukamp, L., Lamkemeyer, T., Sos, M.L., Thomas, R.K., Lowery, D., Roels, F., Fischer, M., Liebau, M.C., Resch, U., Kisner, T., Röther, F., Bartram, M.P., Müller, R.U., Fabretti, F., Kurschat, P., Schumacher, B., Gaestel, M., Medema, R.H., Yaffe, M.B., Schermer, B., Reinhardt, H.C., **Benzing, T.** (2012) AATF/Che-1 acts as a phosphorylation-dependent molecular modulator to repress p53-driven apoptosis. **Embo J**, *31*, 3961-3975.
- Seeger-Nukpezah, T., Liebau, M.C., Höpker, K., Lamkemeyer, T., **Benzing, T.**, Golemis, E.A., Schermer, B. (2012) The centrosomal kinase Plk1 localizes to the transition zone of primary cilia and induces phosphorylation of Nephrocystin-1. **Plos One**, *7*, e38838.
- Chaki, M., Airik, R., Ghosh, A., Giles, R., Chen, R., ..., **Benzing, T.** et al. (2012) Exome capture reveals ZNF423 and CEP164 mutations, linking renal ciliopathies to DNA damage response signalling. **Cell**, *150*, 533-548.

- Er, F., Nia, A.M., Dopp, H., Hellmich, M., Dahlem, K.M., Caglayan, E., Kubacki, T., **Benzing, T.**, Erdmann, E., Burst, V., Gassanov, N. (2012) Ischemic preconditioning for prevention of contrast-medium-induced nephropathy randomized pilot RenPro-Trial. **Circulation**, 126, 296-303.
- Borgal, L., Habbig, S., Hatzold, J., Liebau, M.C., Dafinger, C., Sacarea, I., Hammerschmidt, M., **Benzing, T.**, Schermer, B. (2012) The ciliary protein nephrocystin-4 translocates the canonical Wnt regulator Jade-1 to the nucleus to negatively regulate beta-catenin signaling. **J Biol Chem**, 287, 25370-25380.
- Dierkes, F., Andriopoulos, N., Sucker, C., Kuhr, K., Hollenbeck, M., Hetzel, G.R., Burst, V., Teschner, S., Rump, L.C., **Benzing, T.**, Grabensee, B., Kurschat, C.E. (2012) Indicators of acute and persistent renal damage in adult thrombotic microangiopathy. **PLoS One**, 7, e30886.
- Müller, R.U., **Benzing, T.** (2012) A photo shoot of proteinuria: zebrafish models of inducible podocyte damage. **J Am Soc Nephrol**, 23, 969-971.
- Benzing, T.**, Schermer, B. (2012) Clinical spectrum and pathogenesis of nephronophthisis. **Curr Opin Nephrol Hypert**, 21, 272-278.
- Hagmann, H., Thadhani, R., **Benzing, T.**, Karumanchi, S.A., Stepan, H. (2012) The promise of angiogenic markers for early diagnosis and prediction of preeclampsia. **Clin Chem**, 58, 837-845.
- Kisner, T., Burst, V., Teschner, S., **Benzing, T.**, Kurschat, C.E. (2012) Rituximab treatment for adults with refractory nephrotic syndrome: a single center experience and review of the literature. **Nephron Clin Pract**, 120, c79-c85.
- Kisner, T., Pfister, R., Engels, M., **Benzing, T.**, Michels, G. (2012) De novo sarcoidosis after kidney transplantation. **Dtsch Med Wochenschr**, 137, 476-478.
- Teschner, S., Stippel, D., Grunenberg, R., Beck, B., Wahba, R., Gathof, B., **Benzing, T.**, Burst, V. (2012) ABO-incompatible kidney transplantation using regenerative selective immunoglobulin adsorption. **J Clin Apheresis**, 27, 51-60.
- Völker, L., Petry, M., Abdelsabour-Khalaf, M., Schweizer, H., Yusuf, F., Busch, T., Schermer, B., **Benzing, T.**, Brand-Saberi, B., Kretz, O., Hoehne, M., Kispert, A. (2012) Comparative analysis of Neph gene expression in mouse and chicken development. **Histochem Cell Biol**, 137, 355-366.
- Galdiks, N., Burghaus, L., Dohmen, C., Teschner, S., Pollok, M., Leebmann, J., Frischmuth, N., Hollinger, P., Nazli, N., Fassbender, C., Klingel, R., **Benzing, T.**, Fink, G.R., Haupt, W.F. (2011) Immunoabsorption in patients with chronic inflammatory demyelinating polyradiculoneuropathy with unsatisfactory response to first-line treatment. **Eur Neurol**, 66, 183-189.
- Thadhani, R., Kisner, T., Hagmann, H., Bossung, V., Noack, S., Schaarschmidt, W., Jank, A., Kribs, A., Cornely, O., Hemphill, L., Lindner, T.H., Mallmann, P., Stepan, H., Karumanchi, S.A., **Benzing, T.** (2011) Pilot study of extracorporeal removal of soluble FMS-like tyrosine kinase 1 in preeclampsia. **Circulation**, 124, 940-950.

- Benzing, T.**, Schermer, B. (2011) Transition zone proteins and cilia dynamics. **Nat Genetics**, 43, 723-724.
- Hoehne, M., Lorscheider, J., Bardeleben, A., Dufner, M., Scharf, M.A., Gödel, M., Helmstädter, M., Schurek, E.M., Zank, S., Gerke, P., Kurschat, C., Sivritas, S., Neumann-Haefelin, E., Huber, T.B., Reinhardt, C., Schauss, A.C., Schermer, B., Fischbach, K.F., **Benzing, T.** (2011) The BAR domain protein PICK1 regulates cell recognition and morphogenesis by interacting with Neph proteins. **Mol Cell Biol**, 31, 3241-3251
- Habbig, S., Bartram, M.P., Müller, R.U., Schwarz, R., Andriopoulos, N., Chen, S., Sägmüller, J.G., Hoehne, M., Burst, V., Liebau, M.C., Reinhardt, H.C., **Benzing, T.**, Schermer, B. (2011) NPHP4, a cilia-associated protein, negatively regulates the Hippo pathway. **J Cell Biol**, 193, 633-642.
- Gross, P., **Benzing, T.**, Hensen, J., Mönig, H. (2011) Practical approach to hyponatremia. **Dtsch Med Wochenschr**, 136, 1728-1732.
- Liebau, M.C., **Benzing, T.** (2011) Recent developments in genetic kidney diseases. **Dtsch Med Wochenschr**, 136, 1014-1020.
- Müller, R., Zank, S., Fabretti, F., **Benzing, T.** (2011) *Caenorhabditis elegans*, a model organism for kidney research - from cilia to mechanosensation and longevity. **Curr Opin Nephrol Hypert**, 20, 400-408.
- Hildebrandt, F., **Benzing, T.**, Katsanis, N. (2011) Ciliopathies. **New Engl J Med**, 364, 1533-1543.
- Dafinger, C., Liebau, M.C., Elsayed, S.M., Hellenbroich, Y., Boltshauser, E., Korenke, G.C., Fabretti, F., Janecke, A.R., Ebermann, I., Nürnberg, G., Nürnberg, P., Zentgraf, H., Koerber, F., Addicks, K., Elsobky, E., **Benzing, T.**, Schermer, B., Bolz, H.J. (2011) Mutations in KIF7 link Joubert syndrome with Sonic Hedgehog signalling and microtubule dynamics. **J Clin Invest**, 121, 2662-2667.
- Burst, V., **Benzing, T.** (2011) Dyslipidemia treatment and cardiovascular disease in the renal patient. **Curr Pharm Des**, 17, 894-907.
- Liebau, M.C., Höpker, K., Müller, R.U., Schmedding, I., Zank, S., Schairer, B., Fabretti, F., Hoehne, M., Bartram, M., Dafinger, C., Hackl, M., Burst, V., Habbig, S., Zentgraf, H., Blaukat, A., Walz, G., **Benzing, T.**, Schermer, B. (2011) Nephrocystin-4 regulates Pyk2-induced tyrosine phosphorylation of nephrocystin-1 to control targeting to monocilia. **J Biol Chem**, 286, 14237-14245.
- Köttgen, M., **Benzing, T.** (2011) Strangers on a Train: Atypical Glutamate Receptors in the Kidney Glomerulus. **Am J Physiol**, 300, C9-C10.
- Kisner, T., Müller, R., **Benzing, T.** (2011) Treating the symptoms in nephrotic syndrome: which therapeutic strategies are evidence-based in the treatment of proteinuria? **Dtsch Med Wochenschr**, 136, 725-730.
- Ebermann, I., Phillips, J.B., Liebau, M.C., Koenekoop, R.K, Schermer, B., Lopez, I., Schäfer, E., Roux, A.F., Dafinger, C., Bernd, A., Zrenner, E., Claustres, M., Blanco, B., Nürnberg, G., Nürnberg, P., Ruland, R., Westerfield, M., **Benzing, T.**, Bolz, H.J. (2010)

- PDZD7 is a modifier of and digenic contributor to retinal disease in Usher syndrome. **J Clin Invest**, 120, 1812-1823.
- Brinkkoetter, P.T., Wu, J.S., Ohse, T., Krofft, R.D., Schermer, B., **Benzing, T.**, Pippin, J.W., Shankland, S.J. (2010) p35, the non-cyclin activator of Cdk5, protects podocytes against apoptosis in vitro and in vivo. **Kidney Int**, 77, 690-699.
- Burst, V.R., Gillis, M., Pütsch, F., Herzog, R., Fischer, J.H., Heid, P., Müller-Ehmsen, J., Schenk, K., Fries, J.B., Baldamus, C., **Benzing, T.** (2010) Poor cell survival limits the beneficial impact of mesenchymal stem cell transplantation on acute kidney injury. **Nephron Exp Nephrol**, 114, 107-116.
- Franzen, D., **Benzing, T.** (2010) Exercise-induced coronary spasm in near normal coronary arteries. **Int J Vasc Med**, 1, 1-4.
- Larsson, E., Fuchs, P.F., Heldin, J., Barkefors, I., Bondjers, C., Genové, G., Arrondel, C., Gerwins, P., Kurschat, C., Schermer, B., **Benzing, T.**, Harvey, S.J., Kreuger, J., Lindahl, P. (2009) Discovery of microvascular miRNAs using public gene expression data: miR-145 is expressed in pericytes and is a regulator of Fli1. **Genome Medicine**, 1, 108.
- Liebau, M.C., **Benzing, T.**, Burst, V. (2009) Nephrotisches Syndrom – Pathogenese, Klinik und Therapie. **Nephrologe** 5, 453-465.
- Müller, R.U., Fabretti, F., Zank, S., Burst, V., **Benzing, T.**, Schermer, B. (2009) The von Hippel-Lindau Tumor Suppressor Protein regulates longevity. **J Am Soc Nephrol**, 20, 2513-2517.
- Rybniker, J., Goede, V., Mertens, J., Ortmann, M., Kulas, W., **Benzing, T.**, Arribas, J.R., Fätkenheuer, G. (2009) Treatment of visceral leishmaniasis with intravenous pentamidine and oral fluconazole in a HIV-positive patient with chronic renal failure. A case report and brief review of the literature. **Int J Inf Dis**, 14, e522-525.
- Teschner, S., Gerke, P., Geyer, M., Wilpert, J., Krumme., B., **Benzing, T.**, Walz, G. (2009) Leflunomide therapy for Polyomavirus-induced allograft nephropathy: Efficient BK virus elimination without increased risk of rejection. **Transplant Proc** 41, 2533-2538.
- Benzing, T.** (2009) The promise of well-being: stay in shape with N(i)ck. **J Am Soc Nephrol** 20, 1425-1427.
- Höpker, K., Liebau, M.C., Friederichsohn, C., Waldherr, R., **Benzing, T.** (2009) Atypical Alport syndrome associated with a novel COL4A5 mutation. **Clin Nephrol** 71, 321-325.
- Schermer, B., **Benzing, T.** (2009) Lipid-Protein Interactions along the Slit Diaphragm of Podocytes. **J Am Soc Nephrol** 20, 473-478.
- Schermer, B., **Benzing, T.** (2009) Neue Einblicke in die Funktion des glomerulären Filters. **NephroNews** 11, 8-11.
- Harvey, S., Jarad, G., Cunningham, J., Goldberg, S., Schermer, B., Harfe, B.D., McManus, M.T., **Benzing, T.**, Miner, J. (2008) Podocyte-specific deletion of Dicer alters cytoskeletal dynamics and causes glomerular disease. **J Am Soc Nephrol** 19, 2150-2158.

- Philippe, A., Nevo, F., Esquivel, E.L., Reklaityte, D., Gribouval, O., Tete, M.J., Loirat, C., Dantal, J., Fischbach, M., Pouteil-Noble, C., Decramer, S., Hoehne, M., **Benzing, T.**, Charbit, M., Niaudet, P., Antignac, C. (2008) Nephtrin Mutations Can Cause Childhood-Onset Steroid-Resistant Nephrotic Syndrome. **J Am Soc Nephrol** 19, 1871-1878.
- Hartleben, B., Schweizer, H., Lübben, P., Bartram, M.P., Möller, C.C., Herr, R., Wei, C., Neumann-Haefelin, E., Schermer, B., Zentgraf, H., Kerjaschki, D., Reiser, J., Walz, G., **Benzing, T.**, Huber, T.B. (2008) Neph-nephtrin proteins bind the PAR3, PAR6, aPKC complex to regulate podocyte polarity. **J Biol Chem** 283, 23033-23038.
- Duning, K., Schurek, E.-M., Schlüter, M., Bayer, M., Reinhardt, C., Schwab, A., Schäfer, L., **Benzing, T.**, Schermer, B., Saleem, M., Huber, T.B., Bachmann, S., Kremerskothen, J., Weide, T., Pavenstädt, H. (2008) KIBRA modulates directional migration of podocytes. **J Am Soc Nephrol** 19, 1891-1903.
- Bergmann, C., Fliegau, M., Bröchle, N.O., ..., **Benzing, T.**, Zerres, K., Omran, H. (2008) Loss of nephrocystin-3 function can cause embryonic lethality, Meckel-Gruber-like syndrome, situs inversus, and renal-hepatic-pancreatic dysplasia. **Am J Hum Genet** 82, 959-970.
- Schermer, B., **Benzing, T.** (2008) Cilia meet cancer: Neue Einblicke in die Pathogenese des Nierenzellkarzinoms. **NephroNews** 9, 1-3.
- Landgraf, P., Rusu, M., Sheridan, R., ..., **Benzing, T.**, Lichter, P., Tam, W., Brownstein, M.J., Borkhardt, A., Russo, J.J., Sander, C., Zavolan, M., Tuschl, T. (2007) A mammalian microRNA expression atlas based on small RNA library sequencing. **Cell** 129, 1401-1414.
- Zimina, E.P., Fritsch, A., Schermer, B., Bakulina, A.Y., Bashkurov, M., **Benzing, T.**, Bruckner-Tudermann, L. (2007) Extracellular phosphorylation of collagen XVII by ECTO-CK2 inhibits ectodomain shedding. **J Biol Chem** 282, 22737-22746.
- Fliegau, M., **Benzing, T.**, Omran, H. (2007) Cilia: Hairy organelles with many links to human disease. **Nature Rev Mol Cell Biol** 8, 880-893.
- Kühn, W., Walz, G., **Benzing, T.** (2007) Von Hippel-Lindau: a tumor suppressor links microtubules to ciliogenesis and cancer development. **Cancer Res** 67, 4537-4540.
- Huber, T., Schermer, B., **Benzing, T.** (2007) The slit diaphragm: a protein-lipid supercomplex involved in mechanosensation. **Nephron Exp Nephrol** 106, 27-31.
- Benzing, T.**, Simons, M., Walz, G. (2007) Wnt signalling in polycystic kidney disease. **J Am Soc Nephrol** 18, 1389-1398.
- Huber, T.B., Schermer, B., Müller, R.U., Hoehne, M., Bartram, M., Calixto, A., Hagmann, H., Reinhardt, C., Koos, F., Kunzelmann, K., Shirokova, E., Krautwurst, D., Harteneck, D., Simons, M., Pavenstädt, H., Kerjaschki, D., Thiele, C., Walz, G., Chalfie, M., **Benzing, T.** (2006) Podocin and MEC-2 bind cholesterol to regulate the activity of associated ion channels. **Proc Natl Acad Sci USA** 103, 17079-17086.
- Schermer, B., Ghenoiu, C., Bartram, M., Müller, R.U., Kotsis, F., Hoehne, M., Kühn, W., Rapka, M., Nitschke, R., Zentgraf, H., Fliegau, M., Omran, H., Walz, G., **Benzing, T.** (2006)

- The Von-Hippel-Lindau tumor suppressor protein controls ciliogenesis by orienting microtubule growth. **J Cell Biol** 175, 547-554.
- Gerke, P.*, **Benzing, T.***, Hoehne, M., Kispert, A., Frotscher, M., Walz, G., Kretz, O. (2006) Neuronal expression and interaction with the synaptic protein CASK suggest a role for Neph1 and Neph2 in synaptogenesis. **J Comp Neurol** 498, 466-475. * **equal contribution**
- Fliegau, M., Horvath, J., von Schnakenburg, C., Olbrich, H., Müller, D., Thumfart, J., Schermer, B., Pazour, G., Neumann, H., Zentgraf, H., **Benzing, T.**, Omran, H. (2006) Nephrocystin specifically localizes to the transition zone of renal and respiratory cilia and photoreceptor connecting cilia. **J Am Soc Nephrol** 17, 2424-2433.
- Bek, M.F., Bayer, M., Müller, B., Greiber, S., Lang, D., Schwab, A., August, C., Springer, E., Rohrbach, R., Huber, T.B., **Benzing, T.**, Pavenstädt, H. (2006) Expression and Function of C/EBP Homology Protein (GADD153) in Podocytes. **Am J Pathol** 168, 20-32.
- Benzing, T.** (2006) Treatment of focal segmental glomerulosclerosis. **Der Nephrologe** 1, 173-177.
- Benzing, T.**, Walz, G. (2006) Cilium-generated signaling: a cellular GPS? **Current Opin Nephrol Hypert** 15, 245-249.
- Benzing, T.** (2006). Genetic testing comes of age: WT1 mutations in steroid-resistant nephrotic syndrome. **Pediatric Res** 59, 165-166.
- Schermer, B., Höpker, K., Omran, H., Fliegau, M., Köttgen, M., Zschiedrich, S., Huber, T.B., Hackl, M., Ghenoiu, C., Kramer-Zucker, A., Zentgraf, H., Blaukat, A., Walz, G., **Benzing, T.** (2005) Phosphorylation by casein kinase 2 induces PACS-1 binding of nephrocystin and targeting to cilia. **EMBO J** 24, 4415-4424.
- Simons, M., Gloy, J., Ganner, A., Bullerkotte, A., Bashkurov, A., Krönig, C., Schermer, B., **Benzing, T.**, Cabello, O.A., Jenny, A., Mlodzik, M., Polok, B., Driever, W., Obara, T., Walz, G. (2005) Inversin, the nephronophthisis type II gene product, functions as a molecular switch between Wnt signaling pathways. **Nat Genetics** 37, 537-543.
- Gerke, P., Sellin, L., Kretz, O., Petraschka, D., Zentgraf, H., **Benzing, T.**, Walz, G. (2005) Neph2 is located at the glomerular slit diaphragm, interacts with nephrin and is cleaved from podocytes by metalloproteinases. **J Am Soc Nephrol** 16, 1693-1702.
- Köttgen, M.*, **Benzing, T.***, Simmen, T., Tauber, R., Buchholz, B., Feliciangeli, S., Huber, T.B., Schermer, B., Kramer-Zucker, A., Höpker, K., Simmen, K.C., Tschucke, C.C., Sandford, R., Kim, E., Thomas, G., Walz, G. (2005). Trafficking of TRPP2 by PACS proteins represents a novel mechanism of ion channel regulation. **EMBO J** 24, 705-716. * **equal contribution**
- Huber, T.B., **Benzing, T.** (2005). Invited Review: The slit diaphragm: A signaling platform to regulate podocyte function. **Current Opin Nephrol Hypert** 14, 211-216.
- Huber, T.B., **Benzing, T.** (2004). Molekulare Genetik in der Nephrologie: Von der Genetik des familiären nephrotischen Syndroms zum Verständnis des glomerulären Filters der Niere. **Ther Umschau** 60, 435-437.

- Benzing, T.** (2004). Genetik und Pathogenese des nephrotischen Syndroms. **Current Congr Nephrol** 04.
- Benzing, T.** (2004). Der glomeruläre Filter im Blickpunkt: Die Schlitzmembran als Schlüssel zum Verständnis des glomerulären Filters der Niere. **NephroNews** 02/04.
- Benzing, T.** (2004). Signaling at the slit diaphragm. **J Am Soc Nephrol** 15, 1382-1891.
- Huber, T.B., Simons, M., Hartleben, B., Sernetz, L., Saleem, M., Schmidts, M., Gundlach, E., Walz, G., **Benzing, T.** (2003). Molecular basis of the functional podocin-nephrin complex: mutations in the NPHS2 gene disrupt nephrin targeting to lipid raft microdomains. **Hum Mol Genet** 12, 3397-3405.
- Otto, E.A., Schermer, B., Obara, T., O'Toole, J.F., Hiller, K.S., Mueller, A.M., Beekmann, F., Landau, D., Foremann, J., Goodship, J., Strachan, T., Gagnadoux, M.F., Antignac, C., Walz, G., Drummond, I., **Benzing, T.***, Hildebrandt, F.* (2003). Inversin mutations cause nephronophthisis type 2, linking renal cystic disease to the function of primary cilia and left-right axis determination. **Nature Genetics** 34, 413-420. * **shared senior authorship**
- Olbrich, H., Fliegauf, M., Hoefele, J., Kispert, A., Otto, E., Volz, A., Wolf, M.T., Sasmaz, G., Trauer, U., Reinhardt, R., Sudbrak, R., Antignac, C., Gretz, N., Walz, G., Schermer, B., **Benzing, T.**, Hildebrandt, F., Omran, H. (2003). Mutations in a novel gene, NPHP3, cause adolescent nephronophthisis, tapeto-retinal degeneration and hepatic fibrosis. **Nature Genetics** 34, 455-459.
- Fisslthaler, B., **Benzing, T.**, Busse, R., Fleming, I. (2003). Insulin enhances the expression of the endothelial nitric oxide synthase in native endothelial cells: a dual role for Akt and AP-1. **Nitric Oxide** 8, 253-261.
- Huber, T.B., Hartleben, B., Kim, J., Schmidts, M., Schermer, B., Keil, A., Egger, L., Lecha, R., Borner, C., Pavenstädt, H., Shaw, A., Walz, G., **Benzing, T.** (2003). Nephrin and CD2AP associate with phosphoinositide 3-OH kinase and stimulate AKT-dependent signaling. **Mol Cell Biol** 23, 4917-4928.
- Huber, T.B., Schmidts, M., Gerke, P., Schermer, B., Zahn, A., Hartleben, B., Sellin, L., Walz, G., **Benzing, T.** (2003). The carboxy terminus of Neph family members binds to the PDZ domain protein Zonula occludens-1. **J Biol Chem** 278, 13417-13421.
- Gerke, P., Huber, T.B., Sellin, L., **Benzing, T.**, Walz, G. (2003). Homo- and heterodimerization of the glomerular podocyte proteins nephrin and NEPH1. **J Am Soc Nephrol** 14, 918-926.
- Bek, M., Wahle, S., Muller, B., **Benzing, T.**, Huber, T.B., Kretzler, M., Cohen, C., Pavenstädt, H. (2003). Stra13, a prostaglandin E2 induced gene, regulates cellular redox state of podocytes. **FASEB J** 17, 682-684.
- Benzing, T.**, Köttgen, M., Johnsen, M., Schermer, B., Zentgraf, H., Walz, G., Kim, E. (2002). The interaction of 14-3-3 with RGS7 is dynamically regulated by TNF-alpha. **J Biol Chem** 277, 32954-32962.
- Nickel, C.*, **Benzing, T.***, Gerke, P., Sellin, L., Karihaloo, A., Cantley, L.G., Walz, G. (2001). The C-terminal 112 amino acids of polycystin-1 trigger branching morphogenesis and

- migration of tubular kidney epithelial cells. **J Clin Invest** 109, 481-489. * **equal contribution**
- Huber, T.B., Kötting, M., Schilling, B., Walz, G., **Benzing, T.** (2001). Interaction with podocin facilitates nephrin signaling. **J Biol Chem** 276, 41543-41546.
- Benzing, T.**, Gerke, P., Höpker, K., Hildebrandt, F., Kim, E., Walz, G. (2001). Nephrin interacts with Pyk2, p130Cas and tensin, and triggers phosphorylation of Pyk2. **Proc Natl Ac Sci USA** 98, 9784-9789.
- Schreiber, R., Kindle, P., **Benzing, T.**, Walz, G., Kunzelmann, K. (2001). Control of the cystic fibrosis transmembrane conductance regulator by alphaG(i) and RGS proteins. **Biochem Biophys Res Commun** 281, 917-923.
- Benzing, T.**, Yaffe, MB., Arnould, T., Sellin, L., Schermer, B., Schilling, B., Schreiber, R., Kunzelmann, K., Leparac, GG., Kim, E., and Walz, G. (2000). 14-3-3 interacts with Regulator of G Protein Signaling proteins and modulates their activity. **J Biol Chem** 275, 28167-28172.
- Benzing, T.**, Brandes, R., Sellin, L., Schermer, B., Lecker, S., Walz, G., and Kim, E. (1999). Upregulation of RGS7 may contribute to TNF-induced changes of central nervous function. **Nature Medicine** 5, 913-918.
- Kim, E., Arnould, T., Sellin, L., **Benzing, T.**, Comella, N., Kocher, O., Tsiokas, L., Sukhatme, V., and Walz, G. (1999). Interaction between RGS7 and polycystin. **Proc Natl Ac Sci USA** 96, 6371-6376.
- Kim, E., Arnould, T., Sellin, L., **Benzing, T.**, Fan, M.J., Grüning, W., Sokol, S., Drummond, I., and Walz, G. (1999). The polycystic kidney disease 1 gene product modulates Wnt signaling. **J Biol Chem** 274, 4947-4953.
- Arnould, T., Sellin, L., **Benzing, T.**, Tsiokas, L., Cohen, H.T., Kim, E., and Walz, G. (1999). Cellular activation triggered by the autosomal dominant polycystic kidney disease gene product PKD2. **Mol Cell Biol** 19, 3423-3434.
- Benzing, T.**, Fleming, I., Blaukat, A., Müller-Esterl, W., and Busse, R. (1999). Angiotensin-converting enzyme inhibitor ramiprilat interferes with the sequestration of the B₂ kinin receptor within the plasma membrane of native endothelial cells. **Circulation** 99, 2034-2040.
- Grotz, W., Rasenack, J., **Benzing, T.**, Berthold, H., Peters, T., Walter, E., Schollmeyer, P., and Rump, L.C. (1998). Occurrence and management of hepatitis B reactivation following kidney transplantation. **Clin Nephrol** 49, 385-388.
- Benzing, T.**, Rump, L.C., Kaiser, R., and Peter, H.-H. (1997). Kasuistik: Paraneoplastische Kleinhirndegeneration bei Morbus Hodgkin. **Deutsche Medizinische Wochenschrift** 123, 493-496.
- Fleming, I., Fisslthaler, B., **Benzing, T.**, and Busse, R. (1997). The calcium-independent activation of the endothelial NO synthase (NOS III) is associated with its dephosphorylation and subsequent redistribution within the caveolae. **Vasc Biol** 34, 165-174.

Krumme, B., Blum, U., **Benzing, T.**, Keller, E., Schollmeyer, P., and Rump, L.C. (1996). Treatment of primary graft dysfunction after kidney transplantation by renal artery stent. **Nephrol Dial Transplant** 11, 208-210.

Hecker, M., **Benzing, T.**, and Busse, R. (1992). Stimulation of endothelial autacoid formation by inhibitors of angiotensin-converting enzyme. **Agents Actions** 38, 163-170.