



**Publikationen 2008**

**des  
Instituts für Medizinische Physik und Biophysik  
Universitätsklinikum Münster  
Westfälische Wilhelms-Universität Münster**

Zeitschriftenartikel, Buchbeiträge, Bücher	Fachgebiet(e)*
<p>Bauwens, A., Bielaszewska, M., Reichelt, R., Kemper, B., Langehanenberg, P., von Bally, G., Peter-Katalinic, J., Müthing, J., Karch, H. A comparative study of Shiga toxin action on endothelial cells. Int. J. Med. Microbiol. 298 (2008) 26, Suppl. 45.</p>	EM, KM, ESI
<p>Bindila, L., Peter- Katalinić, J. Chip-mass spectrometry for glycomic studies. Mass Spectrom. Rev. (2009), in press.</p>	KM, BC, ESI
<p>Cindrić, M., Cepo, T., Marinc, S., Paskvan, I., Mijic, I., Bindila, L., Peter-Katalinić, J. Determination of dithiothreitol in complex protein mixtures by high performance liquid chromatography tandem mass spectrometry. J. Sep. Sci. 31 (2008) 3489-3496.</p>	KM, BC, ESI
<p>Constantin, C., Quirce, S., Grote, M., Touraev, A., Swoboda, I., Stoecklinger, A., Mari, A., Thalhamer, J., Heberle-Bors, E., Valenta, R. Molecular and immunological characterization of a wheat serine proteinase inhibitor as a novel allergen in baker's asthma. J. Immun. 180 (2008) 7451-7460.</p>	AL, EM, KM
<p>Distler, U., Hülsewig, M., Souady, J., Dreisewerd, K., Haier, J., Senninger, N., Friedrich, A. W., Karch, H., Hillenkamp, F., Berkenkamp, S., Peter-Katalinić, J., Müthing, J. Matching IR-MALDI-o-TOF mass spectrometry with the TLC overlay binding assay and its clinical application for tracing tumor-associated glycosphingolipids in hepatocellular and pancreatic cancer Anal. Chem. 80 (2008) 1835-1846.</p>	KM, LM, BC, TM
<p>Distler, U., Pohlentz, G., Dreisewerd, K., Haier, J., Senninger, N., Peter-Katalinić, J., Karch, H., Müthing, J. Shiga toxin receptors - potential targets in cancer therapy? Int. J. Med. Microbiol. 298 (2008) 74, Suppl. 45.</p>	KM, LM, BC, TM
<p>Distler, U., Souady, J., Hülsewig, M., Drmic-Hofman, I., Haier, J., Denz, A., Grützmann, R., Pilarsky, C., Senninger, N.,</p>	KM, LM, BC, TM

- Dreisewerd, K., Berkenkamp, S., Schmidt, M.A., Peter-Katalinić, J., Müthing, J.  
Tumor-associated CD75s- and iso-CD75s-gangliosides are potential targets for adjuvant therapy in pancreatic cancer.  
*Mol. Cancer Therapeutics* 7 (2008) 2464-2475.
- Grote, M., Westritschnig, K., Valenta, R. AL, EM, KM  
Immunogold electron microscopic localization of the 2 EF-hand calcium-binding pollen allergen Phl p 7 and its homologues in pollens of grasses, weeds and trees.  
*Int. Arch. Allergy and Immunology* 146 (2008) 113-121.
- Henning, S., Peter-Katalinić, J., Pohlentz, G. KM, BC, ESI  
Structure analysis of *N*-glycoproteins.  
*Methods Mol. Biol.* (2008), in press.
- Hoffmann, P., Hülsewig, M., Duvar, S., Ziehr, H., Dreisewerd, K., Peter-Katalinić, J., Schmidt, M.A., Karch, H., Müthing, J. KM, BC, LM  
Human leukocyte-derived cell lines differ in their expression of Shiga toxin receptors.  
*Int. J. Med. Microbiol.* 298 (2008) 74, Suppl. 45.
- Hülsewig, M., Schweppe, C.H., Friedrich, A.W., Karch, H., Dreisewerd, K., Peter-Katalinić, J., Müthing, J. BC, KM, LM  
Variable lipoprotein association and content of Shiga toxin glycosphingolipid ligands in human blood.  
*Int. J. Med. Microbiol.* 298 (2008) 74, Suppl. 45.
- Hüve, J., Wesselmann, R., Kahms, M., Peters, R. BC, ZB  
4Pi microscopy of the nuclear pore complex.  
*Biophysical J.* 95 (2008) 877-885.
- Jovanovic-Talisman, T., Tetenbaum-Novatt, J., Anna Sophia McKenney, A.S., Zilman, A., Peters R., Rout, M.P., Chait, B.T. BC, ZB  
Artificial nanopores that mimic the transport selectivity of the nuclear pore complex  
*Nature* Dez. 2008 (epub ahead of print)
- Kirsch, S., Zarei, M., Cindric, M., Müthing, J., Bindila, L., Peter-Katalinić, J. KM, ESI, BC  
On-line nano-HPLC/ESI QTOF MS and tandem MS for separation, detection, and structural elucidation of human erythrocytes neutral glycosphingolipid mixture.  
*Anal. Chem.* 80 (2008) 4711-4722.

- Kreusser, S., Vollenbroeker, B., Henning, S., Reinhardt, C., Amann, K., Peter-Katalinić, J., Pavenstaedt, H., Gabriels, G. Proteome analysis in chronic allograft nephropathy. *Nephrology Dialysis Transplantation* 22 (2007) 206-206, Suppl.: 6. KM, LM, ESI
- Križančič, L., Lapornik, A., Ukmar, M., Matis, M., Črešnar, B., Peter-Katalinić, J., Žakelj-Mavrič, M. Aspects of progesterone biotransformation/detoxification by *Hortaea werneckii*: steroid detoxification, protein induction and remodelling of the cell wall. *Steroids* 73 (2008) 1465-1474. KM, BC, ESI
- Krzyzanek, V., Müller, S.A., Engel, A., Reichelt, R. MASDET. A fast and user-friendly multiplatform software for mass determination by dark-field electron microscopy. *J. Struct. Biol.*, (2008), in press. BP, EM, PH
- Matzelle, T., Reichelt, R. Review: Hydro-, micro- and nanogels studied by complementary measurements based on SEM and SFM. *Acta Microscopica* 17 (2008) 45–61. AFM, EM, PH
- Mormann, M., Eble, J., Schwoeppe, C., Mesters, R.M., Berdel, W.E., Peter-Katalinić, J., Pohlentz, G. Fragmentation of intra-peptide and inter-peptide disulfide bonds of proteolytic peptides by nanoESI collision-induced dissociation. *Anal. Bioanal Chem.* 392 (2008) 831-838. BC, ESI, FT-ICR
- Mothes-Luksch, N., Stumvoll, S., Linhart, B., Focke, M., Krauth, M.T., Hauswirth, A., Valent, P., Verdino, P., Pavkov, T., Keller, W., Grote, M., Valenta, R., Disruption of allergenic activity of the major grass pollen allergen Phl p 2 by reassembly as a mosaic protein. *J. Immun.* 181 (2008) 4864-4873. AL, EM, KM
- Peters, R. From Fluorescence Nanoscopy to Nanoscopic Medicine. *Nanomedicine* 3 (2008) 1-4. BP, PH
- Raberg, M., Reinecke, F., Reichelt, R., Malkus, U., König, S., Potter, M., Fricke, W.F., Pohlmann, A., Voigt, B., Hecker, M., Friedrich, B., Bowien, B., Steinbüchel, A. *Ralstonia eutropha* H16 flagellation changes according to EM, NBT, ZB

nutrient supply and state of poly(3-hydroxybutyrate) accumulation.

Appl. Environ. Microbiol. 74 (2008): 4477-4490.

Reichelt, R. (Book chapter).

EM, PH

Scanning Electron Microscopy.

In: *Science of Microscopy*, 2 volumes, Eds. Peter Hawkes & John Spence, 2<sup>nd</sup> ed., Springer Science+Business Media, LLC, New York; vol. 1 (2008) 133-272.

Schweppe, C.H., Bielaszewska, M., Pohlentz, G., Friedrich, A.W., Büntemeyer, H., Schmidt, M.A., Kim, K.S., Peter-Katalinić, J., Karch, H., Müthing, J.,  
Glycosphingolipids in vascular endothelial cells: relationship of heterogeneity in Gb3Cer/CD77 receptor expression with differential Shiga toxin 1 cytotoxicity.  
Glycoconjugate J. 25 (2008) 291-304.

KM, ESI, LM,  
BC

Skwara, A., Tibesku, C.O., Reichelt, R., Fuchs-Winkelmann, S.,

EM, KM

Damages of the tibial post in constrained total knee prostheses in the early postoperative course - a scanning electron microscopic study of polyethylene inlays.  
Musculoskeletal Disorders 9 (2008) Article Number: 83.

Soltwisch, J., Berkenkamp, S., Dreisewerd, K.

LM

A binary matrix of 2,5-dihydroxybenzoic acid and glycerol produces homogenous microcrystalline sample preparations for matrix-assisted laser desorption ionization mass spectrometry.  
Rapid Commun. Mass Spectrom. 22 (2008) 59-66.

Steinle, A., Oppermann-Sanio, F.B., Reichelt, R., Steinbüchel, A.

EM, NBT, ZB

Synthesis and accumulation of cyanophycin in transgenic strains of *Saccharomyces cerevisiae*. Appl. Environ. Microbiol. 74 (2008): 3410-3418.

Stoeltzing, M., Geyer, M., Reuter, S., Reichelt, R., Pavenstädt, H., Bek, M.J.

EM, KM

Alpha/beta hydrolase 1 is upregulated in D5 receptor knockout mice and reduces O<sub>2</sub><sup>-</sup> production of NADPH oxidase in cultured proximal tubule cells.  
*Biophysical and Biochemical Research Communications*, in press.

- Vakhrushev, S.Y., Snel, M.F., Langridge, J., Peter-Katalinić, J. LM, BC, KM  
MALDI-QTOFMS/MS identification of glycoforms from the urine of a CDG patient.  
Carbohydrate Res. 343 (2008) 2172-2183.
- Vakhrushev, S.Y., Langridge, J., Campuzano, I., Hughes, C., Peter-Katalinić, J.  
Ion mobility mass spectrometry analysis of human glycourinome.  
Anal. Chem. 80 (2008) 2506-2513.
- Vakhrushev, S.Y., Langridge, J., Campuzano, I., Hughes, C., Peter-Katalinić, J.  
Identification of monosialylated N-glycoforms in the CDG urinome by Ion Mobility Tandem Mass Spectrometry: the potential for clinical applications.  
Clin. Proteomics 4 (2008) 47-57.
- Weghofer, M., Dall' Antonia, Y., Grote, M., Stöcklinger, A., Kneidinger, M., Balic, N., Krauth, M.-T., Fernández-Caldas, E., Thomas, W.R., van Hage, M., Vieths, S., Spitzauer, S., Horak, F., Svergun, D.I., Konarev, P.V., Valent, P., Thalhamer, J., Keller, W., Valenta, R., Vrtala, S. AL, EM, KM, ZB  
Characterization of Der p 21, a new important allergen derived from the gut of house dust mites.  
Allergy, 63 (2008) 758-767.
- Weghofer, M., Grote, M., Dall'Antonia, Y., Fernandez-Caldas, E., Krauth, M.T., van Hage, M., Horak, F., Thomas, W.R., Valent, P., Keller, W., Valenta, R., Vrtala, S., AL, EM, KM, ZB  
Characterization of folded recombinant Der p 5, a potential diagnostic marker allergen for house dust mite allergy.  
Int. Arch. Allergy and Immunology 147 (2008) 101-109.
- Witte, H., Silies, M., Haarlammert, T., Hüve, J., Kutzner, J., Zacharias, H. PH  
Multi-kilohertz, ultrafast hard X-ray  $K_{\alpha}$  source.  
Appl. Phys. B 90 (2008) 11-14
- Zarei, M., Kirsch, S., Müthing, J., Bindila, L., Peter-Katalinić, J. LM, KM  
Automated normal phase nano high performance liquid chromatography/matrix assisted laser desorption/ionization mass spectrometry for analysis of neutral and acidic

glycosphingolipids.

Anal. Bioanal. Chem. 391 (2008) 289-297.

Zarei, M., Bindila, L., Souady, J., Dreisewerd, K.,

LM, KM

Berkenkamp, S., Müthing, J., Peter-Katalinić, J.

A sialylation study of mouse brain gangliosides by MALDI a-  
TOF and o-TOF mass spectrometry.

J. Mass Spectrom. 43 (2008) 716-725.

## **Diplomarbeiten und Dissertationen**

### **Diplomarbeiten**

Draude F.

„Entwicklung eines kühlbaren MALDI-Probentellers für ein o-TOF-Massenspektrometer und Messungen zum Einfluss der Probentemperatur auf die Mechanismen der IR- und UV-MALDI

Diplomarbeit im Studiengang Physik (Betreuung: K. Dreisewerd, Prof. Harald Fuchs)“

Lehrich, P.

„Optische Untersuchungen von Transporten am Kernporenkomplex“

Diplomarbeit im Studiengang Physik (Betreuung: M. Kahms; J. Hüve)

Sotwisch J.

„Einfluss von Gasart, Gasdruck und Extraktionsspannung auf das Fragmentierungsverhalten laserdesorbierter Biomoleküle in einem orthogonal-extrahierenden MALDI-Flugzeitmassenspektrometer mit Feinvakuum-Ionenquelle“

Diplomarbeit im Studiengang Physik (Betreuung: K. Dreisewerd, Prof. Heinrich Arlinghaus)

Wolff, H.

„Anwendung des stufenweisen Photobleichens und der Photoaktivierung zur Auflösung nanoskopischer Strukturen“

Diplomarbeit im Studiengang Physik (Betreuung: M. Kahms; J. Hüve)

### **Dissertationen**

Baumgärtel, V.

„Kinetische in vitro-Analyse nukleocytoplasmatischer Transportrezeptoren und retroviraler Substrate“ (Betreuung: R. Peters)

### **Auswärtige Dissertationen abgeschlossen in 2008**

### **Fachsemester**

Voß, K.

„Fluoreszenzmikroskopie von Kernporenproteinen“

Fachsemester im Studiengang Biomedizinische Technik der FH Münster (Betreuung: M. Kahms)



<b>Vorträge (V) und Poster (P) mit Abstracts</b>	<b>Fachgebiet(e)*</b>
<p>Baumgärtel, V., Quiskamp, N., Peters, R.  Optical Single Transporter Recording - Kinetic Analysis of Nuclear Export  International Symposium SFB523 "Intracellular Transport &amp; Trafficking", Max-Planck Institut für Biophysikalische Chemie, 03-04.04.2008, Göttingen (P)</p>	BC, ZB
<p>Bindila, L., Busnel, J.-M., Ricoul, F., Peter-Katalinić, J.  Microfluidic-enhanced mass spectrometric techniques for functional glycoproteomic survey,  N2L, Champéry, Switzerland (V)</p>	BC, KM, ESI
<p>Distler, U., Pohlentz, G., Dreisewerd, K., Senninger, N., J. Peter-Katalinić, J., Karch, H., Müthing, J.  Globotrialsylceramide (Gb3Cer) as potential candidate for targeted therapies in colorectal cancer  19<sup>th</sup> Joint Meeting of the "Studiengruppe Glykobiologie der GBM", the "Nederlandse Vereniging voor Glycobiologie", the "Belgian Working Group for Glycosciences" and the "Group Lillois de Glycobiologie", 30.11-2.12.2008, Wageningen, Niederlande (P)</p>	BC, KM, ESI
<p>Farr, J.C., Rout, M.P., Peters, R.  Optical <i>in vitro</i> Analysis of Transport through the Nuclear Pore Complex in <i>Saccharomyces cerevisiae</i>  International Symposium SFB523 "Intracellular Transport &amp; Trafficking", Max-Planck Institut für Biophysikalische Chemie, 03-04.04.2008, Göttingen (P)</p>	BC, ZB
<p>Farr, J.C., Rout, M.P., Peters, R.  Optical <i>in vitro</i> Analysis of Transport through the Nuclear Pore Complex in <i>Saccharomyces cerevisiae</i>  Frontiers Workshop BioNano08, 09.-13.03.2008, Zermatt (Schweiz) (V)</p>	BC, ZB
<p>Henkel W., Rohlfing A., Dreisewerd K.  Analysis of Whole Collagen Proteins, their Supramolecular Complexes, and their CNBr Fragments  41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (V).</p>	LM, BC
<p>Henkel, W., Dreisewerd K., Rohlfing, A.</p>	LM, BC

MALDI-MS Analysis of Whole Collagens and Their Cyanogen Bromide-Peptides to study the Network of Fibrillar-Forming Collagens I, III, and V  
Jahrestagung der Amerikanischen Gesellschaft für Massenspektrometrie, 1.-5. Juni, Denver, CO, USA (P)

Henkel, W., Dreisewerd, K. LM, BC  
UV-MALDI-MS Analysis of Collagen-Derived Cyanogen Bromide-Peptides to study the Network of Fibrillar-Forming Collagens I, III, and V  
21. FECTS Meeting, 9.-13. July 2008, Marseille

Hoffmann, P., Hülsewig, M., Duvar, S., Ziehr, H., Dreisewerd, K., Peter-Katalinić, J., Schmidt, M. A., Karch, H., Müthing, J. BC, KM, LM  
TLC-IR-MALDI mass spectrometry analysis of shiga toxin receptors in human lymphoid and myeloid cell lines  
19<sup>th</sup> Joint Meeting of the “Studiengruppe Glykobiologie der GBM”, the “Nederlandse Vereniging voor Glycobiologie”, the “Belgian Working Group for Glycosciences” and the “Group Lillois de Glycobiologie”, 30.11.-02.12.2008, Wageningen, Niederlande (P)

Hülsewig, M., Dreisewerd, K., Berkenkamp, S., Peter-Katalinić, J., Müthing, J. BC, KM, LM  
Analysing long-chain CD15-glycosphinglipids by combining automated multiple development chromatography with direct infrared matrix-assisted desorption/ionisation orthogonal time-of-flight mass spectrometry  
19<sup>th</sup> Joint Meeting of the “Studiengruppe Glykobiologie der GBM”, the “Nederlandse Vereniging voor Glycobiologie”, the “Belgian Working Group for Glycosciences” and the “Group Lillois de Glycobiologie”, 30.11-02.12.2008, Wageningen, Niederlande (P)

Kahms, M., Hüve, J., Wesselmann, R., Farr, J.C., Lehrich, P., Sanetra, N., Peters, R. BC, ZB  
4Pi microscopy of the nuclear pore complex  
Symposium High Speed Optical Sectioning Microscopy 2008  
22.-23.09.2008, Bonn (V)

Kirsch, S., Zarei, M., Müthing, J., Bindila, L., Peter-Katalinić, J. BC, KM, ESI  
On-line nanoHPLC/ESI QTOF mass spectrometry for separation, detection and structural elucidation of neutral glycosphingolipids.

41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (V)

Kirsch, S., Müthing, J., Bindila, L., Peter-Katalinić, J. BC, KM, ESI

Discrimination and structural elucidation of  $\alpha$ 2-3 and  $\alpha$ 2-6 sialylated gangliosides by nanoHPLC coupled to ESI-QTOF-MS.

19<sup>th</sup> Joint Meeting of the “Studiengruppe Glykobiologie der GBM”, the “Nederlandse Vereniging voor Glycobiologie”, the “Belgian Working Group for Glycosciences” and the “Group Lillois de Glycobiologie”, 30.11-02.12.2008, Wageningen, Niederlande (P)

König S., Pirkl A., Kollas O., Dreisewerd K LM

Generation of highly-charged peptide and protein ions by atmospheric pressure matrix-assisted infrared laser desorption ionization ion trap mass spectrometry

41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (V).

Kreusser, S., Mensing, A., Preston, R., Vollenbröcker, B., BC, KM, ESI

Duning, K., Buck, F., Henning, S., Peter-Katalinic, J., August, C., Saleem, M., Pavenstädt H. Proteome analysis in human podocyte cell culture: effects of the vasopeptidase inhibitor AVE8048, Tagung Tübingen 2008

Kongress für Nephrologie, 27. - 30. 09. 2008, Tübingen (P)

Krzyzanek, V., Reichelt, R. EM, PH

Mass thickness determination of thin specimens using high-resolution scanning electron microscopy

14th European Microscopy Conference, 01.-05.09.2008, Aachen (P).

Proc. EMC 2008, vol. 1, pp. 573

Mormann, M., Eble, J., Schwöppe, C., Mesters, R.M., FT-ICR, BC, ESI

Berdel, W.E., Peter-Katalinić, J., Pohlentz, G. Fragmentation of intra- and inter-peptide disulfide bonds of proteolytic peptides by nanoESI collision induced dissociation.

41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (P).

Pirkl, A. König, S., Dreisewerd, K. LM

Generation of Highly-Charged Peptide and Protein Ions by

Atmospheric Pressure IR-MALDI Ion Trap Mass Spectrometry

Jahrestagung der Amerikanischen Gesellschaft für Massenspektrometrie, 1.-5. Juni, Denver, CO, USA (P)

Poscfalvi, G., Palmieri, G., Balestrieri, M., Fiume, I., Peter-Katalinić, J., Pohlentz, G.

BC, KM, ESI

A first glance on the N-glycosylation of the SSO1273 protein from the archeon *Sulfolobus solfataricus*.

19<sup>th</sup> Joint Meeting of the “Studiengruppe Glykobiologie der GBM”, the “Nederlandse Vereniging voor Glycobiologie”, the “Belgian Working Group for Glycosciences” and the “Group Lillois de Glycobiologie”, 30.11-02.12.2008, Wageningen, Niederlande (P)

Schewpe, C.H., Hülsewig, M., Friedrich, A.W., Karch, H., Dreisewerd, K. Nofer, J.-R., Peter-Katalinić, J., Müthing, J. Variable lipoprotein association and content of shiga toxin glycosphingilipid ligands in human blood.

BC, KM, ESI, LM

19<sup>th</sup> Joint Meeting of the “Studiengruppe Glykobiologie der GBM”, the “Nederlandse Vereniging voor Glycobiologie”, the “Belgian Working Group for Glycosciences” and the “Group Lillois de Glycobiologie”, 30.11-02.12.2008, Wageningen, Niederlande (P)

Soltwisch J., Berkenkamp S., Dreisewerd K.

LM

Effect of background gas type and pressure on the stability of laser generated ions in a elevated pressure MALDI ion source

41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (P).

Soltwisch, J., Berkenkamp, S, Dreisewerd, K.

LM

Effects of the Type and Pressure of the Background Gas on the Fragment Yield of Laser Generated Ions in an Elevated Pressure MALDI Ion Source

Jahrestagung der Amerikanischen Gesellschaft für Massenspektrometrie, 1.-5. Juni, Denver, CO, USA (V)

Souady, J., Solwitsch, J., Dreisewerd, K., Berkenkamp, S., Peter-Katalinić, J., Müthing, J.

BC, KM, LM

Glycosphingolipid expression analysis by HPTLC multicolour immunodetection directly coupled with IR-MALDI-o-TOF mass spectrometry.

19<sup>th</sup> Joint Meeting of the “Studiengruppe Glykobiologie der

GBM", the "Nederlandse Vereniging voor Glycobiologie", the "Belgian Working Group for Glycosciences" and the "Group Lillois de Glycobiologie", 30.11.-02.12.2008, Wageningen, Niederlande (P)

Souady, J., Solwitsch, J., Dreisewerd, K., Berkenkamp, S., Peter-Katalinić, J., Müthing, J. BC, KM, LM  
Characterization of glycosphingolipid mixtures by multicolour immunodetection combined with IR-MALDI-o-TOF mass spectrometry.  
41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (P).

Vakhrushev, S. Y., Dadimov, D., Peter-Katalinić, J. BC, KM, ESI  
High throughput assignment of glycostructures in glycomics.  
Annual Conference of the Society for Glycobiology, 12.11-15.11.2008, Dallas/Ft. Worth, Tx., USA (P)

Vakhrushev, S.Y., Langridge, J., Campuzano, I., Hughes, C., Peter-Katalinić, J. BC, KM, ESI  
Human glycourinome analysis: strategy and methods for biomarker identification.  
25.06.-27.06.2008, Minks, Belarus (V)

Vakhrushev, S.Y., Langridge, J., Hughes, C., Campuzano, I., Vissers, H., McKenna, T., Peter-Katalinic J. BC, KM, ESI  
Reducing glycoconjugate complexity in human glycourinome analysis by Ion Mobility Mass Spectrometry  
41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie, 02.-05.03.2008, Gießen (V).

Wesselmann, R., Hüve, J., Peters, R. BC, ZB  
Topography of single nuclear pore complexes analyzed by 4Pi microscopy  
Frontiers Workshop BioNano08, 09.-13.03.2008, Zermatt (Schweiz) (V)

Yew, J. Y., Dreisewerd, K., Berkenkamp, S., Kravitz, S. A. LM, BC  
UV-LDI-o-TOF MS Imaging of Hydrocarbons from Single, Intact Fruit Flies  
Jahrestagung der Amerikanischen Gesellschaft für Massenspektrometrie, 1.-5. Juni, Denver, CO, USA (V)

Zeck, A., Pohlentz, G., Schlothauer, T., Seeber, S., Peter-Katalinic, J., Regula J. T. BC, KM, ESI  
Characterization of the FcγRIIIa Carbohydrate Structures

Expressed in Different Cells Using LC-nanoESI-MS/MS.  
CAAS conference, September 2008, Nappa Valley, CA  
USA, (P)

## Eingeladene Vorträge

## Fachgebiet(e)\*

Dreisewerd, K., Pirkl, A., Soltwisch, J., Draude, F., Berkenkamp, S., König, S. Dreisewerd, K.

LM

Factors Influencing the Formation of Highly-Charged Peptide Ions and Analyte Ion Fragmentation in AP-IR-MALDI-IT- and UV/IR-MALDI-o-TOF-MS

Desorption 08, 8-12-6. Kenora, ON, Kanada

Hillenkamp, F., Berkenkamp, S., Ehrich, M., Honisch, C., van den Boom, D.

LM

MALDI-TOF MS, Development of an Analytical Tool for Biological Sciences.

11<sup>th</sup> Conference in Genomics and Proteomics of Human Pathogens, 26th-27th June 2008, UK Health Protection Agency, London, UK.

Hillenkamp, F.

LM

Mass Spectrometry of Biological Macromolecules: Current Status and Future Role: Introduction.

Seminar, Wellman Center of Photomedicine, Massachusetts General Hospital, October 21, 2008, Harvard Medical School, Boston, USA.

Hillenkamp, F.

LM

Mass Spectrometry of Biological Macromolecules: Current Status and Future Role: Analysis of Nucleic Acids.

Seminar, Wellman Center of Photomedicine, Massachusetts General Hospital, October 21, 2008, Harvard Medical School, Boston, USA.

Hillenkamp, F.

LM

Resequenzierungsanalyse von Nukleinsäuren mit MALDI-MS

3. Koordinierungstreffen des BMBF-Föderschwerpunkts

„QuantPro“, 01. – 02. 12. 2008, Münster.

Mormann, M.

MALDI, ESI,  
FT-ICR

Hochleistungs-Massenspektrometrie in der Nano-Bioanalytik.

1. NRW Nano-Konferenz, 18.02.-19.02.2008, Dortmund.

Mormann, M.

LM, ESI

Aktivierungstechniken zur Strukturaufklärung bioorganischer Gasphasen-Ionen.

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Mormann, M., Peter-Katalinić, J., Pohlentz, G. BC, ESI, FT-  
Fragmentation of intra- and inter-peptide disulfide bonds of ICR  
proteolytic peptides by nano-ESI collision- induced dissociation.  
Workshop Mass Spectrometry for Biomedical Applications,  
12.11-13.11.2008, Münster.

Peter-Katalinić, J. BC, ESI, KM  
Emerging glycosphingolipidomics technologies: toward  
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Gordon research conference, "Glycolipid and sphingolipid  
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Peter-Katalinić, J. BC, ESI, KM  
Exploring glycosignature by mass spectrometry: Applications to  
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Turku centre for biotechnology, 14.03.2008, Turku, Finland.

Peter-Katalinić, J. BC, ESI, KM  
Glycosphingolipids of Human Serum.  
Glyfdis Meeting, 02.04.2008, Paris, France.

Peter-Katalinić, J. BC, ESI, KM  
Glycostructures as diagnostic biomarkers, proteome analysis in  
clinical diagnostics.  
04.05-05.04.2008, Universitätsklinikum Hamburg-Eppendorf.

Peter-Katalinić, J. BC, ESI, KM  
Glycosylation of extracellular proteins as studied by mass  
spectrometry.  
The Swedish Mass Spectrometry's Annual Symposium  
"Posttranslational modifications, 07.04.2008 Stockholm,  
Sweden.

Peter-Katalinić, J. BC, ESI, KM  
New technology challenges in nanobioanalytics.  
N2L Industry workshop, 06.05.2008, Barcelona, Spain.

Peter-Katalinić, J. BC, ESI, KM  
New instrumentation for biological mass spectrometry.  
From solid state to biophysics IV, 06.06.-13.06.2008, Cavtat,



Croatia.

Peter-Katalinić, J. BC, ESI, KM  
Revealing molecular structure of biopolymers by mass spectrometry and hyphenated/chip-enhanced MS techniques. Hospital for sick children, 20.06.2008, University of Toronto, Canada.

Peter-Katalinić, J. BC, ESI, KM  
Mass Spectrometry in Systems Glycobiology: Recent Developments and Future Trends. National Research Council of Canada, 23.06.2008, Ottawa, Canada.

Peter-Katalinić, J. BC, ESI, KM  
Glycomics tools for sialylation studies. SIALOGLYCO2008, 21.07-26.07.2008, Moscow-St.Petersburg, Russia.

Peter-Katalinić, J. BC, ESI, KM  
CE- and HPLC-MS hyphenation for (new) screening strategies in GLYCOMICS. 14th International Symposium of the Separation Society (ISSS), 30.09-03.10.2008, Primosten, Croatia

Peter-Katalinić, J. BC, ESI, KM  
Emerging glycomics: How to encompass carbohydrate diversity by mass spectrometry. 2nd Central and Eastern European Proteomics Conference: Proteomics Driven Discovery and Applications, 12.10-15.10.2008, Max-Planck-Institut für Chemische Ökologie, Jena.

Peter-Katalinić, J. BC, ESI, KM  
Potentials of modern mass spectrometry in biology and medicine. University of Rijeka Medical School, 04.11.2008, Rijeka, Croatia.

Reichelt, R. EM, PH  
Scanning Electron Microscopy. Theory and Physical Principle Univ. Tecnologico de Monterrey, 01.12.2008, Campus Estado de Mexico, Mexiko

Reichelt, R. EM, PH  
Scanning Electron Microscopy. Instrumentation and Methods Univ. Tecnologico de Monterrey, 02.12.2008, Campus Estado

de Mexico, Mexiko

Reichelt, R.

EM, PH

Scanning Electron Microscopy. Applications and Practical Exercises

Univ. Tecnológico de Monterrey, 03.12.2008, Campus Estado de Mexico, Mexiko

Vakhrushev, S.Y., Dadimov, D., Langridge, J., Hugues, C., Campuzano, I., Peter-Katalinić, J.

BC, ESI, KM

Software Platform for Dissection of Human Glycourinome by Ion Mobility Mass Spectrometry.

8<sup>th</sup> Siena Meeting „From Genome to Proteome: Integration and Proteome Completion“, 31.08.-04.09.2008, Siena, Italy.

### **Drittmittelprojekte, Personalstellen und Sachmittel und andere Aktivitäten 2008**

Müthing J.

Deutsche Krebshilfe (Mildred Scheel Stiftung) 106742 (Kooperationspartner: Prof. Dr. Peter-Katalinić (IMPB), PD Dr. J. Haier (Klinik und Poliklinik f. Allgemeine Chirurgie, UK Münster), Prof. Dr. N. Senninger (Klinik und Poliklinik f. Allgemeine Chirurgie, UK Münster)).

Peter-Katalinić J.

EU-RP6 "LOCCANDIA" (EC 34202)

Peter-Katalinić J.

EU-RP6 "GLYFDIS" **Glycans in Body Fluids - Potential for Disease Diagnostics.** (EC Ref. 37661)

Peter-Katalinić J.

SFB 492: Extrazelluläre Matrix: Biogenese, Assemblierung und Zelluläre Wechselwirkungen (2000-2008).

„Quadrupol Flugzeit und Fourier-Transform Ion Zyklotron Resonanz Massenspektrometrie von Glykosaminoglykanen und anderen Glykokonjugaten“, Projekt Z2: 2006-2008.

Peters R.

National Institute of Health (USA), Grant number 1 R01 GM071329-01: "Virtual gating machines for protein purification". Volume: 240,000 €, 2004-2008.

Reichelt R.

DFG-Projekt RE 782/11-1: "Mass measurement by electron scattering: Nanoanalytics by high-resolution scanning electron microscopy (HRSEM) in the transmission mode". 2008 - 2010

Reichelt R.

DFG-Projekt RE 782/12-1: (mit Prof. Dr. E. Nembach, Inst. für Materialphysik, WWU): "Computersimulationen des metallografischen Ätzprozesses". 2008

Reichelt R.

DRL / BMBF-Projekt Internat. Zusammenarbeit in Bildung und Forschung mit Mexiko, Projekt MEX06/020: "Oberflächencharakterisierung von Keramiken und nichtmetallischen Materialien mittels hochauflösender Rasterelektronen- und Atomkraftmikroskopie", 2006 - 2009.

## **Andere Aktivitäten**

### **Mormann**

Organisation des Workshops: Grundlagen der Massenspektrometrie: Ausgewählte Themen, 41. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie (DGMS) 2.-5. März 2008 an der Justus-Liebig-Universität Gießen.

### **Müthing**

Croatian Medical Journal, Scientific Board.  
Neurologia Croatica, Scientific Board.

### **Peter-Katalinić**

Vorstandsmitglied der Deutschen Gesellschaft für Massenspektrometrie (DGMS).

Journal of Proteome Research, Editorial Board

Journal of the American Society for Mass Spectrometry, Editorial Board

Projektkoordination: EU-Projekt: SRPT1-Nano2Life WP7.

### **Reichelt**

Acta Microscopica, Editorial Board

Imaging & Microscopy, Editorial Board

Diverse Projekte mit kleinen und mittleren Firmen / Industrie

### **Peters**

## Abkürzungsverzeichnis

AFM	Atomkraftmikroskopie
AL	Elektronenmikroskopische Untersuchungen zur Allergologie
BC	Biochemie
BP	Biophysik
BT	Biotechnologie
EM	Elektronenmikroskopie
ESI	Elektrospray Massenspektrometrie
FT-ICR	Fourier Transform Ion Cyclotron Resonance
KM	Klinisch-medizinische Fragestellung
LM	Laser-Massenspektrometrie
LSM	Laser-Scanning-Mikroskopie
MA	Elektronenstrahl-Mikrosondenanalytik
NBT	Nanobiotechnologie
PH	Physik
PR	Proteomics
PC	Physiologische Chemie
SSM	Scanning-Sensormikroskopie
TM	Tumormedizin
ZM	Zellbiologie