

## **Publikationen 2004**

**des**

**Instituts für Medizinische Physik und Biophysik**

**Universitätsklinikum Münster**

**Westfälische Wilhelms-Universität Münster**

## Zeitschriftenartikel, Buchbeiträge und Bücher

Fachgebiet(e)<sup>\*</sup>

- Almeida, R., L. Bindila, A. Zamfir, A. Sterling, M. Allen, J. Peter-Katalinić  
Off-line Capillary Electrophoresis/Fully Automated Chip-nano Electrospray Quadrupole Time-of-Flight Mass Spectrometry for Glycoconjugate Analysis.  
Proceedings of the 52<sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Nashville, Tennessee, USA, May 23 - 27, 2004 (CD Rom publication). ESI, BC
- Alvarez, H.M., R.A. Silva, A.C. Cesari, A.L. Zamit, S.R. Peressutti, R. Reichelt, U. Keller, U. Malkus, C. Rasch, T. Maskow, F. Mayer, A. Steinbüchel  
Physiological and morphological responses of soil *Rhodococcus opacus* strain PD630 to dehydration.  
FEMS Microbiology Ecology 50 (2004) 75 - 86. BT, EM, ZB
- Bindila, L., M. Froesch, N. Lion, J. S. Rossier, H. H. Girault, A. Zamfir, J. Peter-Katalinić  
Thin polymer chip coupled to Fourier Transform Ion Cyclotron Resonance Mass Spectrometry for glycopeptide screening.  
Glycoconjugate J. 21 (2004) 400. FT-ICR, BC
- Bindila, L., M. Froesch, N. Lion, Ž. Vukelić, J. S. Rossier, H. H. Girault, J. Peter-Katalinić, A. Zamfir  
A thin chip microsprayer system coupled to Fourier transform ion cyclotron resonance mass spectrometry for glycopeptide screening.  
Rapid Commun. Mass Spectrom. 18 (2004) 2913 - 2920. FT-ICR, BC
- Bindila, L., R. Almeida, A. Sterling, M. Allen, J. Peter-Katalinić, A. Zamfir  
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Bornemann, A., J. Bohl, H.-M. Schneider, H.H. Goebel, P.F. Schmidt, R. Gherardi 62 year old female with intracellular PAS-positive deposits in the deltoid muscle biopsy. Brain Pathol. 14(1) (2004) 109 - 115.	KM
Bulau, P., I. Meisen, T. Schmitz, R. Keller, J. Peter-Katalinić Identification of neuropeptides from the sinus gland of the crayfish <i>Orconectus limosus</i> using nanoscale on-line liquid chromatography tandem mass spectrometry. Mol. Cell. Proteomics 3 (2004) 558 - 564.	BC, ESI
Dreisewerd, K., A. Rolfing, B. Spottke, C. Urbanke, W. Henkel Characterization of whole fibril-forming collagen proteins of types I, III, and V from fetal calf skin by infrared matrix-assisted laser desorption ionization mass spectrometry. Anal. Chem. 76(13) (2004) 3482 - 3491.	BC, LM
Elbahloul, Y., M. Krehenbrink, R. Reichelt, A. Steinbüchel Physiological conditions for high cyanophycin content in biomass of <i>Acinetobacter calcoaceticus</i> strain ADP 1. Microbiology (2004), in press.	BT, EM, ZB
Froesch, M., L. Bindila, G. Baykut, M. Allen, J. Peter-Katalinić, A. Zamfir Coupling of fully automated ChipESI to FT-ICR Mass Spectrometry for High-Performance Glycoscreening and Sequencing. Glycoconjugate J. 21 (2004) 404.	ESI, BC FT-ICR
Froesch, M., L. Bindila, M. Allen, G. Baykut, J. Peter-Katalinić, A. Zamfir Coupling of fully automated chip electrospray to Fourier transform ion cyclotron resonance mass spectrometry for high-performance glycoscreening and sequencing. Rapid Commun. Mass. Spectrom. 18 (2004) 3084 - 3092.	FT-ICR, ESI, BC
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Froesch, M., L. Bindila, Ž. Vukelić, S. Kalanj-Bognar, A. Zamfir, J. Peter-Katalinić Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of Sialylated Glycosphingolipids from Human Brain Biopsies. Proceedings of the 52 <sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Nashville, Tennessee, USA, May 23 - 27, 2004 (CD Rom publication).	FT-ICR, BC, KM
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Grote, M., I. Swoboda, R. Valenta, R. Reichelt Group 13 allergens as environmental and immunological markers for grass pollen allergy. Studies by immunogold field emission and transmission electron microscopy. International Archives of Allergy and Immunology (2004), in press.	AL, EM, KM
Grote, M., V. Krzyzanek, R. Valenta, I. Swoboda, R. Reichelt Detection of an allergen-containing crystal in dry pollen grains of <i>Phleum pratense</i> after anhydrous fixation. Proc 13 <sup>th</sup> European Microscopy Congress. Eds. D. Schryvers, J.-P. Timmermans, G., J.-P. Verbelen, E. Wisse. Publ.: Belgian Society for Microscopy, Liège, vol. 3 (2004) 323 - 324.	AL, EM
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- Kisters K., F. Wessels, F. Tokmak, E.R. Krefting, B. Gremmler, M. Kosch, M. Hausberg  
 Early-onset increased calcium and decreased magnesium concentrations and an increased calcium/magnesium ratio in SHR versus WKY.  
*Magnesium Research* 17 (2004) 264 - 269. EM, MA, KM
- Kisters K., F. Wessels, H. Küper, F. Tokmak, E.-R. Krefting, B. Gremmler, M. Kosch, M. Barenbrock, M. Hausberg  
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*Am. J. Hypertension* 17 (2004) 59 - 62. EM, MA, KM
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Meisen, I., J. Peter-Katalinić, J. Müthing Direct analysis of silica gel extracts from immunostained glycosphingolipids by nanoelectrospray ionization quadrupole time- of- flight mass spectrometry. Anal. Chem. 76 (2004) 2248 - 2255.	BT, ESI

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 Macrophagic myofasciitis in a 3-month-old child.  
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- Spottke, B., J. Gross, H.J. Galla, F. Hillenkamp BC, LM  
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Stracke, W., G. González, U. Keller, A. Ricker, Z. Lopez, R. Reichelt Surface characterization of the zeolites MFI, MEL, and the intergrowth system MFI/MEL by HRSEM and SFM. Proc. 13 <sup>th</sup> European Microscopy Congress. Eds. D. Schryvers, J.-P. Timmermans, G. van Tendeloo. Publ.: Belgian Society for Microscopy, Liège, vol. 2 (2004) 529 - 530.	EM, AFM, SSM
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Vakhrushev, S.Y., A. Zamfir, J. Peter-Katalinić <sup>0,2</sup> A cross-ring cleavage as a general diagnostic tool for glycan assignment in glycoconjugate mixtures. J. Amer. Soc. Mass Spectrom. 15 (2004) 1863 - 1868.	BC, ESI
Vakhrushev, S.Y., M. Mormann, J. Peter-Katalinić Identification of complex glycoconjugates related to congenital disorders of glycosylation by FT-ICR MS and MS/MS in combination with a computational algorithm. Proceedings of the 52 <sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Nashville, Tennessee, USA, May 23 - 27, 2004 (CD Rom publication).	FT-ICR, BC
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Wältermann, M., A. Hinz, H. Robenek, D. Troyer, R. Reichelt, U. Malkus, H.-J. Galla, R. Kalscheuer, T. Stöveken, P. von Landenberg, A. Steinbüchel Mechanism of Lipid-body formation in prokaryotes: How Bacteria fatten up. Molecular Microbiology (2004), in press.	BC, EM, NBT, ZB
Zamfir, A., J. Peter-Katalinić CE/MS and tandem MS for glycoscreening in biomedical research. Electrophoresis 25 (2004) 1949 - 1963.	BC, ESI, KM
Zamfir, A., D. G. Seidler, E. Schönherr, H. Kresse, J. Peter-Katalinić On-line sheathless capillary electrophoresis/nanospray ionization mass spectrometry for the analysis of glycosaminoglycan oligosaccharides, Electrophoresis 25 (2004) 2010 - 2016.	BC, ESI
Zamfir, A., N. Lion, Ž. Vukelić, L. Bindila, J. S. Rossier, H. H. Girault, J. Peter-Katalinić Thin chip microsprayer system coupled to quadrupole time-of-flight mass spectrometer for glycoconjugate analysis. Lab Chip (2005), published online December 22.	ESI, BC
Zamfir, A., R. Almeida, A. Sterling, M. Allen, J. Henion, J. Peter-Katalinić Fully-Automated Chip-Based Electrospray Ionization Tandem Mass Spectrometry – a Novel concept in Glycomics. Proceedings of the 52 <sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Nashville, Tennessee, USA, May 23 - 27, 2004 (CD Rom publication).	ESI, BC
Zamfir, A., S. Vakhrushev, A. Sterling, H.-J. Niebel, M. Allen, J. Peter-Katalinić Fully automated chip-based mass spectrometry for complex carbohydrate system analysis. Anal. Chem. 76 (2004) 2046 - 2054.	BC, ESI,
Zamfir, A., Ž. Vukelić, L. Bindila, R. Almeida, A. Sterling, M. Allen, J. Peter-Katalinić Fully automated chip-based nanoelectrospray tandem mass spectrometry of gangliosides from human cerebellum. J. Am. Soc. Mass Spectrom. 15 (2004) 1649 - 1657.	ESI, KM, BC

# Dissertationen und Diplomarbeiten

## Diplom-, Doktor- und Habilitationsarbeiten

Dreisewerd, K.

BP, LM

Mechanismen der Matrix-unterstützten Laserdesorption/Ionisation mit Lasern aus dem ultravioletten und infraroten Wellenlängenbereich und Anwendungen mit biologischer Fragestellung.

Habilitationsschrift, Fachbereich Physik, WWU Münster.

Leisner, A.

LM

Untersuchungen zur Plume-Expansionsdynamik bei der Matrix-unterstützten Laserdesorptions-/Ionisation aus Glycerol mit Infrarot-Lasern.

Dissertation (Fachbereich Physik, Experimentalphysik),  
WWU Münster,

Betreuer: Prof. Dr. F. Hillenkamp und Prof. Dr. H. Fuchs.

Spottke, B.

BC, LM

Untersuchungen zur Resequenzierung von in-vitro-RNA mit Matrix-unterstützter Laserdesorptions-/Ionisationsmassenspektrometrie (MALDI-MS).

Dissertation (Fachbereich Chemie, Biochemie) WWU Münster,  
Betreuer: Prof. Dr. F. Hillenkamp und Prof. Dr. H.-J. Galla.

## Vorträge (V) und Poster (P) mit Abstracts

Almeida, R., L. Bindila, A. Zamfir, A. Sterling, M. Allen, J. Henion, J. Peter-Katalinić Off-line Capillary Electrophoresis/Fully Automated Chip-nano Electrospray Quadrupole-Time-of-Flight Mass spectrometry for Glycoconjugate Analysis. 52 <sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, May 23 - 28, 2004, Nashville, Tennessee, USA (P).	BC, ESI
Balen, B., M. Krsnik-Rasol, I. Zadro, S. Vakhrushev, J. Peter-Katalinić N-Glycoprotein Patterns Related to Morphogenesis in <i>Mammillaria gracillis</i> Tissue Culture. Kongres Hrvatskog Drustva za Biokemiju i Molekularnu Biologiju (Kongress der Kroatischen Biochemischen Gesellschaft), Bjelolasica September 30 - October 2, 2004, Croatia (P).	BC, ESI
Bindila, L., M. Froesch, A. Zamfir, S. Usuki, Ž. Vukelić, R.K. Yu, J. Peter-Katalinić Negative Ion nanoElectrospray Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of Glycosphingolipids. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (P).	FT-ICR, BC
Bindila, L., M. Froesch, N. Lion, J. S. Rossier, H. H. Girault, A. Zamfir, J. Peter-Katalinić Thin polymer chip coupled to Fourier Transform Ion Cyclotron Resonance Mass Spectrometry for glycopeptide screening. 15 <sup>th</sup> Joint Meeting of the „Studiengruppe Glykobiologie der Gesellschaft für Biochemie und Molekularbiologie“, the „Nederlandse Vereingung voor Glycobiologie“ and the „Groupe Lillois de Glycobiologie“, November 29 - 30, 2004, Wageningen, Niederlande (P).	FT-ICR BC
Brunner, G., V. Schwipper, J. Peter-Katalinić, U. Schumacher GPI-specific phospholipase D: Regulator of tumor malignancy, prognostic marker, and therapeutic target? Schwerpunkt Deutsche Krebshilfe, Mildred Scheel Stiftung, Bonn, 8. - 9. November 2004 (V).	KM

Bulau, P., I. Meisen, T. Schmitz, R. Keller, J. Peter-Katalinić Direct analysis of neuropeptides from the crayfish <i>Orconectus limosus</i> using nanoscale on-line liquid chromatography tandem mass spectrometry. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (P).	BC, ESI
Cullen, V.C., J. Muething, I. Meisen, H. Shimura, P. Xu, D. Selkoe, J. Peter-Katalinić, M. Schlossmacher Binding of $\alpha$ -synuclein to human glycosphingolipids. 34 <sup>th</sup> Annual Meeting of the Society for Neuroscience, San Diego, USA, October 23 - 27, 2004 (V).	BT
Dreisewerd, K., A. Leisner, A. Rohlfing, S. Berkenkamp, F. Hillenkamp Infrarotlaser-Nachionisation großer Biomoleküle aus einem IR-MALD(I) Plume. 37. Jahrestagung der Deutschen Gesellschaft für Massenspektrometrie (DGMS), Leipzig, 07. - 10.03.2004 (V).	LM, PC
Froesch, M., L. Bindila, G. Baykut, M. Allen, J. Peter-Katalinić, A. Zamfir Coupling of fully automated ChipESI to FT-ICR Mass Spectrometry for High-Performance Glycoscreening and Sequencing. 15 <sup>th</sup> Joint Meeting of the „Studiengruppe Glykobiologie der Gesellschaft für Biochemie und Molekularbiologie“, the „Nederlandse Vereining voor Glycobiologie“ and the „Groupe Lillois de Glycobiologie“, November 29 - 30, 2004, Wageningen, Niederlande (V).	FT-ICR BC
Froesch, M., L. Bindila, Ž. Vukelić, A. Zamfir, J. Peter-Katalinić Ionization and Fragmentation of Highly Sialylated Glycosphingolipids by FT-ICR. 7 <sup>th</sup> European FTMS Conference (EFTMS 2004), Konstanz, March 28 - April 1, 2004 (P).	BC, FT-ICR
Froesch, M., L. Bindila, Ž. Vukelić, J. Peter-Katalinić, A. Zamfir Implementation of chip electrospray mass spectrometry in structural glycobiology. 15 <sup>th</sup> Joint Meeting of the „Studiengruppe Glykobiologie der Gesellschaft für Biochemie und Molekularbiologie“, the „Nederlandse Vereining voor Glycobiologie“ and the „Groupe Lillois de Glycobiologie“, November 29 - 30, 2004, Wageningen, Niederlande (P).	FT-ICR BC

Froesch, M., Ž. Vukelić, L. Bindila, A. Zamfir, J. Peter-Katalinić Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of Sialylated Gangliosides from Human Brain Biopsies. 52 <sup>nd</sup> ASMS conference on mass spectrometry and allied topics, May 23 - 28, 2004, Nashville, Tennessee, USA (P).	BC, FT-ICR
Grote, M., V. Krzyzanek, R. Valenta, I. Swoboda, R. Reichelt Detection of an allergen-containing crystal in dry pollen grains of Phleum pratense after anhydrous fixation. 13 <sup>th</sup> European Microscopy Congress EMC 2004. Antwerpen, August 22 - 27, 2004 (P).	AL, EM
Grünwald, D., A. Hoekstra, U. Kubitscheck Real-time observation of single splicing factor molecules in the living cell nuclei. 10 <sup>th</sup> International Workshop on "Single Molecule Detection and Ultrasensitive Analysis in Life Sciences". Picoquant, Berlin, September 22 - 24, 2004 (V).	BP, ZB
Grünwald, D., A. Hoekstra, U. Kubitscheck Single splicing factor molecules within the living cell nucleus. International Symposium on the functional architecture of the cell nucleus. DKFZ Heidelberg, April 16 - 17, 2004 (V).	BP, ZB
Grünwald, D., H. Leonhardt, M.C. Cardoso, U. Kubitscheck Analysis of Genome Replication at the Single-Molecule Level in Living Cells. 4 <sup>th</sup> International Symposium on Physics, Chemistry and Biology with Single Molecules. Kloster Banz, Bad Staffelstein, February 22 - 25, 2004 (P).	BP, ZB
Höppener, C., J.-P Siebrasse, U. Kubitscheck, R. Peters, H. Fuchs, A. Naber High-resolution near-field fluorescence microscopy of single nuclear pore complexes in an intact nuclear envelope. Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Fachverband Chemische Physik, Regensburg, March 8 - 12, 2004 (P).	BP, ZB

Kalanj, S., Ž. Vukelić, B. Radić, A. Zamfir, M. Froesch, L. Bindila, M. Trbojević-Čepe, J. Peter-Katalinić Quantity and Composition of Gangliosides in Gliosarcoma and Meningioma. Kongres Hrvatskog Drustva za Biokemiju i Molekularnu Biologiju (Kongress der Kroatischen Biochemischen Gesellschaft) Bjelolasica, Croatia, September 9 - October 2, 2004 (P).	BC, KM
Kölbl, S., C. Kunz, M. Flügger, J. Peter-Katalinić, G. Pohlentz Identification and Sequencing of Complex Oligosaccharides from Milk of Asian Elephants ( <i>Elephas maximus</i> ). 37. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie (DGMS), Leipzig, March 7 - 10, 2004 (P).	PHC, ESI
Kölbl, S., M. Flügger, C. Kunz, J. Peter-Katalinić, G. Pohlentz Analysis of major components in Asian elephant ( <i>Elephas maximus</i> ) milk during different stages of lactation. 5 <sup>th</sup> Scientific Meeting of European Association of Zoo and Wildlife Veterinarians (EAZWV), May 19 - 23, 2004, Ebeltoft, Dänemark (P).	PHC, ESI
Koop, A., H. Kohl, A. Thesing, I. Voß, Y. Elbahloul, A. Steinbüchel, R. Reichelt Imaging of cyanophycin in bacterial cells using energy filtering transmission electron microscopy. 13 <sup>th</sup> European Microscopy Congress EMC 2004. Antwerpen, August 22 - 27, 2004 (P).	NBT, EM, ZB
Krzyzanek, V., H. Nüsse, R. Reichelt Quantitative microscopy with a high-resolution FESEM in the transmission mode. 13 <sup>th</sup> European Microscopy Congress EMC 2004. Antwerpen, August 22 - 27, 2004 (V).	EM, BP
Kubitscheck, U., A. Hoekstra, D. Rohleder, T. Kues, D. Grünwald, R. Peters Nuclear transport of single molecules. 4 <sup>th</sup> International Symposium on Physics, Chemistry and Biology with Single Molecules. Kloster Banz, Bad Staffelstein, February 22 - 25, 2004 (V).	BP, ZB

Kubitscheck, U., A. Hoekstra, D., Grünwald, J.-P. Siebrasse, R. Peters Nucleo-cytoplasmasmic transport of single molecules. Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Fachverband Chemische Physik, Regensburg, March 8 - 12, 2004 (V).	BP, ZB
Leisner, A., A. Rohlffing, S. Berkenkamp, F. Hillenkamp, K. Dreisewerd Infrared Laser Post-Ionization of Large Biomolecules from an IR-MALD(I) plume. 10 <sup>th</sup> International Conference Desorption 2004, August 29 - September 2, Saint-Petersburg, Russia (V).	LM, BC
Lion, N., L. Bindila, M. Froesch, Ž. Vukelić, J. S. Rossier, H. H. Girault, J. Peter-Katalinić, A. Zamfir Thin chip polymer microsprays for glycoconjugate analysis of Schindler disease patients. Jahrestagung der Schweizerischen Proteomgesellschaft, SPS'04 Inselspital Bern, Switzerland, December 6 - 8, 2004 (P).	KM, BC, FT-ICR
Matzelle, T.R., H. Gnaegi, R. Reichelt Characterization of the cutting edge of glass and diamond knives for ultramicrotomy by scanning force and field emission scanning electron microscopy. Elektronenmikroskopie 25 (2004) 27 (V).	EM, SSM, AFM
Meisen, I., B. Kniep, J. Haier, N. Senninger, U. Neumann, M. Langer, K. Witthohn, J. Milosević, J. Peter-Katalinić, J. Müthing Tumor-associated CD75s-gangliosides and CD75s-bearing glycoproteins with Neu5Aca2-6Galβ1-4GlcNAc-residues are receptors for the anticancer drug rViscumin. 15 <sup>th</sup> Joint Meeting of the „Studiengruppe Glykobiologie der Gesellschaft für Biochemie und Molekularbiologie“, the „Nederlandse Vereinging voor Glycobiologie“ and the „Groupe Lillois de Glycobiologie“, November 29 - 30, 2004, Wageningen, Niederlande (P).	BT, KM
Meisen, I., J. Peter-Katalinić, J. Müthing Diagnostic fragmentation of terminally α2-6-linked N-acetylneurameric acid in neolacto-series gangliosides obtained by low-energy CID. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (P).	BC, BT

Milošević, J., P. Rehulka, L. Bindila, A. Zamfir, J. Peter-Katalinić Microheterogeneity of N-glycoforms in bovine serum transferrin. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (P).	BC, ESI
Mormann, M., J. Peter-Katalinić Analysis of glycoconjugate ions by interaction with electrons North Berwick, East Lothian, Scotland, August 25 - 28, 2004 (V).	BC, FT-ICR
Mormann, M., G. Pohlentz, M.G. Peter, J. Peter-Katalinić ECD of glycoconjugate ions. 15 <sup>th</sup> Joint Meeting of the „Studiengruppe Glykobiologie der Gesellschaft für Biochemie und Molekularbiologie“, the „Nederlandse Vereining voor Glycobiologie“ and the „Groupe Lillois de Glycobiologie“, November 29 - 30, 2004, Wageningen, Nederlande (P).	FT-ICR BC
Mormann, M., J. Peter-Katalinić Alkylated cysteine residues loose the side chain under electron capture dissociation conditions. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (P).	BC, FT-ICR
Mormann, M., L. Bindila, M. Froesch, A. Zamfir, J. Peter-Katalinić FT-ICR MS of Complex Carbohydrates. 7 <sup>th</sup> European FTMS Conference (EFTMS 2004), Konstanz, March 28 - April 1, 2004 (V).	FT-ICR, BC
Petrovič, U., M. Mattiazzi, K. Repovž, J. Šribar, M. Matis, J. Peter-Katalinić, J.L. DeRisi, G. Anderluh, I. Križaj, F. Gubenšek Yeast as a model to assess the molecular mechanism of action of a neurotoxic secretory phospholipase A2. 15 <sup>th</sup> European Symposium on Animal, Plant and MicrobialToxins. Jožef Štefan Institute, Ljubljana, Slovenia, June 19 - 23, 2004 (P).	BC
Pohlentz, G., S. Kölbl, J. Peter-Katalinić In-capillary tryptic digest of native proteins and simultaneous analysis of the resulting peptides by nanoESI MS and MS/MS. 37. Diskussionstagung der Deutschen Gesellschaft für Massenspektrometrie (DGMS), Leipzig, March 7 - 10, 2004 (V).	BC, ESI

Pohlentz, G., S. Kölbl, J. Peter-Katalinić In-capillary tryptic digest of native proteins and simultaneous analysis of the resulting peptides by nanoESI MS and MS/MS. 52 <sup>st</sup> ASMS Conference on Mass Spectrometry and Allied Topics, May 23 - 27, 2004, Nashville, USA (P).	BC, ESI
Reichelt, R. Course on „ATOMIC FORCE MICROSCOPY. Theory and applications“. Instituto de Estudios Avanzados (IDEA). Caracas / Venezuela, October 10, 2004 (V).	AFM
Rohlfing, A., C. Menzel, F. Hillenkamp, K. Dreisewerd Sounds and In-Sights: How Photoacoustic Reveal Details of the MALDI Process. 10 <sup>th</sup> International Conference Desorption 2004, August 29 - September 2, Saint-Petersburg, Russia (V).	LM
Schlüter, H., J. Thiemann, J. Rykl, J. Jankowski, S. Kurzawski, P. Bulau, J. Peter-Katalinić Mass spectrometric-assisted-enzyme-screening (MES) - a new method for the determination of enzyme activities. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (V).	BC, ESI
Stracke, W. Course on „ATOMIC FORCE MICROSCOPY. Practice and handling“. Instituto de Estudios Avanzados (IDEA). Caracas / Venezuela, October 10, 2004 (V).	AFM
Stracke, W. Surface characterization of the zeolites MFI, MEL, and the intergrowth system MFI/MEL by HRSEM and SFM. XI Congreso Venezolano de Microscopia. Caracas, 10. -13.10.2004 (V).	EM, AFM, SSM
Stracke, W., G. González, U. Keller, A. Ricker, Z. Lopez, R. Reichelt Surface characterization of the zeolites MFI, MEL, and the intergrowth system MFI/MEL by HRSEM and SFM. 13 <sup>th</sup> European Microscopy Congress EMC 2004. Antwerpen, August 22 - 27, 2004 (V).	EM, AFM, SSM

Vakhrushev, S., J. Peter-Katalinić Computational algorithm as a tool for high-throughput glycoscreening of complex glycoconjugate mixtures from CDG patients by tandem mass spectrometry. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (P).	BC, KM
Vakhrushev, S., M. Mormann, J. Peter-Katalinić Identification of complex glycoconjugates related to congenital disorders of glycosylation by FT-ICR MS and MS/MS in combination with computational algorithm. 52 <sup>nd</sup> ASMS conference on mass spectrometry and allied topics, May 23 - 28, 2004, Nashville, Tennessee, USA (P).	BC, FT-ICR
Zamfir, A., A. Sterling, R. Almeida, M. Allen, J. Peter-Katalinić Implementation of fully-automated chip-based nanoelectrospray mass spectrometry in glycomics. 37. Diskussionstagung der DGMS, Leipzig, March 7 - 10, 2004 (V).	BC, ESI
Zamfir, A., L. Bindila, R. Almeida, A. Sterling, Ž. Vukelić, M. Allen, J. Peter-Katalinić Fully-Automated chip-Based Nanoelectrospray Tandem Mass Spectrometry of Gangliosides from Human Cerebellum. 21 <sup>th</sup> LC/MS Montreux Symposium, Montreux, Switzerland, November 10 - 12, 2004 (V).	BC, ESI
Zamfir, A., R. Almeida, A. Sterling, M. Allen, J. Henion, J. Peter-Katalinić Fully-automated chip-based nanoelectrospray tandem mass spectrometry: a novel concept in glycomics. 52 <sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, May 23 - 28, 2004, Nashville, Tennessee, USA (V).	BC, ESI
Zeglin, S., D. Grünwald, R. Peters, U. Kubitscheck Fast single-molecule detection by an electron-multiplying CCD. 4 <sup>th</sup> International Symposium on Physics, Chemistry and Biology with Single Molecules. Kloster Banz, Bad Staffelstein, February 22 - 25, 2004 (P).	BP, ZB

# Eingeladene Vorträge

Dreisewerd, K.

LM

Was weiß man heute über den MALDI-Prozeß?

Bruker Daltonik GmbH, 11.02.2004.

Dreisewerd, K.

LM

Prozesse und Potentiale der MALDI-MS mit gepulsten Infrarot-Lasern.

Oberseminar, Institut für Technische Biochemie/Biotechnologie, Universität des Saarlandes, 24.06.2004.

Hillenkamp, F.

BP

Als der Laser Laufen lernte und Biophotonen noch nicht geboren waren.

Festkolloquium, Forschungszentrum für Umwelt und Gesundheit, Neuherberg bei München, 29. Januar 2004.

Hillenkamp, F., A. Leisner, A. Rohlfing, K. Dreisewerd

LM, PC

Investigations of the Desorption and Plume Expansion Process in MALDI-MS.

227<sup>th</sup> National Meeting of the Am. Chem. Soc., Anaheim, CA, Field and Franklin Award Symposium, March 28 - April 1, 2004.

Hillenkamp, F., A. Leisner, A. Rohlfing, L. M. Kukreja, K. Dreisewerd

LM

Investigations of the Laser Ablation Processes in Matrix Assisted Laser Desorption/Ionisation Mass Spectrometry. India Center for Advanced Technology (CAT), Indore, India, April 15, 2004.

Hillenkamp, F., A. Leisner, A. Rohlfing, K. Dreisewerd

LM, PC

Photoacoustic measurement and high speed photography of the sample ablation in matrix assisted laser desorption/ionization mass spectrometry.

Institute de Physique Nucleaire, Université de Paris Sud, Orsay, September 13, 2004.

Hillenkamp, F., A. Leisner, A. Rohlfing, K. Dreisewerd Investigations of the Sample Ablation and Plume Expansion in MALDI MS. 21es Journées Francaise de Spectrométrie de Masse, Strasbourg, September 14, 2004.	LM, PC
Hillenkamp, F. MALDI Mass Spectrometry of Nucleic Acids. Herbsttagung der Gesellschaft für Biochemie und Molekularbiologie, Münster, 20. September, 2004.	LM, PC
Hillenkamp, F. MALDI Mass Spectrometry: A New Tool for Microbiology? 56. Jahrestagung der Deutschen Gesellschaft für Hygiene und Mikrobiologie, Münster, 28. September, 2004.	LM, KM
Hillenkamp. F. The present and future role of Macromolecular Mass Spectrometry in Medicine and Matrix Assisted Laser Desorption/IonizationMass Spectrometry (MALDI-MS). Symposium Macromolecular Mass Spectrometry in Medicine: Genomics, Proteomics and beyond, Wellman Center of Photomedicine, Harvard Medical School, Boston, October 22, 2004.	LM, KM
Kubitscheck, U. Intracellular Transport at the Single-Molecule Level. International Workshop on Biophysics of Cellular Communication, Gomadingen, March 22 - 24, 2004.	BP, ZB
Kubitscheck, U. Intrazellulärer Transport einzelner Moleküle. Fachbereich Biologie der WWU, Münster, 12.5.2004.	BP, ZB
Kubitscheck, U. Fluorescence Microscopic Observation of single Protein Molecules in Biological Systems. Kolloquium des Graduiertenkolleg 723 "Raumzeitliche Signalprozesse in Neuronen zelluläre Biophysik", Göttingen, July 5, 2004.	BP, ZB

Kubitscheck, U. Intracellular Transport of Single Molecules. Kolloquium des Sonderforschungsbereiches 406, Göttingen, July 6, 2004.	BP, ZB
Kubitscheck, U. Leben én detail: Intrazellulärer Transport einzelner Biomoleküle. Kolloquium der Bioengineering Kompetenzplattform der FH Aachen, 19.10.2004.	BP, ZB
Kubitscheck, U. Leben én detail: Intrazellulärer Transport einzelner Biomoleküle. Kolloquium der Abteilung für Biochemie und Molekularbiologie der Universität Hamburg, 29.11.2004.	BP, ZB
Mormann, M., M. Froesch, L. Bindila, Ž. Vukelić, A. Zamfir, J. Peter-Katalinić FT-ICR of Glycoconjugates. 7 <sup>th</sup> European FTMS Conference (EFTMS 2004), Konstanz, March 28 - April 1, 2004.	FT-ICR, BC
Mormann, M. Hochauflösende Massenspektrometrie in der biomedizinischen Analytik. Institute for Analytical Sciences, ISAS, Dortmund, 05.04.2004.	FT-ICR, KM
Mormann, M. Analysis of glycoconjugate ions by interaction with electrons. 2 <sup>nd</sup> International Uppsala Symposium on electron capture. dissociation of biomolecules and related phenomena, August 25 - 28, 2004, North Berwick, East Lothian, Scotland.	FT-ICR, BC
Müthing, J. Glykobiotechnologische Aspekte der Zellkulturtechnik. Universität Stuttgart, 10. Dezember, 2004.	BT
Peter-Katalinić, J. Requirements for glycomics of hereditary diseases: microfluidics, accurate mass determination and software. 5 <sup>th</sup> Proteome Information Exchange Meeting/Amersham Biosciences, Münster, May 5 - 9, 2004.	BC, KM

Peter-Katalinić, J., J. Müthing Leukocyte Glycosphingolipid Epitopes. 52 <sup>nd</sup> ASMS Conference on Mass Spectrometry and Allied Topics, May 23 - 28, 2004, Nashville, Tennessee, USA.	BT, BC
Peter-Katalinić, J. Requirements on mass spectrometry for N- and O-glycomics of hereditary diseases: microfluidics, accurate mass determination and software. Human Glycoproteome Initiative Workshop: Functional Glycomics in Disease, August 22 - 24, 2004, Osaka, Japan.	BC, KM
Peter-Katalinić, J. MS and Tandem MS for GlycoTag Discovery. 6 <sup>th</sup> Siena Meeting, From Genome to Proteome: Biomarker Discovery & Proteome Imaging, August 28-September 2, 2004, Siena, Italy.	BC, BP
Peter-Katalinić, J. Potentials of Modern Mass Spectrometry in Structure Elucidation of Natural Compounds. ICNPAS-2004, 2 <sup>nd</sup> International Conference on Natural Products and Physiologically Active substances, September 12 -17, 2004, Novosibirsk, Russland.	PHC, BP
Peter-Katalinić, J., L. Bindila, M. Froesch, M. Mormann, D. Šagi, S. Vakhrushev, A. Zamfir Novel Trends in N- and O-Glycoproteomics. 3 <sup>rd</sup> Swedish Proteomics Society Symposium, Lund, Sweden and Copenhagen, Denmark, October 2 - 5, 2004.	BC, FT-ICR
Peter-Katalinić, J. Glycomics Research in Molecular Medicine. Bio-MS-Club, DKFZ Heidelberg, November 24, 2004.	BC, KM
Peter-Katalinić, J. Hochdurchsatz Massenspektrometrie in Glykomik: Neue Technologien in der Molekularen Medizin. Innovationsforum Berlin, 1.-3. Dezember 2004.	BC, BP

Peter-Katalinić, J. BC, KM  
Requirements on Glycomics Research in Molecular Medicine.  
Jahrestagung der Schweizerischen Proteomgesellschaft, SPS'04  
Inselspital Bern, Switzerland, December 6 - 8, 2004.

Peters, R. BP, ZB  
4<sup>th</sup> International Symposium on Physics, Chemistry and Biology  
with Single Molecules.  
Kloster Banz, Bad Staffelstein, February 22-25, 2004.

Peters, R. BP, ZB  
International Symposium Functional Architecture of the Cell  
Nucleus.  
Heidelberg, April 16-17, 2004.

Peters, R. NBT, ZB  
International Symposium Perspectives of Nanotechnology.  
Münster, June 4 - 5, 2004.

R. Reichelt EM, BP,  
Rasterelektronen- und Atomkraftmikroskopie an dünnen  
organischen Schichten: Methodische Möglichkeiten und  
Anwendungen.  
AFM, SSM  
Lehrstuhlseminar RU Bochum. Bochum, 13.02.2004.

R. Reichelt EM, BP,  
SCANNING FORCE MICROSCOPY versus FIELD  
EMISSION SCANNING ELECTRON MICROSCOPY:  
AFM, SSM  
Complementary or competitive methods?  
XI Congreso Venezolano de Microscopia. Caracas,  
10. - 13.10.2004 (Plenary lecture + Abstract).

## Andere Aktivitäten

Kubitscheck, U.

Ruf auf eine Professur (C3) für "Experimentelle Biophysik" an die Universität Bielefeld (Juni 2004).

Kubitscheck, U.

Ruf auf eine Professur (C4) für "Physikalische Chemie" (Schwerpunkt Biophysikalische Chemie) an der Rheinischen Friedrich-Wilhelms-Universität Bonn.

Müthing, J.

-Croatian Medical Journal, Scientific Board.

Müthing, J.

-Neurologia Croatica, Scientific Board.

Peter-Katalinić, J.

Vorstandsmitglied der Deutschen Gesellschaft für Massenspektrometrie (DGMS).

Peter-Katalinić, J.

Organisationskomitee-Mitglied: "Mass Spectrometry in the Health and Life Sciences", (biannual) San Francisco, USA.

Peter-Katalinić, J.

Organisationskomitee-Mitglied: 7<sup>th</sup> European Conference on Fourier Transform Ion Cyclotron Resonance Mass Spectrometry, Konstanz, April 2004.

Peter-Katalinić, J.

Gutachtertätigkeit:

Deutsche Forschungsgemeinschaft (DFG),  
Österreichischer Jubiläumsfonds (FWF),  
Natural Sciences and Engineering Research Council of Canada (NSERC),  
German-Israeli Foundation for Scientific Research and Development (GIF) u. v. a.,  
National Fonds (Schweiz).

Peter-Katalinić, J.

Gastherausgeberin: „Electrophoresis“ Juni 2004:CE /MS.

Peter-Katalinić, J.

Auswärtige Prüfertätigkeit 2004:

Universität Ljubljana, Slovenien

Universität York, England.

Reichelt, R.

Gutachtertätigkeit: Deutsche Forschungsgemeinschaft (DFG).

Reichelt, R.

Mitglied des Programmkomitee der Dreiländertagung für Mikroskopie 2005 in Davos / CH.

## Drittmittelprojekte, Personalstellen und Sachmittel 2004:

Kubitscheck, U.

DFG Ku975/3-3 (bis 31.03.2004, eine BAT IIa/2),  
DFG 1507/1-1 (eine BAT IIa/2),  
VW I/78 852 (eine BAT IIa/2).

Müthing, J.

„Characterization of  $\alpha$ -2,3- and  $\alpha$ -2,6-sialyltransferase expression in carcinomas by molecular and immunohistochemical methods“.

DAAD-Stipendiatin:

Irena Drmić, PhD, Assistant Professor

Split University Hospital and Split University School of Medicine (Croatia)

Dezember 2004 bis Februar 2005.

Müthing, J.

"Glycobiologie", BD 133503 (3027 €)

Peter-Katalinić, J.

IZKF Universität Münster:

„Genexpressions- und Funktionsanalysen zu Pathogenesewegen des invasiven Mammakarzinoms und seiner potentiellen Vorläuferläsionen“ mit B. Brandt, W. Böcker und H. Bürger, (H1, 2001-2004, 406.500.-DM).

Peter-Katalinić, J.

SFB 492: Extrazelluläre Matrix: Biogenese, Assemblierung und Zelluläre Wechselwirkungen (2000-2005).

„Quadrupol Flugzeit und Fourier-Transform Ion Zyklotron Resonanz Massenspektrometrie von Glykosaminoglykanen und anderen Glykokonjugaten“, Projekt Z2: 2003-2005 (325.100.-€).

Peter-Katalinić, J.

„Biomedizinische Analytik mit 9,4 T Fourier Transform Ion Zyklotron Resonanz Massenspektrometrie (9,4 T FT-ICR-MS)“ (Grossgeräteinitiative: biologische Massenspektrometrie, DFG 1999, Projekt PE 415/14-1, 1 900 000.-DM).

Peter-Katalinić, J.

„GPI-spezifische Phospholipase D: Regulator der Tumor-malignität, Prognosefaktor und therapeutisches Target?“ mit Dr. G. Brunner, Fachklinik Hornheide an der WWU Münster.

(Schwerpunkt: Zelladhäsion, Migration und Invasion: Molekulare Grundlagen und klinische Bedeutung bei Tumorprogression und Metastasierung, Deutsche Krebshilfe (Mildred Scheel Stiftung) I0-2041-Br I, 2003-2005, 104.000.-€).

Peter-Katalinić, J.

EU-RP6

“Nano2Life” Network of Excellence für Bioanalytik, lokal koordiniert von Dr. K.-M. Weltring, Bioanalytik Münster (ca. 5500.-€).

Peter-Katalinić, J.

Gastforscher im Arbeitskreis "Biomedizinische Analytik":

Pavel Rehulka, BRNO (Tschechische Republik), DAAD-Projekt, 01.01. - 31.01.2004.  
Dr. Željka Vukelić, Zagreb, Kroatien, Cackovic-Stiftung, 17.07 - 18.10.2004.

Biljana Balen, Zagreb, Kroatien, FEBS Fellowship, 01.02. - 30.04.2004 und 01.07 - 15.07. 2004.

Henning Cederquist, Oslo, Norwegen, EU-Projekt, 01.06. - 30.06.2004 und 01.11 - 31.12.2004.

Kerstin Steiner, Wien, Österreich, Universität Wien, 01.01. - 31.07.2004.

Dr. Irena Drmic, Universität Split, Kroatien, DAAD-Projekt, 01.12.04 - 12.02.2005.

Peters, R.

„Virtual gating machines“.

National Institute of Health USA, 13.9.2004.

Peters, R.

„In-vitro-Analyse des nukleären mRNA-Exports“.

Deutsche Forschungsgemeinschaft, 17.11.2004.

Peters, R.

„Exploring the cellular nanomachinery by 4Pi microscopy“.

Deutsche Forschungsgemeinschaft, 7.12.2004.

Reichelt, R.

DFG-Projekt NE 123/34-3 (E. Nembach, Inst. für Materialphysik, WWU und R. Reichelt): "Anwendungen des Rasterkraftmikroskops in der Materialphysik".

Reichelt, R.

DFG-Projekt RE 782/7-1 "XI Venezuelan Microscopy Congress, Caracas".

Reichelt, R.

DAAD-Projekt: "Nanostrukturierung von Spitzen durch Ionenbeschuß"  
(1 Doktorand, Antonio Monsalve, Venezuela, 01.04. - 31.12.04).

Reichelt, R.

DAAD-Projekt: "Characterization of heat-induced damages on different spores by scanning and transmission electron microscopy" (1 Doktorandin, Nazik Mustafa, Sudan, 15.06. - 15.12.04).

Reichelt, R.

Diverse Projekte mit kleinen und mittleren Firmen / Industrie.

## 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
PC	Physikalische Chemie
PHC	Physiologische Chemie
SSM	Scanning-Sensormikroskopie
ZB	Zellbiologie