


Biographical Sketch

	Name: Peter Lasch	Position Title: Head of division <i>Proteomics and Spectroscopy</i> at the <i>Centre for Biological Threats and Special Pathogens</i> (ZBS 6), Robert Koch-Institut (RKI), Berlin
	Degree: Dr.	

A — Education / Training

Institution and Location	Degree	Year(s)	Field of Study
High school (Abitur) in Halle/Saale (Germany)	Abitur	1983–1985	
Biomedical Faculty, Second Medical Institute Moscow (Russia)		1987–1991	Medical Biophysics
Humboldt Universität Berlin, Charité, Medical Faculty	M.D.	1991–1994	Medicine
Robert Koch-Institut and Freie Universität Berlin	Dr. med.	1994–1999	Medical Biophysics
City University New York, Hunter College (USA)	Postdoc	2000–2001	Biomedical Spectroscopy

B — Professional Employment

Nov 1994 – Dec 1999	<u>PhD thesis:</u> Robert Koch-Institut (RKI), Image Segmentation of Human Tissue Thin Sections on the Basis of FT-IR Microspectroscopic Data
Jan 2000 – Feb 2001	<u>Postdoctoral position:</u> Hunter College, City University New York, Department of Chemistry and Biochemistry (Prof. M. Diem)
Mar 2001 – May 2011	<u>Research scientist:</u> RKI Berlin, P25 " <i>Biomedical Spectroscopy</i> "
Jun 2011 – present	<u>Head of division:</u> RKI Berlin, ZBS 6 " <i>Proteomics and Spectroscopy</i> "

C — Professional Interests / Activities

- Vibrational microspectroscopy and hyperspectral imaging of microorganisms, cells and tissues
- Characterization of pathogenic microorganisms using MALDI-TOF mass spectrometry and chemometrics
- Author of approx. 80 original research articles and book chapters, h-factor of 36 (Google Scholar), editor of the book "*Biomedical Vibrational Spectroscopy*" (ISBN: 978-0-470-22945-3, John Wiley & Sons, 2008)
- Author the software packages "*CytoSpec - Software for Hyperspectral Imaging*" and "*MicrobeMS - A Matlab Toolbox for Analysis of Microbial MALDI-TOF Mass Spectra*". Both programs are commercially available (see <http://www.cytospec.com> and <http://www.microbe-ms.com> for details).

D — Selected Recent Publications (see <http://www.peter-lasch.de/Publist.pdf> for the complete list of publications)

1. P. Lasch, M. Stämmler, M. Zhang, M. Baranska et al. , "FT-IR Hyperspectral Imaging and Artificial Neural Network Analysis for Identification of Pathogenic Bacteria". *Anal Chem*, **2018**. 90,(15): 8896-8904.
2. P. Lasch, I. Noda, "Two-Dimensional Correlation Spectroscopy for Multimodal Analysis of FT-IR, Raman, and MALDI-TOF MS Hyperspectral Images with Hamster Brain Tissue". *Anal Chem*, **2017**. 89,(9): 5008-5016.
3. P. Lasch, D. Jacob, R. Grunow, T. Schwecke et al. , "Matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF MS for the identification of highly pathogenic bacteria". *TrAC Trends in Analytical Chemistry*, **2016**. 85, Part B,(Trends in CBRN Measurements for safety and security): 103–111. <http://dx.doi.org/10.1016/j.trac.2016.04.012>
4. I. Amenabar, S. Poly, M. Goikoetxea, W. Nuansing et al. , "Hyperspectral infrared nanoimaging of organic samples based on Fourier transform infrared nanospectroscopy". *Nat Commun*, **2017**. 814402.
5. P. Lasch, D. Naumann, "Infrared Spectroscopy in Microbiology". *Encyclopedia of Analytical Chemistry*, **2015**. <http://dx.doi.org/10.1002/9780470027318.a0117.pub2>. John Wiley & Sons, Ltd