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Education

KARL-FRANZEN-UNIVERSITÄT GRAZ
M.Sc (Mag. rer. nat.) and Ph.D. (Dr. rer. nat.)

LEOPOLD-FRANZENS-UNIVERSITÄT INNSBRUCK
Undergrad Studies Chemistry

Employment

INTELLECTUAL VENTURES
4 years 11 months

DIRECTOR, CENTER FOR IN-VITRO DIAGNOSTICS
Apr 2018 – Present · 1 year 11 months
Bellevue, WA

PRINCIPAL INVESTIGATOR, FLOW BASED DIAGNOSTICS
Apr 2015 – April 2018 · 3 years
Bellevue ,WA

AFFILIATE PROFESSOR, DEPARTMENT OF BIOENGINEERING
University of Washington May 2004 – Present · 15 years 10 months

PATH
11 years

PORTFOLIO LEADER, DIAGNOSTICS FOR NON-
COMMUNICABLE DISEASES
Jan 2011 – Apr 2015 · 4 years 4 months

GROUP LEADER DIAGNOSTICS AND DIRECTOR, CENTER
FOR POINT OF CARE DIAGNOSTICS FOR GLOBAL
HEALTH
2004 – 2011 · 7 years
Seattle

SENIOR PARTNER - MICROPLUMBERS MICROSCIENCES
2004 – 2011 · 7 years

DIRECTOR MICROFLUIDIC APPLICATIONS MICRONICS
1997 – 2001 · 4 years

SENIOR RESEARCH FELLOW
University of Washington Department of Bioengineering
1995 – 1997 · 2 years

Book Chapters

Gonzalo Domingo, Kenneth R. Hawkins, Roger B. Peck, Bernhard H. Weigl: *Chapter II.5.17. Diagnostic Applications of Biomaterials*. Biomaterials Science. An Introduction to Materials in Medicine, Third Edition edited by Buddy Ratner, Alan Hoffman, Frederick Schoen, Jack Lemons, 12/2013: chapter Chapter II.5.17 Diagnostic Applications of Biomaterials: pages 1087-1106; Academic Press., ISBN: 978-0-12-374626-9, DOI:10.1016/B978-0-08-087780-8.00106-6

Bernhard H. Weigl, Ron L. Bardell, Catherine Cabrera: *Introduction to Microfluidic Techniques*. Handbook of Biosensors and Biochips, 03/2008; , ISBN: 9780470019054, DOI:10.1002/9780470061565.hbb075

Bernhard H. Weigl, Ron L. Bardell, Catherine Cabrera: *Practical Aspects of Microfluidic Devices: Moving Fluids and Building Devices*. Handbook of Biosensors and Biochips, 03/2008; , ISBN: 9780470061565, DOI:10.1002/9780470061565.hbb156

Christopher J Morris, Troy Daiber, Bernhard H Weigl, Natasa Kesler, Ron L Bardell: *New Assays Based on Laminar Fluid Diffusion Interfaces—Results from Prototype and Product Testing*. Micro Total Analysis Systems 2002, 01/2002: pages 688-690; , ISBN: 978-94-010-3953-6, DOI:10.1007/978-94-010-0504-3_29

Jon Hayenga, Ron Bardell, Chris Morris, Paul Graham, Natasa Kesler, Christy Lancaster, Aravind Padmanabhan, Cleopatra Cabuz, Tom Schulte, Bernhard H. Weigl, Patrick Saltsman, Mingchao Shen, C. Fred Battrell: *Enabling Technologies for a Personal Flow Cytometer, Part II: Integrated Analysis Cartridges*. Micro Total Analysis 2002: Volume 2, 1 edited by Y Baba, S Shoji, A van den Berg, 01/2002: pages 207-210; Springer., ISBN: 1402010109, DOI:10.1007/978-94-010-0295-0_69

Bernhard H. Weigl, Christopher J. Morris, Natasa Kesler, Pat Saltsman, Ron Bardell: *Well-Plate Formats and Microfluidics — Applications of Laminar Fluid Diffusion Interfaces to HTP Screening*. Micro Total Analysis Systems 2001, 01/2001: pages 383-384; , ISBN: 978-94-010-3893-5, DOI:10.1007/978-94-010-1015-3_167

Bernhard H. Weigl, Ron Bardell, Tom Schulte, Clint Williams: *Passive Microfluidics — Ultra-Low-Cost Plastic Disposable Lab-on-a-Chips*. Micro Total Analysis Systems 2000, 01/2000: pages 299-302; , ISBN: 978-90-481-5496-8, DOI:10.1007/978-94-017-2264-3_68

Paul Yager, Catherine Cabrera, Anson Hatch, Kenneth Hawkins, Mark Holl, Andrew Kamholz, Katerina Macounova, Bernhard H. Weigl: *Analytical Devices Based on Transverse Transport in Microchannels*. Micro Total Analysis Systems 2000, 01/2000: pages 15-18; , ISBN: 978-90-481-5496-8, DOI:10.1007/978-94-017-2264-3_3

Bernhard H. Weigl, Jennah Kriebel, Kelly Mayes, Paul Yager, Cai Cai Wu, Mark Holl, Margaret Kenny, Diane Zebert: *Simultaneous Self-Referencing Analyte Determination in Complex Sample Solutions Using Microfabricated Flow Structures (T-Sensors™)*. Micro Total Analysis Systems '98, 01/1998: pages 81-84; , DOI:10.1007/978-94-011-5286-0_19

Robert B. Darling, Paul Yager, Bernhard Weigl, Jennah Kriebel, Kelly Mayes: *Integration of Microelectrodes with Etched Microchannels for In-Stream Electrochemical Analysis*. Micro Total Analysis Systems '98, 01/1998: pages 105-108; , ISBN: 978-94-010-6225-1, DOI:10.1007/978-94-011-5286-0_25

Journal Publications

Samantha A. Byrnes, Toan Huynh, Tim C. Chang, Caitlin E. Anderson, James J. McDermott, Ciela Oncina, Bernhard H. Weigl, Kevin Paul Nichols: *Wash-Free, Digital Immunoassay in Polydisperse Droplets*. Analytical Chemistry 01/2020; XXXX(XXX)., DOI:10.1021/acs.analchem.9b02526

Toan Huynh, Samantha A Byrnes, Tim C Chang, Bernhard H Weigl, Kevin P Nichols: *General methods for quantitative interpretation of results of digital variable-volume assays*. The Analyst 10/2019; 144(24)., DOI:10.1039/C9AN01479A

Aaron Wood, Syed Barizuddin, Charles M. Darr, Cherian J. Mathai, Alexey Ball, Kyle Minch, Akos Somoskovi, Beston Hamasur, John T. Connelly, Bernhard Weigl, Alfred Andama, Adithya Cattamanchi, Keshab Gangopadhyay, Sangho Bok, Shubhra Gangopadhyay: *Ultrasensitive detection of lipoarabinomannan with plasmonic grating biosensors in clinical samples of HIV negative patients with tuberculosis*. PLoS ONE 03/2019; 14(3):e0214161., DOI:10.1371/journal.pone.0214161

Joshua D. Bishop, Helen V. Hsieh, David J. Gasperino, Bernhard H. Weigl: *Sensitivity enhancement in lateral flow assays: a systems perspective*. Lab on a Chip 01/2019;, DOI:10.1039/C9LC00104B

Samantha A Byrnes, Tim C Chang, Toan Huynh, Anna Astashkina, Bernhard H Weigl, Kevin Paul Nichols: *Simple Polydisperse Droplet Emulsion PCR with Statistical Volumetric Correction is Comparable with Microfluidic ddPCR*. Analytical Chemistry 07/2018; 90(15)., DOI:10.1021/acs.analchem.8b01988

David Gasperino, Ted Baughman, Helen V. Hsieh, David Bell, Bernhard H. Weigl: *Improving Lateral Flow Assay Performance Using Computational Modeling*. Annual Review of Analytical Chemistry (2008) 06/2018; 11(1)., DOI:10.1146/annurev-anchem-061417-125737

Samantha A. Byrnes, Elizabeth A. Phillips, Toan Huynh, Bernhard H. Weigl, Kevin P. Nichols: *Polydisperse emulsion digital assay to enhance time to detection and extend dynamic range in bacterial cultures enabled by a statistical framework*. The Analyst 05/2018; 143(4)., DOI:10.1039/C8AN00029H

David J Gasperino, Daniel Leon, Barry Lutz, David M Cate, Kevin P. Nichols, David Bell, Bernhard H Weigl: *Threshold-Based Quantification in a Multiline Lateral Flow Assay via Computationally Designed Capture Efficiency*. Analytical Chemistry 04/2018; 90(11)., DOI:10.1021/acs.analchem.8b00440

L Storey Helen, Maurits H van Pelt, Socheath Bun, Frances Daily, Tina Neogi, Matthew Thompson, Helen McGuire, Bernhard H Weigl: *Diagnostic accuracy of self-administered urine glucose test strips as a diabetes screening tool in a low-resource setting in Cambodia*. BMJ Open 03/2018; 8(3):e019924., DOI:10.1136/bmjopen-2017-019924

Samantha A. Byrnes, Bernhard H. Weigl: *Selecting analytical biomarkers for diagnostic applications: a first principles approach*. Expert Review of Molecular Diagnostics 12/2017; 18(1)., DOI:10.1080/14737159.2018.1412258

Pedro Henrique Quintela Soares de Medeiros, Aldo Ângelo Moreira Lima, Marjorie Moreira Guedes, Alexandre Havt, Mariana Duarte Bona, Luís Carlos Rey, Alberto Melo Soares, Richard Littleton Guerrant, Bernhard H. Weigl, Ila Fernanda Nunes Lima: *Molecular characterization of virulence and antimicrobial resistance profile of Shigella species isolated from children with moderate to severe diarrhea in northeastern Brazil*. Diagnostic Microbiology and Infectious Disease 11/2017; 90(3)., DOI:10.1016/j.diagmicrobio.2017.11.002

Bernhard H. Weigl, Helen V. Hsieh, Jeffrey L. Dantzler: *Analytical Tools to Improve Optimization Procedures for Lateral Flow Assays*. 05/2017; 7(29)., DOI:10.3390/diagnostics7020029

Westley S. Bauer, Kelly A. Richardson, Nicholas M. Adams, Keersten M. Ricks, David J. Gasperino, Simon J. Ghionea, Mathew Rosen, Kevin P. Nichols, Bernhard H. Weigl, Frederick R. Haselton, David W. Wright: *Rapid concentration and elution of malarial antigen histidine-rich protein II using solid phase Zn(II) resin in a simple flow-through pipette tip format*. Biomicrofluidics 05/2017; 11(3):034115., DOI:10.1063/1.4984788

Matthew Thompson, Bernhard Weigl, Annette Fitzpatrick, Nicole Ide: *More Than Just Accuracy: A Novel Method to Incorporate Multiple Test Attributes in Evaluating Diagnostic Tests Including Point of Care Tests*. IEEE Journal of Translational Engineering in Health and Medicine 06/2016; 4:1-1., DOI:10.1109/JTEHM.2016.2570222

Herlice do Nascimento Veras, Josiane da Silva Quetz, Ila Fernanda Nunes Lima, Tamara Silva Rodrigues, Alexandre Havt, Luís Carlos Rey, Rosa Maria Salani Mota, Alberto Melo

Soares, Mitra Singhal, Bernhard Weigl, Richard Guerrant, Aldo Angelo Moreira Lima: *Combination of different methods for detection of Campylobacter spp. in young children with moderate to severe diarrhea*. Journal of microbiological methods 06/2016; 128., DOI:10.1016/j.mimet.2016.06.026

Lee F. Schroeder, Paul LaBarre, Bernhard Hans Weigl, Timothy Amukele: *The Next Phase for Point-of-Care Testing in Resource-Limited Settings: Noncommunicable Disease*. Point of Care The Journal of Near-Patient Testing & Technology 06/2016; 15(2):93-95., DOI:10.1097/POC.0000000000000102

Joshua Buser, Xiaohong Zhang, Samantha Byrnes, Paula D Ladd, Erin K Heiniger, Maxwell D Wheeler, Joshua D Bishop, Janet A. Englund, Barry R Lutz, Bernhard H Weigl, Paul Yager: *A disposable chemical heater and dry enzyme preparation for lysis and extraction of DNA and RNA from microorganisms*. Analytical methods 03/2016; 8(14)., DOI:10.1039/C6AY00107F

Vivien Tsu, John R Scheel, Amie Bishop, Marjorie Murray, Bernhard H. Weigl, Constance D Lehman: *Breast Ultrasound Following a Positive Clinical Breast Examination: Does It Have a Role in Low- and Middle-Income Countries?*. 11/2015; 1(2)., DOI:10.7191/jgr.2015.1015

Joshua R Buser, Steven Diesburg, Jered Singleton, Dylan Guelig, Joshua D Bishop, Christopher Zentner, Robert Burton, Paul LaBarre, Paul Yager, Bernhard H Weigl: *Precision chemical heating for diagnostic devices*. Lab on a Chip 10/2015; 15(23)., DOI:10.1039/C5LC01053E

Kamal G. Shah, Dylan Guelig, Steven Diesburg, Joshua Buser, Robert Burton, Paul LaBarre, Rebecca Richards-Kortum, Bernhard Weigl: *Design of a New Type of Compact Chemical Heater for Isothermal Nucleic Acid Amplification*. PLoS ONE 10/2015; 10(10):e0139449., DOI:10.1371/journal.pone.0139449

Nathalie Acestor, Jane Goett, Arthur Lee, Tara M Herrick, Susheela M Engelbrecht, Claudia M Harner-Jay, Bonnie J Howell, Bernhard H Weigl: *Towards biomarker-based tests that can facilitate decisions about prevention and management of preeclampsia in low-resource settings*. Clinical Chemistry and Laboratory Medicine 05/2015;, DOI:10.1515/cclm-2015-0069

Jered Singleton, Jennifer L Osborn, Lorraine Lillis, Kenneth Hawkins, Dylan Guelig, Will Price, Rachel Johns, Kelly Ebels, David Boyle, Bernhard Weigl, Paul LaBarre: *Electricity-Free Amplification and Detection for Molecular Point-of-Care Diagnosis of HIV-1*. PLoS ONE 11/2014; 9(11):e113693., DOI:10.1371/journal.pone.0113693

- Helen McGuire, Bernhard H Weigl: *Medical Devices and Diagnostics for Cardiovascular Diseases in Low-Resource Settings*. Journal of Cardiovascular Translational Research 10/2014; 7(8)., DOI:10.1007/s12265-014-9591-3
- B. H. Weigl: *TOWARDS GDM SCREENING AND CARE IN LOW RESOURCE SETTINGS WITH A NEW GENERATION OF ALTERNATIVE BIOMARKER ASSAYS*. Diabetes Technology & Therapeutics 02/2014; 16:A30-A31.
- Bernhard H Weigl, Tina Neogi, Helen McGuire: *Point-of-Care Diagnostics in Low-Resource Settings and Their Impact on Care in the Age of the Noncommunicable and Chronic Disease Epidemic*. Journal of the Association for Laboratory Automation 12/2013; 19(3)., DOI:10.1177/2211068213515246
- T. Adepoyibi, B. Weigl, H. Greb, T. Neogi, H. McGuire: *New screening technologies for type 2 diabetes mellitus appropriate for use in tuberculosis patients [Review article]*. 11/2013; 3(1):10-17., DOI:10.5588/pha.13.0036
- Nira R Pollock, Sarah McGray, Donn J Colby, Farzad Noubary, Huyen Nguyen, The Anh Nguyen, Sariah Khormae, Sidhartha Jain, Kenneth Hawkins, Shailendra Kumar, Jason P Rolland, Patrick D Beattie, Nguyen V Chau, Vo M Quang, Cori Barfield, Kathy Tietje, Matt Steele, Bernhard H Weigl: *Field Evaluation of a Prototype Paper-Based Point-of-Care Fingertick Transaminase Test*. PLoS ONE 09/2013; 8(9):e75616., DOI:10.1371/journal.pone.0075616
- Ryo Kubota, Paul Labarre, Bernhard H. Weigl, Yong Li, Paul Haydock, Daniel M. Jenkins: *Molecular diagnostics in a teacup: Non-Instrumented Nucleic Acid Amplification (NINA) for rapid, low cost detection of Salmonella enterica*. Chinese Science Bulletin 04/2013; 58(10)., DOI:10.1007/s11434-012-5634-9
- Bernhard H. Weigl, Jennifer Kidwell Drake: *Developing an Adaptable Set of Point-of-Care Diabetes Screening Technologies for Low-Resource Settings*. Point of Care The Journal of Near-Patient Testing & Technology 03/2013; 12(1):33-40., DOI:10.1097/POC.0b013e318265f789
- Jered Singleton, Chris Zentner, Josh Buser, Paul Yager, Paul LaBarre, Bernhard H. Weigl: *Instrument-free exothermic heating with phase change temperature control for paper microfluidic devices*. Proceedings of SPIE - The International Society for Optical Engineering 03/2013; 8615., DOI:10.1117/12.2005928
- Bernhard H. Weigl, Greg Zwisler, Roger Peck, Elizabeth Abu-Haydar: *Rapid screening test for gestational diabetes - Public health need, market requirement, initial product design, and experimental results*. Proceedings of SPIE - The International Society for Optical Engineering 03/2013; 8615., DOI:10.1117/12.2008326

Bernhard H Weigl, Charlotte A Gaydos, Gerald Kost, Fred R Beyette, Stephanie Sabourin, Anne Rompalo, Tala de Los Santos, Jason T McMullan, John Haller: *The Value of Clinical Needs Assessments for Point-of-Care Diagnostics*. Point of Care The Journal of Near-Patient Testing & Technology 06/2012; 11(2):108-113., DOI:10.1097/POC.0b013e31825a241e

Kelly A Curtis, Donna L Rudolph, Irene Nejad, Jered Singleton, Andy Beddoe, Bernhard Weigl, Paul LaBarre, S Michele Owen: *Isothermal Amplification Using a Chemical Heating Device for Point-of-Care Detection of HIV-1*. PLoS ONE 02/2012; 7(2):e31432., DOI:10.1371/journal.pone.0031432

Josiane da S Quetz, Ila F N Lima, Alexandre Havt, Mara M G Prata, Paloma A Cavalcante, Pedro H Q S Medeiros, David A C Cid, Milena L Moraes, Luís Carlos Rey, Alberto M Soares, Rosa M S Mota, Bernhard H Weigl, Richard L Guerrant, Aldo A M Lima: *Campylobacter jejuni infection and virulence-associated genes in children with moderate to severe diarrhoea admitted to emergency rooms in northeastern Brazil*. Journal of Medical Microbiology 12/2011; 61(Pt 4):507-13., DOI:10.1099/jmm.0.040600-0

Mukesh M Agarwal, Bernhard Weigl, Moshe Hod: *Gestational diabetes screening: The low-cost algorithm*. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 11/2011; 115 Suppl 1:S30-3., DOI:10.1016/S0020-7292(11)60009-X

Paul LaBarre, Kenneth R Hawkins, Jay Gerlach, Jared Wilmoth, Andrew Beddoe, Jered Singleton, David Boyle, Bernhard Weigl: *A Simple, Inexpensive Device for Nucleic Acid Amplification without Electricity—Toward Instrument-Free Molecular Diagnostics in Low-Resource Settings*. PLoS ONE 05/2011; 6(5):e19738., DOI:10.1371/journal.pone.0019738

Paul Labarre, David Boyle, Kenneth Hawkins, Bernhard Weigl: *Instrument-free nucleic acid amplification assays for global health settings*. Proceedings of SPIE - The International Society for Optical Engineering 05/2011; 8029., DOI:10.1117/12.882868

Kevin N. Montgomery, Carl W. Taylor, Bernhard H. Weigl, B. V. K. Vijaya Kumar, Salil Prabhakar, Arun A. Ross: *Sensing Technologies for Global Health, Military Medicine, Disaster Response, and Environmental Monitoring; and Biometric Technology for Human Identification VIII*. Proceedings of SPIE - The International Society for Optical Engineering 05/2011;

C.A. Barfield, R.S. Barney, C.H. Crudder, J.L. Wilmoth, D.S. Stevens, S. Mora-Garcia, M.J. Yanovsky, Bernhard H Weigl, J. Yanovsky: *A Highly Sensitive Rapid Diagnostic Test for Chagas Disease That Utilizes a Recombinant Trypanosoma cruzi Antigen*. IEEE Transactions on Biomedical Engineering 04/2011; 58(3-58):814 - 817., DOI:10.1109/TBME.2010.2087334

John W Sellors, Johannes G Schweizer, Peter S Lu, Bin Liu, Bernhard H Weigl, Jian Feng Cui, Roger B Peck, Kristen Lewis, Jeanette Lim, Michelle Howard, Charles W Mahoney, Linda McAllister, Marthe Berard-Bergery, Claire Bry, Yassine A Labiad, Haimin Li, Lilyn Liu, Jon Silver, Wen Chen, You Lin Qiao: *Association of Elevated E6 Oncoprotein With Grade of Cervical Neoplasia Using PDZ Interaction-Mediated Precipitation of E6*. Journal of Lower Genital Tract Disease 04/2011; 15(2):169-76., DOI:10.1097/LGT.0b013e3181f6c84d

Beyette, Fred R., Jr, Charlotte A Gaydos, Gerald J Kost, Bernhard H Weigl: *Point-of-Care Technologies for Health Care*. IEEE transactions on bio-medical engineering 03/2011; 58(3):732-5., DOI:10.1109/TBME.2011.2109251

Ryo Kubota, Paul LaBarre, Jered Singleton, Andy Beddoe, Bernhard H Weigl, Anne M Alvarez, Daniel M Jenkins: *Non-Instrumented Nucleic Acid Amplification (NINA) for Rapid Detection of Ralstonia solanacearum Race 3 Biovar 2*. 01/2011; 4(2):69-80., DOI:10.13031/2013.38508

Paul Labarre, Jay Gerlach, Jared Wilmoth, Andrew Beddoe, Jered Singleton, Bernhard Weigl: *Non-Instrumented Nucleic Acid Amplification (NINA): Instrument-Free Molecular Malaria Diagnostics for Low-Resource Settings*. Conference proceedings: ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 08/2010; 2010:1097-9., DOI:10.1109/IEMBS.2010.5627346

Adrian Puren, Jay L Gerlach, Bernhard H Weigl, David M Kelso, Gonzalo J Domingo: *Laboratory Operations, Specimen Processing, and Handling for Viral Load Testing and Surveillance*. The Journal of Infectious Diseases 04/2010; 201 Suppl 1(s1):S27-36., DOI:10.1086/650390

Bernhard H. Weigl: *Molecular diagnostics for low resource settings*.

Kenneth R. Hawkins, Bernhard H. Weigl: *Microfluidic diagnostics for low-resource settings*. Proceedings of SPIE - The International Society for Optical Engineering 02/2010; 7593., DOI:10.1117/12.845500

B H Weigl, D S Boyle, T de los Santos, R B Peck, M S Steele: *Simplicity of use: A critical feature for widespread adoption of diagnostic technologies in low-resource settings*. Expert Review of Medical Devices 09/2009; 6(5):461-4., DOI:10.1586/erd.09.31

Bernhard Weigl, Gonzalo Domingo, Paul Labarre, Jay Gerlach: *Towards Non- and Minimally Instrumented, Microfluidics-based Diagnostic Devices*. Lab on a Chip 01/2009; 8(12):1999-2014., DOI:10.1039/b811314a

You-Lin Qiao, John W Sellors, Paul S Eder, Yan-Ping Bao, Jeanette M Lim, Fang-Hui Zhao, Bernhard Weigl, Wen-Hua Zhang, Roger B Peck, Ling Li, Feng Chen, Qing-Jing Pan, Attila T Lorincz: *A new HPV-DNA test for cervical-cancer screening in developing regions: a cross-sectional study of clinical accuracy in rural China*. The Lancet Oncology 09/2008; 9(10):929-36., DOI:10.1016/S1470-2045(08)70210-9

Bernhard H. Weigl, Gonzalo Domingo, Jay Gerlach, Dennis Tang, Darrel Harvey, Nick Talwar, Alex Fichtenholz, Bill van Lew, Paul LaBarre: *Noninstrumented nucleic acid amplification assay*. Proceedings of SPIE - The International Society for Optical Engineering 03/2008; 6886., DOI:10.1117/12.763650

Gerald J. Kost, Brenda Korte, Fred R. Jr Beyette, Charlotte Gaydos, Bernhard Weigl: *The NIBIB Point of Care Technologies Research Network Center Themes and Opportunities for Exploratory POC Projects*. Point of Care The Journal of Near-Patient Testing & Technology 03/2008; 7(1):41., DOI:10.1097/POC.0b013e318162f3dd

Roger B Peck, Johannes Schweizer, Bernhard H Weigl, Chamorro Somoza, John Silver, John W Sellors, Peter S Lu: *A Magnetic Immunochromatographic Strip Test for Detection of Human Papillomavirus 16 E6*. Clinical Chemistry 12/2006; 52(11):2170-2., DOI:10.1373/clinchem.2006.072884

Paul Yager, Thayne Edwards, Elain Fu, Kristen Helton, Kjell Nelson, Milton R Tam, Bernhard H Weigl: *Microfluidic Diagnostic Technologies for Global Public Health*. Nature 08/2006; 442(7101):412-8., DOI:10.1038/nature05064

B. H. Weigl, J. Gerdes, P. Tarr, P. Yager, L. Dillman, R. Peck, S. Ramachandran, M. Lemba, M. Kokoris, M. Nabavi, F. Battrell, D. Hoekstra: *Fully integrated multiplexed lab-on-a-card assay for enteric pathogens*. Proceedings of SPIE - The International Society for Optical Engineering 01/2006; 6112., DOI:10.1117/12.644714

B. H. Weigl, J. Gerdes, P. Tarr, P. Yager, L. Dillman, R. Peck, S. Ramachandran, M. Lemba, M. Kokoris, M. Nabavi, F. Battrell, D. Hoekstra, E. J. Klein, D. M. Denno: *MOEMS-MEMS 2006 Micro and Nanofabrication*.

BH Weigl, RL Bardell: *Microfluidics for clinical diagnostics - Promise and current reality*. Laboratory Medicine 04/2004; 35(4):233-237., DOI:10.1309/HP00M371M9JRQVP

Bernhard H. Weigl, Ron L. Bardell: *Microfluidics for Clinical Diagnostics Promise and Current Reality*. Laboratory Medicine 04/2004; 35(4):233-237., DOI:10.1309/HP00-M371-M9J7-RQVP

Bernhard H. Weigl, Ron L. Bardell: *Modeling of microscale processes as a tool to speed development and enhance performance of microanalytical products*. Proceedings of SPIE - The International Society for Optical Engineering 01/2004; 5345., DOI:10.1117/12.538592

- Bernhard H Weigl, Ron L Bardell, Catherine R Cabrera: *Lab-on-a-chip for drug development*. Advanced Drug Delivery Reviews 03/2003; 55(3):349-77., DOI:10.1016/S0169-409X(02)00223-5
- Thomas H Schulte, Ron L Bardell, Bernhard H Weigl: *Microfluidic Technologies in Clinical Diagnostics*. Clinica Chimica Acta 08/2002; 321(1-2):1-10., DOI:10.1016/S0009-8981(02)00093-1
- Bernhard H. Weigl, Chris Morris, Natasa Kesler, Fred Battrell, Ron L. Bardell: *Standard and high-throughput microfluidic disposables based on laminar fluid diffusion interfaces*. Proceedings of SPIE - The International Society for Optical Engineering 06/2002; 4626., DOI:10.1117/12.472108
- P Jandik, B H Weigl, N Kessler, J Cheng, C J Morris, T Schulte, N.J. Avdalovic: *Initial study of using a laminar fluid diffusion interface for sample preparation in high-performance liquid chromatography*. Journal of Chromatography A 05/2002; 954(1-2):33-40., DOI:10.1016/S0021-9673(02)00160-7
- Bernhard H Weigl, Karen Hedine: *Lab-on-a-chip-based separation and detection technology for clinical diagnostics*. American clinical laboratory 04/2002; 21(2):8-13.
- Bernhard H. Weigl, Ron Bardell, Thomas Schulte, Fred Battrell, Jon Hayenga: *Design and Rapid Prototyping of Thin-Film Laminate-Based Microfluidic Devices*. Biomedical Microdevices 12/2001; 3(4):267-274., DOI:10.1023/A:1012448412811
- Bernhard H. Weigl, Ron L. Bardell, Natasa Kesler, Christopher J. Morris: *Lab-on-a-chip sample preparation using laminar fluid diffusion interfaces - computational fluid dynamics model results and fluidic verification experiments*. Fresenius Journal of Analytical Chemistry 10/2001; 371(2):97-105., DOI:10.1007/s002160100997
- Ron L. Bardell, Bernhard H. Weigl, Natasa Kesler, Thomas H. Schulte, Jon W. Hayenga, Fred Battrell: *Microfluidic disposables for cellular and chemical detection: CFD model results and fluidic verification experiments*. Proceedings of SPIE - The International Society for Optical Engineering 05/2001;., DOI:10.1117/12.427961
- Anson Hatch, Andrew Evan Kamholz, Kenneth R. Hawkins, Matthew S. Munson, Eric A. Schilling, Bernhard H. Weigl, Paul Yager: *A rapid diffusion immunoassay in a T-sensor*. Nature Biotechnology 05/2001; 19(5):461-5., DOI:10.1038/88135
- Thomas Schulte, Ron Bardell, Bernhard H. Weigl: *Sample Acquisition and Control On-Chip Microfluidic Sample Preparation*. Journal of the Association for Laboratory Automation 09/2000; 5(4):83-86., DOI:10.1016/S1535-5535(04)00089-9

- Thomas Schulte, Ron Bardell, Bernhard H. Weigl: *Sample Acquisition and Control On-Chip Microfluidic Sample Preparation*. Journal of the Association for Laboratory Automation 08/2000; 5(4):83-86., DOI:10.1016/S1535-5535-04-00089-9
- Bernhard H. Weigl, Anson Hatch, Andrew E. Kamholz, Paul Yager: *BiOS 2000 The International Symposium on Biomedical Optics*. DOI:10.1117/12.379580
- Anson Hatch, Andrew Kamholz, Kenneth Hawkins, Bernhard Weigl, Paul Yager: *Microfluidic diffusion binding assay: immunoassay in a T-sensor*.
- Bernhard H. Weigl, Anson Hatch, Andrew E. Kamholz, Paul Yager: *Novel immunoassay formats for integrated microfluidic circuits - Diffusion Immunoassays (DIA)*. Proceedings of SPIE - The International Society for Optical Engineering 01/2000; 3912.
- Andrew Evan Kamholz, Bernhard H. Weigl, Bruce A. Finlayson, Paul Yager: *Quantitative Analysis of Molecular Interaction in a Microfluidic Channel: The T-Sensor*. Analytical Chemistry 01/2000; 71(23):5340-7., DOI:10.1021/ac990504j
- Anson Hatch, Bernhard H. Weigl, Diane Zebert, Paul Yager: *Microfluidic approaches to immunoassays*. Proceedings of SPIE - The International Society for Optical Engineering 08/1999; DOI:10.1117/12.359334
- Bernhard H. Weigl, Robert B. Darling, Paul Yager, Jennah Kriebel, Kelly Mayes: *Optical and electrochemical diffusion-based detection of analytes in complex samples using microfabricated flow structures (T-Sensors (TM))*. Proceedings of SPIE - The International Society for Optical Engineering 06/1999; 3606., DOI:10.1117/12.350048
- Bernhard H. Weigl, Jennah Kriebel, Kelly J. Mayes, Todd Bui, Paul Yager: *Whole Blood Diagnostics in Standard Gravity and Microgravity by Use of Microfluidic Structures (T-Sensors)*. Microchimica Acta 06/1999; 131(1):75-83., DOI:10.1007/s006040050011
- Eric A. Altendorf, Bernhard H. Weigl: *Implementation of novel optical detection methods for clinically important blood analytes using microfabricated flow structures (T-SensorsTM)*. Proceedings of SPIE - The International Society for Optical Engineering 04/1999; 3603., DOI:10.1117/12.346743
- Bernhard H. Weigl, Paul Yager: *MICROFLUIDICS:Microfluidic Diffusion-Based Separation and Detection*. Science 01/1999; 283(5400):346-347., DOI:10.1126/science.283.5400.346
- Miles S. Finch, David J. Hydes, Charles H. Clayson, Bernhard Weigl, John Dakin, Pat Gwilliam: *A low power ultra violet spectrophotometer for measurement of nitrate in seawater: Introduction, calibration and initial sea trials*. Analytica Chimica Acta 12/1998; 377(2-377):167-177., DOI:10.1016/S0003-2670(98)00616-3

- Paul Yager, Martin A. Afromowitz, Darrel J. Bell, Fred K. Forster, James P. Brody, Dong Qin, Catherine Cabrera, Mark R. Holl, Andrew E. Kamholz, Bernhard H. Weigl: *Design of microfluidic sample preconditioning systems for detection of biological agents in environmental samples*. Proceedings of SPIE - The International Society for Optical Engineering 09/1998; 3515., DOI:10.1117/12.322091
- Ming-Chieh Huang, Martin A. Afromowitz, Ger van den Engh, Bernhard H. Weigl, Paul Yager: *Development of flow-cytometry-based miniature chemical fluid analysis system using fluorescent microbeads*. Proceedings of SPIE - The International Society for Optical Engineering 05/1998; 3256:178-185., DOI:10.1117/12.307061
- Paul Yager, Darrel Bell, James P. Brody, Dong Qin, Catherine Cabrera, Andrew Kamholz, Bernhard Weigl: *Applying Microfluidic Chemical Analytical Systems to Imperfect Samples*. DOI:10.1007/978-94-011-5286-0_50
- Bernhard H. Weigl, Greg T. Hixson, Margaret Kenny, Diane Zebert, Silver Dwinnell, Todd Buj, Paul Yager: *Fluorescence and absorbance analyte sensing in whole blood and plasma based on diffusion separation in silicon-microfabricated flow structures*. Proceedings of SPIE - The International Society for Optical Engineering 05/1997;, DOI:10.1117/12.273526
- B.H. Weigl, P. Yager: *Silicon-microfabricated diffusion-based optical chemical sensor*. Sensors and Actuators B Chemical 03/1997; 39(1-39):452-457., DOI:10.1016/S0925-4005(96)02120-X
- Dietmar Kieslinger, Bernhard H. Weigl, Sonja Draxler, Max E. Lippitsch: *Capillary waveguide optrodes for Medical applications*. Optical Review 01/1997; 4(1):A85-A88., DOI:10.1007/BF02935999
- Max E. Lippitsch, Sonja Draxler, Dietmar Kieslinger, Hartmut Lehmann, Bernhard H. Weigl: *Capillary waveguide optrodes: An approach to optical sensing in medical diagnostics*. Applied Optics 07/1996; 35(19):3426-31., DOI:10.1364/AO.35.003426
- D Zebert, MA Kenny, BH Weigl, JS Kenny: *Serum albumin analysis using AB 580, a fluorescent dye..* Clinical Chemistry 06/1996; 42(6):53-53.
- Bernhard H. Weigl, Hartmut Lehmann, Max E. Lippitsch: *Optical Sensors Based on Inhomogeneous Waveguiding in the Walls of Capillaries ("Capillary Waveguide Optrodes")*. Sensors and Actuators B Chemical 06/1996; 32(3):175., DOI:10.1016/S0925-4005(97)80025-1
- J. P. Dakin, H. O. Edwards, B. H. Weigl: *Progress with optical gas sensors using correlation spectroscopy*. Sensors and Actuators B Chemical 10/1995; 29(1):87-93., DOI:10.1016/0925-4005(95)01667-8

Bernhard H. Weigl, Sonja Draxler, Dietmar Kieslinger, H. Lehmann, Wolfgang Trettnak, Otto S. Wolfbeis, Max E. Lippitsch: *Optical Sensor Instrumentation Using Absorption and Fluorescence-Based Capillary waveguide Optrodes*. Proc SPIE 09/1995; 2508:199-209., DOI:10.1117/12.221733

John P. Dakin, Henry O. Edwards, Bernhard H. Weigl: *Latest developments in gas sensing using correlation spectroscopy*. Proceedings of SPIE - The International Society for Optical Engineering 09/1995; DOI:10.1117/12.221720

B.H. Weigl, O.S. Wolfbeis: *Sensitivity studies on optical carbon dioxide sensors based on ion pairing*. Sensors and Actuators B Chemical 08/1995; 28(2)., DOI:10.1016/0925-4005(95)01651-1

Bernhard H. Weigl, Otto S. Wolfbeis: *Sensitivity studies on optical carbon dioxide sensors based on ion pairing*. Sensors and Actuators B Chemical 08/1995; 28(2-28):151-156., DOI:10.1016/0925-4005(95)80041-7

Bernhard H. Weigl, Otto S. Wolfbeis: *New hydrophobic materials for optical carbon dioxide sensors based on ion pairing*. Analytica Chimica Acta 02/1995; 302(2):249-254., DOI:10.1016/0003-2670(94)00473-Y

Andre Holobar, Roman Benes, Bernhard H. Weigl, Paul O'Leary, Peter Raspor, Otto S. Wolfbeis: *Fiber optic and non-fiber optic double-beam pH sensors for use in a flow-through cell*.

Bernhard H. Weigl, Sonja Draxler, D. Kieslinger, H. Lehmann, Wolfgang Trettnak, Otto S. Wolfbeis, Max E. Lippitsch: *Optical sensor instrumentation using absorption- and fluorescence-based capillary waveguide optrodes*. Proceedings of SPIE - The International Society for Optical Engineering 01/1995; 2508.

Bernhard H. Weigl, Otto S. Wolfbeis: *Capillary sensors: a design concept for optrodes*. Proceedings of SPIE - The International Society for Optical Engineering 10/1994; DOI:10.1117/12.190976

Bernhard H. Weigl, Otto S. Wolfbeis: *Single-layer capillary optrode for carbon dioxide with adjustable sensitivity*. Proceedings of SPIE - The International Society for Optical Engineering 10/1994; DOI:10.1117/12.190960

Bernhard H. Weigl, Otto S. Wolfbeis: *Capillary Optical Sensors*. Analytical Chemistry 10/1994; 66(20)., DOI:10.1021/ac00092a007

B. H. Weigl, Wolfgang Trettnak, Andrej Holobar, Ingo Klimant, Wolfgang Gruber, Randolph Hager, Roman Benes, Paul O'Leary: *Determination of pH, oxygen and carbon dioxide in*

microgravity bioreactors with emphasis on application in BIOST (Bioprocessing Space Technology). 07/1994; 366:473.

Bernhard H. Weigl, Andrej Holobar, Wolfgang Trettnak, Ingo Klimant, Heinz Kraus, Paul O'Leary, Otto S. Wolfbeis: *Optical Triple Sensor for Measuring pH, Oxygen and Carbon Dioxide*. Journal of Biotechnology 03/1994; 32(2):127-38., DOI:10.1016/0168-1656(94)90175-9

B.H. Weigl, J.P. Dakin: *Optical gas sensors using correlation spectroscopy. Report for Shell Research*.

Bernhard H. Weigl, Andrej Holobar, Nena V. Rodriguez, Otto S. Wolfbeis: *Chemically and mechanically resistant carbon dioxide optrode based on a covalently immobilized pH indicator*. Analytica Chimica Acta 10/1993; 282(2):335-343., DOI:10.1016/0003-2670(93)80219-B

Bernhard H. Weigl, Andrej Holobar, Wolfgang Trettnak, Ingo Klimant, H. Kraus, Paul O'Leary, Otto S. Wolfbeis: *Fibers '92*. DOI:10.1117/12.143538

Andrej Holobar, Bernhard H. Weigl, Wolfgang Trettnak, Roman Benes, Hartmut Lehmann, Nena V. Rodriguez, Arnold Wollschlager, Paul O'Leary, Peter Raspor, Otto S. Wolfbeis: *Experimental results on an optical pH measurement system for bioreactors*. Sensors and Actuators B Chemical 03/1993; 11(1):425-430., DOI:10.1016/0925-4005(93)85283-G

Bernhard H. Weigl, Andrej Holobar, Nena V. Rodriguez, Otto S. Wolfbeis: *Robust carbon dioxide optrode based on a covalently immobilized pH indicator*. Proceedings of SPIE - The International Society for Optical Engineering 01/1993; 2068., DOI:10.1117/12.170657

Bernhard H. Weigl: *Simple and versatile flow injection system for testing the performance of optical chemical sensors*. Proceedings of SPIE - The International Society for Optical Engineering 03/1992;, DOI:10.1117/12.56555

B. Weigl: *Chemical, Biochemical, and Environmental Fiber Sensors III*. Proc SPIE 01/1991; 587:288-295.

A.E. Kamholz, B.H. Weigl, B.A. Finlayson, P. Yager: *Anal. Chem.*.

Bernhard H Weigl, Mark R Holl, David Schutte, James P Brody, Paul Yager: *Diffusion-Based Optical Chemical Detection in Silicon Flow Structures*.

Jay Gerlach, Bernhard Weigl: *Increased access to diagnostic tests for HIV case management*.

A. E. Kamholtz, B. H. Weigl, B. A. Finlayson, P. Yager: *Quantitative analysis of molecular interaction in a microfluidic channel*.

H. Weigl, Ron L. Bardell, Catherine R. Cabrera: *Advanced Drug Delivery Reviews* 55 (2003).

Belinda Seto, Brian MacCraith, Bernhard Weigl, Fred Beyette: *9:30 AM Challenges in Technology Translation and the Role of Partnerships from the Non-profit and Academic Perspective*.

Johannes Schweizer, Bernhard H. Weigl, Chamorro Somoza, Jon Silver, John W. Sellors, Peter S. Lu: *A Magnetic Immunochromatographic Strip Test for Detection of Human Papillomavirus 16 E6*, Roger B.

Conference Proceedings

Samantha A. Byrnes, Bernhard H. Weigl: *Selecting analytical biomarkers for developing diagnostic technologies for global health applications: Conference topics — Healthcare (medical technology)*. 2017 IEEE Global Humanitarian Technology Conference (GHTC); 10/2017, DOI:10.1109/GHTC.2017.8239264

J. Singleton, D. Guelig, J. Buser, R. Burton, O. Edeh, K. Hawkins, B. Weigl, P. LaBarre: *Advancing electricity-free molecular diagnostics at the point-of-care: Optimizing the NINA platform for a malaria LAMP assay*. 2014 IEEE Global Humanitarian Technology Conference (GHTC); 10/2014, DOI:10.1109/GHTC.2014.6970363

S. Ramachandran, J. Gerdes, P. Tarr, P. Yager, L. Dillman, R. Peck, M. Kokoris, M. Nabavi, F. Battrell, D. Hoekstra, B.H. Weigl: *Dry-Reagent Storage for Disposable Lab-On-Card Diagnosis of Enteric Pathogens*. Distributed Diagnosis and Home Healthcare, 2006. D2H2. 1st Transdisciplinary Conference on; 02/2006, DOI:10.1109/DDHH.2006.1624786

Christopher M. Neils, Anna Tourovskaia, B. Weigl, Albert Folch: *Combinatorial microfluidic devices for cell biology*. Microtechnologies in Medicine & Biology 2nd Annual International IEEE-EMB Special Topic Conference on; 02/2002, DOI:10.1109/MMB.2002.1002302

M Shen, B Weigl: *Microfluidic devices for complex samples - the application of H-Filter and T-Sensor technology to cell analysis, HTP screening, and medical diagnostics..* SmallTalk 2002; 01/2002

P. Galambos, F.K. Forster, B.H. Weigl: *A method for determination of pH using a T-sensor*. Solid State Sensors and Actuators, 1997. TRANSDUCERS '97 Chicago., 1997 International Conference on; 07/1997, DOI:10.1109/SENSOR.1997.613705

Eric H. Altendorf, Elizabeth Iverson, David Schutte, Bernhard H. Weigl, Thor D. Osborn, Roya Sabeti, Paul Yager: *Optical flow cytometry utilizing microfabricated silicon flow channels*. Photonics West '96; 05/1996, DOI:10.1117/12.239515

J.P. Dakin, H.O. Edwards, B.H. Weigl: *Progress with optical gas sensors using correlation spectroscopy*. Europt(R)ode II; 10/1995

J.P. Dakin, Bernhard H. Weigl: *Latest developments in gas sensing using correlation spectroscopy*. Optics for Environmental and Public Safety: Conf Track on Chemical Biochemical and Environmental Fibre Sensors; 01/1995

Patents

1. 10,549,273 Flow assay with at least one electrically-actuated fluid flow control valve and related methods
2. 8,945,910 Method and apparatus for an improved sample capture device
3. 8,697,009 Microfluidic devices for fluid manipulation and analysis
4. 8,557,198 Microfluidic devices for fluid manipulation and analysis
5. 8,431,387 Chemical temperature control
6. 8,318,109 Microfluid devices for fluid manipulation and analysis
7. 8,282,576 Method and apparatus for an improved sample capture device
8. 7,648,835 System and method for heating, cooling and heat cycling on microfluidic device
9. 7,544,506 System and method for heating, cooling and heat cycling on microfluidic device
10. 7,419,638 Microfluidic devices for fluid manipulation and analysis
11. 7,416,892 Method and system for microfluidic manipulation, amplification and analysis of fluids, for example, bacteria assays and antiglobulin testing
12. 7,271,007 Microscale diffusion immunoassay
13. 7,223,371 Microfluidic channel network device
14. 7,011,791 Microfluidic devices for rotational manipulation of the fluidic interface between multiple flow streams

15.	6,743,399	Pumpless microfluidics
16.	6,742,661	Well-plate microfluidics
17.	6,674,525	Spilt focusing cytometer
18.	6,582,963	Simultaneous analyte determination and reference balancing in reference T-sensor devices
19.	6,557,427	Capillaries for fluid movement within microfluidic channels
20.	6,541,213	Microscale diffusion immunoassay
21.	6,488,896	Microfluidic analysis cartridge
22.	6,454,945	Microfabricated devices and methods
23.	6,409,832	Protein crystallization in microfluidic structures
24.	6,408,884	Magnetically actuated fluid handling devices for microfluidic applications
25.	6,297,061	Simultaneous particle separation and chemical reaction
26.	6,221,677	Simultaneous particle separation and chemical reaction
27.	6,171,865	Simultaneous analyte determination and reference balancing in reference T-sensor devices
28.	6,159,739	Device and method for 3-dimensional alignment of particles in microfabricated flow channels
29.	6,136,272	Device for rapidly joining and splitting fluid layers
30.	6,134,950	Method for determining concentration of a laminar sample stream
31.	6,091,502	Device and method for performing spectral measurements in flow cells with spatial resolution
32.	5,974,867	Method for determining concentration of laminar sample stream
33.	5,972,710	Microfabricated diffusion-based chemical sensor
34.	5,948,684	Simultaneous analyte determination and reference balancing in reference T-sensor devices
35.	5,747,349	Fluorescent reporter beads for fluid analysis
36.	5,716,852	Microfabricated diffusion-based chemical sensor

Published Patent Applications

1. 20190383807 Methods and systems for concentration of samples for lateral flow assays
2. 20190187126 Device for rapid detection of tuberculosis-lipoarabinomannan (tb-lam) with enhanced sensitivity
3. 20190126265 Method of diverting the first fraction of sample away from a lateral flow assay
4. 20180348218 Serology assay for recent malaria infection
5. 20180259434 Device for concentration of biological sample prior to immunoassay
6. 20170212109 Flow assay with at least one electrically-actuated fluid flow control valve and related methods
7. 20140370581 Microfluidic devices for fluid manipulation and analysis
8. 20140154786 Chemical Temperature Control
9. 20140010736 Microfluidic devices for fluid manipulation and analysis
10. 20120259186 Method and apparatus for an improved sample capture device
11. 20120115212 Assay Tube
12. 20120064612 Microfluidic devices for fluid manipulation and analysis
13. 20110117668 Self-powered smart diagnostic devices
14. 20100173395 Microfluidic devices for fluid manipulation and analysis
15. 20090204025 Method and apparatus for an improved sample capture device
16. 20090081771 System and method for heating, cooling and heat cycling on microfluidic device
17. 20090036665 Disposable Sample Processing Unit
18. 20090029867 DNA purification and analysis on nanoengineered surfaces
19. 20090022624 Microfluidic devices for fluid manipulation and analysis
20. 20090004732 Chemical Temperature Control
21. 20060166223 DNA purification and analysis on nanoengineered surfaces

22. 20060073599 Microfabricated diffusion-based chemical sensor
23. 20050205816 Pneumatic valve interface for use in microfluidic structures
24. 20050201903 Microfluidic device for concentrating particles in a concentrating solution
25. 20050129582 System and method for heating, cooling and heat cycling on microfluidic device
26. 20050106066 Microfluidic devices for fluid manipulation and analysis
27. 20050045479 Pumpless microfluidics
28. 20050013732 Method and system for microfluidic manipulation, amplification and analysis of fluids, for example, bacteria assays and antiglobulin testing
29. 20040229378 Well-plate microfluidics
30. 20040094479 Well-plate microfluidics
31. 20030175990 Microfluidic channel network device
32. 20030175980 Ribbon flow cytometry and cell sorting
33. 20030124619 Microscale diffusion immunoassay
34. 20030075101 Protein crystallization in microfluidic structures
35. 20030034306 Well-plate microfluidics
36. 20020172622 Microfluidic device for concentrating particles in a concentrating solution
37. 20020160518 Microfluidic sedimentation
38. 20020159920 Multiple redundant microfluidic structures cross reference to related applications
39. 20020150502 Surface tension reduction channel
40. 20020149766 Split focusing cytometer
41. 20020148992 Pneumatic valve interface for use in microfluidic structures
42. 20020114739 Microfluidic cartridge with integrated electronics
43. 20020090644 Microscale diffusion immunoassay

44. 20020076350 Microfluidic devices for rotational manipulation of the fluidic interface between multiple flow streams
45. 20020052049 Microfluidic separation device
46. 20020048535 Rotation device for sequential microfluidic reaction
47. 20020041827 Devices for Analyzing the Presence and Concentration of Multiple Analytes Using a Diffusion-based Chemical Sensor
48. 20020025279 Capillaries for fluid movement within microfluidic channels
49. 20020015959 Fluid mixing in microfluidic structures
50. 20020006670 Simultaneous particle separation and chemical reaction