

Benign design in analytical chemistry

Kaljurand, Mihkel; Koel, Mihkel Critical reviews in analytical chemistry 2012 / p. 192-195

<https://www.tandfonline.com/doi/pdf/10.1080/10408347.2011.645378>

Can 3D printing bring droplet microfluidics to every lab? - A systematic review

Gyimah, Nafisat; Scheler, Ott; Rang, Toomas; Pardy, Tamas Micromachines 2021 / art. 339 <https://doi.org/10.3390/mi12030339>

[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cell Migration in Microfluidic Devices : Invadosomes Formation in Confined Environments

Chi, Pei-Yin; Spuul, Pirjo; Tseng, Fan-Gang Cell migrations : causes and functions 2019 / p. 79-103 https://doi.org/10.1007/978-3-030-17593-1_6

[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cellprofiler is a fit tool for droplet digital image analysis

Bartkova, Simona; Vendelin, Marko; Pata, Pille; Scheler, Ott 23rd International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2019) Basel, Switzerland, 27 – 31 October 2019 2020 / art. 163704, p. 1644-1645

<https://doi.org/10.1101/811869>

Chip design for microfluidic bioimpedance measurement

Giannitsis, Athanasios; Cahill, Brian; Land, Raul; Gastrock, Gunter; Pliquett, Uwe; Nacke, T.; Min, Mart; Beckmann, Dieter

Tagungsband : Technische Systeme für die Lebenswissenschaften : 14.Heiligenstädter Kolloquium : Heiligenstadt (Germany), 22.9-24.9.2008 2008 / p. 423-432

Closed-loop droplet size control in microfluidics = Suletud ahelaga tilkade suuruse juhtimine mikrofluidikas

Gyimah, Nafisat 2024 <https://digikogu.taltech.ee/et/Item/c4a0c9de-83e5-41ff-bdcf-24ba61182d1f> https://www.ester.ee/record=b5698980*est

<https://doi.org/10.23658/taltech.47/2024>

CogniFlow: integrated modular system for automated droplet microfluidic bioanalysis

Jõemaa, Rauno; Afrin, Fariha; Gyimah, Nafisat; Ashraf, Kanwal; Pärnamets, Kaiser; Giese, Lucas; Rocancourt, Mathieu; Pardy, Tamas EUROSENSORS XXXVI : abstract book 2024 / PT6.188, p. 453-454 <https://doi.org/10.5162/EUROSENSORSXXXVI/PT6.188>

<https://doi.org/10.5162/EUROSENSORSXXXVI/PT6.188>

Compact empirical model for droplet generation in a Lab-on-Chip cytometry system

Pärnamets, Kaiser; Udal, Andres; Koel, Ants; Pardy, Tamas; Gyimah, Nafisat; Rang, Toomas IEEE Access 2022 / p. 127708-

127717 <https://doi.org/10.1109/ACCESS.2022.3226623> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison of rectangular wave excitations in broad band impedance spectroscopy for microfluidic applications

Min, Mart; Giannitsis, Athanasios; Land, Raul; Cahill, Brian; Pliquett, Uwe; Nacke, T.; Frense, Dieter; Gastrock, Gunter; Beckmann, Dieter World Congress on Medical Physics and Biomedical Engineering : September 7-12, 2009, Munich, Germany 2009 / p. 85-88

https://link.springer.com/chapter/10.1007/978-3-642-03885-3_24

Comparison of spectrally sparse excitation signals for fast bioimpedance spectroscopy : in the context of cytometry

Ojarand, Jaan; Land, Raul; Min, Mart MeMeA 2012 IEEE International Symposium on Medical Measurements and Applications :

proceedings : May 18-19, 2012, Budapest, Hungary 2012 / 5 p. : ill <https://ieeexplore.ieee.org/document/6226631>

Deep reinforcement learning-based digital twin for droplet microfluidics control

Gyimah, Nafisat; Scheler, Ott; Rang, Toomas; Pardy, Tamas Physics of Fluids 2023 / art. 082020 <https://doi.org/10.1063/5.0159981>

[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of a transferable microfluidic droplet generator = Ülekantava mikrovedelik-tilkade generaatori arendus

Jõemaa, Rauno 2024 https://www.ester.ee/record=b5698969*est <https://doi.org/10.23658/taltech.46/2024>

<https://digikogu.taltech.ee/et/Item/afb53063-1f89-4971-8758-142772e697dd>

Digital microfluidic sampler for a portable capillary electropherograph

Gorbatšova, Jelena; Jaanus, Martin; Kaljurand, Mihkel Analytical chemistry 2009 / p. 8590-8595 : ill

Digital twin for controlled generation of water-in-oil microdroplets with required size

Gyimah, Nafisat; Scheler, Ott; Rang, Toomas; Pardy, Tamas 2022 23rd International Conference on Thermal, Mechanical and

Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE), 25-27 April 2022, St Julian, Malta : proceedings 2022 / p. 85-91 <https://doi.org/10.1109/EuroSimE54907.2022.9758876>

Droplet image analysis with user-friendly freeware CellProfiler

Bartkova, Simona; Vendelin, Marko; Sanka, Immanuel; Pata, Pille; Scheler, Ott Analytical methods 2020 / p. 2287-2294 : ill

<https://doi.org/10.1039/DOA00031K> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Droplet-based methods for tackling antimicrobial resistance

Ruszczak, Artur; Bartkova, Simona; Zapotoczna, Marta; Scheler, Ott; Garstecki, Piotr Current opinion in biotechnology 2022 / art.

102755 <https://doi.org/10.1016/j.copbio.2022.102755> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Electrowetting on dielectric actuation of droplets with capillary electrophoretic zones for MALDI mass spectrometric analysis

Gorbatšova, Jelena; Borissova, Maria; Kaljurand, Mihkel Electrophoresis 2012 / p. 2682-2688 : ill
<https://pubmed.ncbi.nlm.nih.gov/22965712/>

Electrowetting-on-dielectric actuation of droplets with capillary electrophoretic zones for off-line mass spectrometric analysis

Gorbatšova, Jelena; Borissova, Maria; Kaljurand, Mihkel Journal of chromatography A 2012 / p. 9-15 : ill
<https://pubmed.ncbi.nlm.nih.gov/22965712/>

Embedded blur-free single-image acquisition pipeline for droplet microfluidic imaging flow cytometry (IFC)

Afrin, Fariha; Pärnamets, Kaiser; Le Moullec, Yannick; Udal, Andres; Koel, Ants; Pardy, Tamas; Rang, Toomas IEEE Access 2024 / p. 92431-92441 <https://doi.org/10.1109/ACCESS.2024.3421637> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Fabrication methods for microfluidic lab-on-chips

Giannitsis, Athanasios; Min, Mart BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 69-72

Front-end electronics for impedimetric microfluidic devices

Ojarand, Jaan; Giannitsis, Athanasios; Min, Mart; Land, Raul Bioelectronics, Biomedical, and Bioinspired Systems V; and Nanotechnology V : 18-20 April 2011, Prague, Czech Republic 2011 / p. 80680R-1 - 80680R-15 : ill
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/8068/1/Front-end-electronics-for-impedimetric-microfluidic-devices/10.1117/12.886553.full>

A Guide to biodetection in droplets

Bartkova, Simona; Zapotoczna, Marta; Sanka, Immanuel; Scheler, Ott Analytical chemistry 2024 / p. 9745-9755
<https://doi.org/10.1021/acs.analchem.3c04282> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Imepisikesed tilgad käituvad katseklaasidena

Imeline Teadus 2023 / lk. 20 https://www.ester.ee/record=b2747925*est

Improving coplanar electrodes for moving water droplets

Giannitsis, Athanasios; Cahill, Brian; Pliquet, Uwe; Gastrock, Gunter; **Land, Raul**; Nacke, T.; **Min, Mart**; Beckmann, Dieter
Proceedings of the 1st European Conference on Microfluidics - Microfluidics 2008 : Bologna, Italy December 10-12, 2008 2008 / [10]
p https://www.academia.edu/26174470/Improving_coplanar_electrodes_for_moving_water_droplets

Instrument-free Lab-on-a-Chip DNA amplification test for pathogen detection [Online resource]

Pardy, Tamas; Rang, Toomas; Kremer, Clemens; Tulp, Indrek BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p. : ill
<https://doi.org/10.1109/BEC.2018.8600991>

Lightweight CNN-based Microfluidic Droplet Classification for Portable Imaging Flow Cytometry

Afrin, Fariha; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas Proceedings of the Estonian Academy of Sciences 2025 / p. 302-311 <https://doi.org/10.3176/proc.2025.2S.05>

Low-cost open-source flow velocity sensor for droplet generators

Prabatama, Nicky Andre; **Jõemaa, Rauno**; Hegedus, Kristof; **Pardy, Tamas** 2022 18th Biennial Baltic Electronics Conference (BEC) 2022 / p. 1-4 <https://doi.org/10.1109/BEC56180.2022.9935606>

Low-cost, portable dual-channel pressure pump for droplet microfluidics

Jõemaa, Rauno; Grosberg, Martin; Rang, Toomas; Pardy, Tamas 2022 45th Jubilee International Convention on Information, Communication and Electronic Technology (MIPRO), 23-27 May 2022, Opatija, Croatia : proceedings 2022 / p. 205-211 : ill
<https://doi.org/10.23919/MIPRO55190.2022.9803371>

Mailma muutvad tilgad

Pardy, Tamas; Vaaks, Eveliis Trialoog 2025 <https://trialoog.taltech.ee/mailma-muutvad-tilgad/>

Microfabrication of biomedical lab-on-chip devices : a review

Giannitsis, Athanasios Estonian journal of engineering 2011 / p. 109-139 : ill

Microfluidic droplet classification through tuned convolutional neural network on a resource constrained platform

Afrin, Fariha; Le Moullec, Yannick; Pardy, Tamas 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 4 p
<https://doi.org/10.1109/BEC61458.2024.10737958> Conference proceedings at Scopus Article at Scopus Article at WOS

Microfluidic production, stability and loading of synthetic giant unilamellar vesicles

Ernits, Mart; Reinsalu, Olavi; Yandrapalli, Naresh; Kopanchuk, Sergei; Moradpur-Tari, Ehsan; **Sanka, Immanuel; Scheler, Ott;** Rinken, Ago; Kurg, Reet; Kyritsakis, Andreas Scientific reports 2024 / art. 14071, 8 p. : ill <https://doi.org/10.1038/s41598-024-64613-4>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Microfluidic screening of antibiotic susceptibility at a single-cell level shows the inoculum effect of cefotaxime on: E. coli

Postek, Witold; Gargulinski, Pawel; **Scheler, Ott;** Kaminski, Tomasz S.; Garstecki, Piotr Lab on a Chip 2018 / p. 3668 - 3677
<https://doi.org/10.1039/c8lc00916c> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Modular, dual-tone piezoelectric micropump driver for low-cost, portable droplet generation

Jõemaa, Rauno; Pardy, Tamas 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 6 p
<https://doi.org/10.1109/BEC61458.2024.10737948> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Multichannel electrical impedance spectroscopy analyzer with microfluidic sensors

Ojarand, Jaan; Min, Mart; Koel, Ants Sensors 2019 / art. 1891, 28 p. : ill <https://doi.org/10.3390/s19081891> [Journal metrics at Scopus](#)
[Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A novel high-speed camera system for capturing microfluidic droplets

Rütter, Veiko; Pärnamets, Kaiser; Pardy, Tamas; Koel, Ants; Scheler, Ott; Rang, Toomas 2025 Smart Systems Integration Conference and Exhibition (SSI) 2025 / 4 p <https://doi.org/doi.org/10.1109/SSI65953.2025.11107215>

Open source hardware cost-effective imaging sensors for high-throughput droplet microfluidic systems

Pärnamets, Kaiser; Koel, Ants; Pardy, Tamas; Rang, Toomas Proceedings of 26th International Conference : ELECTRONICS 2022 2022 / 6 p <https://doi.org/10.1109/IEEECONF55059.2022.9810383>

Optical detection methods for droplet microfluidic applications = Optilised tuvastusmeetodid tilkade mikrofluidiliste rakenduste jaoks

Pärnamets, Kaiser 2023 <https://doi.org/10.23658/taltech.31/2023> <https://digikogu.taltech.ee/et/Item/ffb85150-fb85-4a7c-b130-0d7f2c3b7fb5>
https://www.ester.ee/record=b5569973*est

Optical detection methods for high-throughput fluorescent droplet microflow cytometry

Pärnamets, Kaiser; Pardy, Tamas; Koel, Ants; Rang, Toomas; Scheler, Ott; Le Moullec, Yannick; Afrin, Fariha Micromachines 2021 / art. 345, 20 p. : ill <https://doi.org/10.3390/mi12030345> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Paper microzones as a route to greener analytical chemistry

Kaljurand, Mihkel Current Opinion in Green and Sustainable Chemistry 2019 / p. 15-18 <https://doi.org/10.1016/j.cogsc.2019.03.002>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

PID controller tuning optimization using genetic algorithm for droplet size control in microfluidics

Gyimah, Nafisat; Jõemaa, Rauno; Pärnamets, Kaiser; Scheler, Ott; Rang, Toomas; Pardy, Tamas 2022 18th Biennial Baltic Electronics Conference (BEC) 2022 / 6 p <https://doi.org/10.1109/BEC56180.2022.9935596>

Recent advancements on greening analytical separation

Kaljurand, Mihkel; Koel, Mihkel Critical reviews in analytical chemistry 2011 / p. 2-20 : ill
<https://www.tandfonline.com/doi/full/10.1080/10408347.2011.539420>

Smart materials in miniaturized devices

Kaljurand, Mihkel Handbook of smart materials in analytical chemistry 2019 / p. 621–642 <https://doi.org/10.1002/9781119422587.ch19>

TalTechi teadlaste juhend aitab laboris veetilkade abil suuri avastusi teha

Bartkova, Simona postimees.ee 2024 [TalTechi teadlaste juhend aitab laboris veetilkade abil suuri avastusi teha](https://postimees.ee/2024/05/01/taltech-teadlaste-juhend-aitab-laboris-veetilkade-abil-suuri-avastusi-teha)

Thermal analysis of a disposable, instrument-free DNA amplification lab-on-a-chip platform

Pardy, Tamas; Rang, Toomas; Tulp, Indrek Sensors 2018 / art. 1812, 13 p. : ill <https://doi.org/10.3390/s18061812> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Three-dimensional finite element modelling of chemical environment in droplet-based microfluidic systems for drug therapy applications

Szomor, Zsombor; **Gyimah, Nafisat; Pardy, Tamas;** Fürjes, Peter Physics of fluids 2025 / art. 072045
<https://doi.org/10.1063/5.0275809>

3D finite element modelling of mixing phenomena in droplet-based microfluidic systems

Szomor, Zsombor; **Gyimah, Nafisat;** Fürjes, Peter; Pardy, Tamas 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 4 p
<https://doi.org/10.1109/BEC61458.2024.10737975> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Usage of microfluidic lab-on-chips in biomedicine

Giannitsis, Athanasios; Min, Mart BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 249-252