

Application of power line communication technology in street lighting control

Farkas, Tekla D.; Kiraly, Tamás; **Pardy, Tamas;** Rang, Toomas; **Rang, Galina** International journal of design and nature and ecodynamics 2018 / p. 176–186 : ill <https://doi.org/10.2495/DNE-V13-N2-176-186> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Area efficient design and implementation of a novel divider circuit block = Uudne efektiivne jagamistehte riistvaraline realiseatsioon

Patankar, Udayan Sunil 2025 https://www.ester.ee/record=b5746970*est <https://digikogu.taltech.ee/et/Item/bada7a0d-f54f-48bb-844d-37e23ad8d029> <https://doi.org/10.23658/taltech.29/2025>

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](#)

Characterization of Interfaces Between the Metal Film and Silicon Carbide Semiconductor = Metallkontakti ja ränikarbiidi vahelise liidespinna karakteriseerimine

Ziko, Mehadi Hasan 2021 <https://digikogu.taltech.ee/et/Item/34be534c-63e8-4013-b271-eaf1a7cb22e7> https://www.ester.ee/record=b5471196*est <https://doi.org/10.23658/taltech.52/2021>

Chemical heating for non-instrumented nucleic acid amplification on lab-on-a-chip devices

Pardy, Tamas Proceedings of the 8th Annual Conference of the Estonian National Doctoral School in Information and Communication Technologies : December 5-6, 2014, Rakvere 2014 / p. 95-98 : ill

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>

CNN-Transformer Hybrid Model Towards Automated Droplet Image Quality Assessment of Portable Imaging Flow Cytometer

Afrin, Fariha; Ndubuisi Ezechukwu, Dismas; **Le Moullec, Yannick;** Pardy, Tamas; Rang, Toomas; **Koel, Ants** IEEE EUROCON 2025 - 21st International Conference on Smart Technologies 2025 / 6 p <https://doi.org/10.1109/EUROCON64445.2025.11073334>

Co-design of a wireless networked control system for reliability and resource-efficiency

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 7 p <https://doi.org/10.1109/BEC61458.2024.10737965> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Co-design of wireless networked control systems : a reliable and resource-efficient approach

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas techrxiv.org 2024 / 9 p. : ill <https://www.techrxiv.org/users/693853/articles/683291-co-design-of-wireless-networked-control-systems-a-reliable-and-resource-efficient-approach>

Co-design of wireless networked control systems : model-based architecture and joint optimization = Juhtmevabade võrgustatud juhtimissüsteemide koosdisain : mudelipõhine arhitektuur ja ühisoptimeerimine

Ashraf, Kanwal 2024 https://www.ester.ee/record=b5685529*est <https://doi.org/10.23658/taltech.30/2024> <https://digikogu.taltech.ee/et/Item/b8d1b3cd-0149-442a-8044-ba7d1106c081>

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>

Cogniflow-drop : integrated modular system for automated generation of droplets in microfluidic applications

Jõemaa, Rauno; **Gyimah, Nafisat;** Ashraf, Kanwal; **Pärnamets, Kaiser;** Zaft, Alexander; Scheler, Ott; Rang, Toomas; **Pardy, Tamas** IEEE Access 2023 / p. 104905-104929 <https://doi.org/10.1109/ACCESS.2023.3316726> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Pärnamets, Kaiser; Udál, 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](#)

Decentralized distributed data structure for bioanalytical laboratory setups

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas 8th ACM Celebration of Women in Computing : womENCourage 2021, 22-24 September, 2021, Czech Republic 2021 / 2 p. : ill https://womenencourage.acm.org/2021/wp-content/uploads/2021/07/59_extendedabstract.pdf

Decentralized distributed data structure for bioanalytical laboratory setups : [poster]

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas 2021 / 1 p. : ill https://womencourage.acm.org/2021/wp-content/uploads/2021/07/59_poster.pdf

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](#)

Design of Cyber Bio-analytical Physical Systems : formal methods, architectures, and multi-system interaction strategies

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas Microprocessors and microsystems 2023 / art. 104780, 14 p. : ill <https://doi.org/10.1016/j.micpro.2023.104780> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of a low-cost, wireless smart thermostat for isothermal DNA amplification in lab-on-a-chip devices

Pardy, Tamas; Sink, Henri; Koel, Ants; Rang, Toomas Micromachines 2019 / art. 437, 13 p. : ill <https://doi.org/10.3390/mi10070437>
[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>

Development of automated detection and wireless reporting for a handheld point-of-care test

Pardy, Tamas; Filograno, Leonardo; Baumann, Cindy; Rang, Toomas 2020 17th Biennial Baltic electronics conference, Tallinn, Estonia, October 6-8, 2020 : proceedings 2021 / 4 p. : ill <https://doi.org/10.1109/BEC49624.2020.9276773>

Development of temperature control solutions for non-instrumented nucleic acid amplification tests (NINAAT)

Pardy, Tamas; Rang, Toomas; Tulp, Indrek Micromachines 2017 / p. 1-11 : ill <https://doi.org/10.3390/mi8060180> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

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](#)

Finite element modelling for the optimization of microheating in disposable molecular diagnostics

Pardy, Tamas; Rang, Toomas; Tulp, Indrek International journal of computational methods and experimental measurements 2017 / p. 13-22 : ill <https://doi.org/10.2495/CMEM-V5-N1-13-22> [Journal metrics at Scopus](#) [Article at Scopus](#)

Finite element modelling for the optimization of microheating in disposable molecular diagnostics [Electronic resource]

Pardy, Tamas; Rang, Toomas; Tulp, Indrek 14th International Conference on Simulation and Experiments in Heat Transfer and its Applications : Heat Transfer 2016 : 7-9 September, 2016 Ancona, Italy : unedited papers 2016 / p. [144-155] : ill. [USB]

Finite element modelling of the resistive heating of disposable molecular diagnostics devices

Pardy, Tamas; Rang, Toomas; Tulp, Indrek Computational methods and experimental measurements XVII 2015 / p. 381-391 : ill <http://dx.doi.org/10.2495/CMEM150341>

In-situ thermal performance monitoring of Pharma 4.0 Flow Bioreactors

Hegedus, Kristof; Hantos, Gusztav; Pardy, Tamas; Ender, Ferenc 2020 26th International Workshop on Thermal Investigations of ICs and Systems (THERMINIC) 2020 / 4 p. : ill <https://doi.org/10.1109/THERMINIC49743.2020.9420529>

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>

Integrated self-regulating resistive heating for isothermal nucleic acid amplification tests (NAAT) in Lab-on-a-Chip (LoC) devices

Pardy, Tamas; Tulp, Indrek; Kremer, Clemens; Rang, Toomas; Stewart, Ray PLoS ONE 2017 / p. 1-11 : ill <https://doi.org/10.1371/journal.pone.0189968> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Joint optimization via deep reinforcement learning in wireless networked controlled systems

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas IEEE Access 2022 / p. 67152-67167 <https://doi.org/10.1109/ACCESS.2022.3185244> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Kas Eesti on teadustalentidele ahvatlev sihtkoht?

Vaaks, Eveliis Trialoog 2025 <https://trialoog.taltech.ee/kas-eesti-on-teadustalentidele-ahvatlev-sihtkoht/>

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>

Maaailma muutvad tilgad

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

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 Droplet Detection, Classification and Quality Assessment for Embedded Flow Cytometry Systems = Tilkade tuvastamine mikrofluidikas, nende klassifitseerimine ja kvaliteedi hindamine sardsetes voolutsütomeetria süsteemides

Afrin, Fariha 2025 https://www.ester.ee/record=b5758191*est <https://digikogu.taltech.ee/et/Item/fa72df11-6487-4314-bd3d-5a7b1f5a263e> <https://doi.org/10.23658/taltech.57/2025>

Microheating solution for molecular diagnostics devices = Mikrosoojendamise molekulaardiagnostika seadistes

Pardy, Tamas 2018 <https://digi.lib.ttu.ee/i/?9249> https://www.ester.ee/record=b4759173*est

Model-based system architecture for event-triggered wireless control of bio-analytical devices

Ashraf, Kanwal; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas 2021 24th Euromicro Conference on Digital System Design (DSD), 01-03 September 2021 2021 / p. 465-471 : ill <https://doi.org/10.1109/DSD53832.2021.00076>

Modelling and experimental characterisation of self-regulating resistive heating elements for disposable medical diagnostics devices

Pardy, Tamas; Rang, Toomas; Tulp, Indrek Materials characterization VII 2015 / p. 263-271 : ill

Modelling and experimental characterisation of thermoelectric heating for molecular diagnostics devices

Pardy, Tamas; Rang, Toomas; Tulp, Indrek BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 27-30 : ill http://www.ester.ee/record=b2150914*est

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](#)

Numerical simulations of wideband SiC N-N heterostructure diode

Patankar, Udayan Sunil; Koel, Ants; Pardy, Tamas LAEDC 2020 : Latin American Electron Devices Conference, San José, Costa Rica, February 25-28, 2020 2020 / 4 p <https://doi.org/10.1109/LAEDC49063.2020.9073489>

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](#)

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>

Polymer nanofiber deposition in lab-on-a-chip devices by electrospinning

Pardy, Tamas; Jõemaa, Rauno; Ender, Ferenc; Rang, Toomas; Hegedus, Kristof; Balogh-Weiser, Diana 2020 17th Biennial Baltic electronics conference, Tallinn, Estonia, October 6-8, 2020 : proceedings 2020 / 4 p. : ill <https://doi.org/10.1109/BEC49624.2020.9277494>

Simulations of wide bandgap SiC N-N heterostructure diode

Patankar, Udayan Sunil; Koel, Ants; Pardy, Tamas 2020 IEEE International Conference on Consumer Electronics (ICCE), Las Vegas, NV, USA, January 4-6, 2020 2020 / 4 p <https://doi.org/10.1109/ICCE46568.2020.9043130>

A survey on the roles of communication technologies in IoT-based personalized healthcare applications

Alam, Muhammad Mahtab; Malik, Hassan; Khan, Muhidul Islam; Pardy, Tamas; Kuusik, Alar; Le Moullec, Yannick IEEE Access 2018 / p. 36611-36631 : ill <https://doi.org/10.1109/ACCESS.2018.2853148> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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](#)

Towards controllable electrospinning: a systematic analysis of the effect of input parameters on nanofiber morphology

Mahdian, Mehrab; Stummer, Tamas; Sepsik, Norman; Ender, Ferenc; Balogh-Weiser, Diana; Pardy, Tamas techrxiv.org 2025 / 86 p <https://doi.org/10.36227/techrxiv.174662365.53016549/v1>