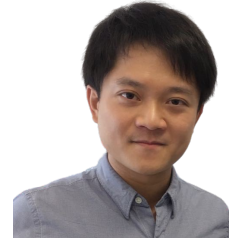


## Curriculum Vitae

**Lehrstuhl für Entwurfsautomatisierung**  
**Chair of Electronic Design Automation**  
Technical University of Munich  
Arcisstraße 21  
80333 Munich, Germany  
Email: [tsun-ming.tseng@tum.de](mailto:tsun-ming.tseng@tum.de)



### PERSONAL INFORMATION

Born on 17th March 1988 in Taoyuan, Taiwan  
Research group leader at the Chair of Electronic Design Automation, Technical University of Munich (TUM)  
Personal webpage: <https://www.ce.cit.tum.de/eda/personen/tsun-ming-tseng/>  
Research group webpage: <https://www.ce.cit.tum.de/eda/forschung/emerging-tech>

### RESEARCH INTERESTS

- Mathematical methods for design automation
- Design automation for microfluidic large-scale integration
- Design automation for optical network-on-chip
- Design automation for novel microfabrication

### GROUP MEMBERS

Dr. Debraj Kundu (*Postdoctoral Researcher, TGPF*, since 05.2024)  
M.Sc. Liaoyuan Cheng (*Doctoral Researcher*, since 02.2024)  
B.Eng. Siyuan Liang (*PhD Student @ CUHK*, co-supervised with Prof. Tsung-Yi Ho, since 08.2022)  
M.Sc. Zhidan Zheng (*Doctoral Researcher*, since 01.2021)  
M.Sc. Yushen Zhang (*Doctoral Researcher*, since 12.2020)  
M.Sc. Meng Lian (*Doctoral Researcher*, since 06.2020)  
M.Sc. Mengchu Li (*Doctoral Researcher*, since 06.2019)  
M.Sc. Alexandre Truppel (*Doctoral Researcher*, since 11.2018)

### EDUCATION AND EXPERIENCE

Habilitand Department of Electrical and Computer Engineering TUM, Munich, Germany	12.2019 – Present
Postdoctoral researcher Chair of Electronic Design Automation TUM, Munich, Germany	08.2017 – Present
Doctoral researcher ( <i>Dr.-Ing.</i> , passed with <i>Summa Cum Laude</i> ) Chair of Electronic Design Automation TUM, Munich, Germany	12.2013 – 08.2017
Master study in Communications Engineering ( <i>Master of Science</i> ) TUM, Munich, Germany	10.2011 – 11.2013

## TEACHING

### Courses:

- 23/24 winter semester:
  - Lecturer of *Mixed Integer Programming and Graph Algorithms for Engineering Problems* (88 students)
  - Lecturer of *Electronic Design Automation* (247 students)
- 22/23 winter semester:
  - Lecturer of *Mixed Integer Programming and Graph Algorithms for Engineering Problems* (81 students)
  - Lecturer of *Electronic Design Automation* (283 students)
- 21/22 winter semester:
  - Lecturer of *Mixed Integer Programming and Graph Algorithms for Engineering Problems* (111 students)
  - Lecturer of *Electronic Design Automation* (263 students)
- 20/21 winter semester:
  - Lecturer of *Mixed Integer Programming and Graph Algorithms for Engineering Problems* (107 students)
  - Lecturer of *Electronic Design Automation* (280 students)
- 19/20 winter semester:
  - Lecturer of *Mixed Integer Programming and Graph Algorithms for Engineering Problems* (79 students)  
— a course that I developed from scratch
  - Lecturer of *Electronic Design Automation* (256 students)
  - TA of *Testing Digital Circuits* (66 students)
- 18/19 winter semester:
  - Lecturer of *Electronic Design Automation* (181 students)
  - TA of *Testing Digital Circuits* (68 students)
- 17/18 winter semester:
  - Lecturer and TA of *Electronic Design Automation* (203 students)
  - TA of *Testing Digital Circuits* (68 students)
- 16/17 winter semester:
  - TA of *Testing Digital Circuits* (61 students)
- 15/16 winter semester:
  - TA of *Testing Digital Circuits* (63 students)

I am currently supervising 6 PhD projects internally at TUM and 1 external PhD project. Besides, I have supervised 14 master's and 9 bachelor's theses.

Here are some selected master's theses:

- Duan Shen (06.2021), with the Department of ECE, TUM  
**“Contamination-Free Switch Design and Synthesis for Microfluidic Large-Scale Integration”**  
published as  
**“Contamination-Free Switch Design and Synthesis for Microfluidic Large-Scale Integration”**  
Duan Shen, Yushen Zhang, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
in *Design, Automation and Test in Europe (DATE)*, March 2022

- Moyuan Xiao (10.2020), with the Department of ECE, TUM  
**“Crosstalk-Aware Automatic Topology Customization and Optimization for Wavelength-Routed Optical NoCs”**  
published as  
**“FAST: A Fast Automatic Sweeping Topology Customization Method for Application-Specific Wavelength-Routed Optical NoCs”**  
Moyuan Xiao, Tsun-Ming Tseng, Ulf Schlichtmann  
in *Design, Automation and Test in Europe (DATE)*, February 2021  
and  
**“Crosstalk-Aware Automatic Topology Customization and Optimization for Wavelength-Routed Optical NoCs”**  
Moyuan Xiao, Tsun-Ming Tseng, Ulf Schlichtmann  
in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 41(12), 5261–5274, December 2022
- Zhidan Zheng (07.2020), with the Department of ECE, TUM  
**“Wavelength-Routed Optical Network-on-Chip Router Design Using Parallel Switching Elements”**  
published as  
**“Light: A Scalable and Efficient Wavelength-Routed Optical Networks-On-Chip Topology”**  
Zhidan Zheng, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
in *IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, January 2021
- Meng Lian (03.2020), with the Department of Mathematics, LMU München  
**“Developing Optimization Methods for Design Decomposition of Inkjet-Printed Electronics”**
- Yushen Zhang (12.2019), with the Department of Informatics, TUM  
**“Prototyping a Portable 3D-Printed Microfluidic System Controlled Using a Single-Chip Computer”**  
published as  
**“Portable All-in-One Automated Microfluidic System (PAMICON) with 3D-Printed Chip Using Novel Fluid Control Mechanism”**  
Yushen Zhang, Tsun-Ming Tseng, Ulf Schlichtmann  
in *Scientific Reports* 11(19189), September 2021
- Fangda Zuo (02.2019), with the Department of Informatics, TUM  
**“High-Level Synthesis for Microfluidic Large Scale Integration Considering Hybrid-Scheduling”**  
published as  
**“Relative-Scheduling-Based High-Level Synthesis for Flow-Based Microfluidic Biochips”**  
Fangda Zuo, Mengchu Li, Tsun-Ming Tseng, Tsung-Yi Ho, Ulf Schlichtmann  
in *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2021
- Alexandre Carvalho Truppel (07.2018), with the Faculty of Engineering, University of Porto  
**“Layout Aware Router Design and Optimization for Wavelength-Routed Optical NoCs”**  
published as  
**“PSION: Combining logical topology and physical layout optimization for Wavelength-Routed ONoCs”**  
Alexandre Truppel, Tsun-Ming Tseng, Davide Bertozzi, José Carlos Alves, Ulf Schlichtmann  
in *ACM/SIGDA International Symposium on Physical Design (ISPD)*, April 2019

Here are some selected bachelor’s theses:

- Xinyu Zhang (12.2020), with the Department of ECE, TUM  
**“Router Port Assignment for Wavelength-Routed Optical Network-on-Chip”**

- Yushen Zhang (12.2017), with the Department of Informatics, TUM  
**“Integration of Columba — Design Automation for Microfluidics — as a Web Service with Web User Interface”**  
published as  
**“Cloud Columba: Accessible Design Automation Platform for Production and Inspiration”**  
Tsun-Ming Tseng, Mengchu Li, Yushen Zhang, Tsung-Yi Ho, and Ulf Schlichtmann  
in *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2019
- Mengchu Li (02.2016), with the Department of Computer Science, LMU München  
**“High-level Synthesis for Continuous-flow Microfluidics”**  
published as  
**“Component-Oriented High-Level Synthesis for Continuous-Flow Microfluidics Considering Hybrid-Scheduling”**  
Mengchu Li, Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
in *ACM/IEEE Design Automation Conference (DAC)*, June 2017

## GRANTS

- **“Reliability-Aware Task Deployment of Photonic Interconnected 2.5D/3D Integrated Systems”**  
BMBF-NSTC project, *principal investigator*  
— together with the principal investigators **Prof. Ulf Schlichtmann** and **Prof. Ing-Chao Lin**  
01.05.2024 – 30.04.2027, local budget EUR 386.6K
- **“Physical Design for Microfluidic Large-Scale Integration with Partitioning and Floorplanning”**  
DFG research grant, *principal investigator*  
01.01.2024 – 31.12.2026, EUR 331.9K
- **“Critical-Path-Driven Placement and Routing for Optical-Networks-on-Chip”**  
DAAD-NSTC project — PPP Programs for Project Related Personal Exchange, *project leader*  
01.01.2024 – 31.12.2025
- **“Bandwidth Maximization and Allocation for Wavelength-Routed Optical Networks-on-Chip (WRONoC)”**  
DFG research grant, *principal investigator*  
01.11.2023 – 30.10.2025, EUR 222.2K
- **“Advanced Heterogeneous System Integration — Methodology for Chiplet Design”**  
Bavarian Chip-Design-Centre (BCDC) project, *work package leader and co-proposer*  
01.08.2023 – 31.07.2028, TUM share EUR 3.81M, local budget EUR 367.5K
- **“Design and Integration of Test Module for Microfluidic Large-Scale Integration (mLSI)”**  
DFG research grant, *principal investigator*  
01.04.2022 – 31.03.2025, EUR 312.1K
- **“Automatic Analysis of PCB Schematic Designs”**  
Industrial collaborative project (with *Huawei*), *project leader*  
16.11.2021 – 15.05.2022, EUR 167.8K
- **“Combining Topology Synthesis and Physical Design for Wavelength-Routed Optical Networks-on-Chip (WRONoC) — Design Automation Using Physical Layout Templates”**  
DFG research grant, *project leader and proposal generation*  
— in collaboration with the principal investigator **Prof. Ulf Schlichtmann**  
01.01.2021 – 31.12.2023, EUR 305.6K
- TUM Global Incentive Fund, 01.12.2019 – 30.11.2020, EUR 14.7K
- TUM Global Incentive Fund, 01.12.2018 – 30.09.2019, EUR 14.1K

## AWARDS

- Bund-der-Freunde-der-TUM Dissertation Award, 2017  
*6 out of 977 newly-promoted TUM PhDs in 2017*

## SERVICE

- NSF — LEAP HI, Blue Ribbon Panel for proposals at USD 2M level, 2021
- Invited speaker for tutorials, special sessions, and workshops at international conferences:  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, 2019  
*Miniaturized Systems for Chemistry and Life Sciences (MicroTAS)*, 2019
- Invited speaker at universities and research institutes:  
*Technical University of Denmark* in Lyngby, Denmark, 2023  
*Ritsumeikan University* in Shiga, Japan, 2019  
*National Chiao Tung University* in Hsinchu, Taiwan, 2017  
*Northeast Normal University* in Jilin, China, 2017
- Technical program committee (TPC) member:  
*International Symposium on Physical Design (ISPD)*, 2023–2024  
*Asia and South Pacific Design Automation Conference (ASP-DAC)*, 2019–2021
- Editorial Board Member, *Discover Electronics (Springer Nature)*, since 2024
- Journal reviewer:  
*IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS)*, since 2024  
*Computer-Aided Design*, since 2023  
*Integration*, since 2023  
*Optimization and Engineering*, since 2022  
*ACM Transactions on Design Automation of Electronic Systems (TODAES)*, since 2022  
— member of the *Distinguished Reviewer Board* in 2024  
*IEEE Sensors Journal*, since 2021  
*Flexible and Printed Electronics*, since 2021  
*MDPI — Biosensors, Applied Sciences, Sensors*, since 2020  
*Journal of Physics Communications*, since 2020  
*Mathematical Problems in Engineering*, since 2019  
*ACM Journal on Emerging Technologies in Computing Systems (JETC)*, since 2018  
*IET Computers and Digital Techniques*, since 2018  
*Microelectronics Journal*, since 2018  
*Microelectronics Reliability*, since 2018  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, since 2015
- Co-chair of *CAD Contest @ ICCAD*, 2024–2026

## PATENTS

- Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
“**Device with Blockable/Un-Blockable Fluid Channels and Built-In Self-Test Equipment**”  
EU/US Patent, published on 12<sup>th</sup> January 2022/13<sup>th</sup> January 2022/5<sup>th</sup> March 2024

## PUBLICATIONS

### Book Chapters:

1. Tsun-Ming Tseng, Mengchu Li, Zhidan Zheng, Alexandre Truppel, Ulf Schlichtmann  
“**Efficiency-Oriented Design Automation Methods for Wavelength-Routed Optical Network-on-Chip**”  
In: *Silicon Photonics for High-Performance Computing and Beyond*, CRC Press, November 2021

### International Journal Articles:

1. Yushen Zhang, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
“**Open-Source Interactive Design Platform for 3D-Printed Microfluidic Devices**”  
*Communications Engineering* 3, 71, May 2024
2. Zhidan Zheng, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
“**LightR: A Fault-Tolerant Wavelength-Routed Optical Networks-on-Chip Topology**”  
*MDPI Applied Sciences* 13(15), 8871, August 2023
3. Mengchu Li, Yushen Zhang, Ju Young Lee, Hudson Gasvoda, Ismail Emre Araci, Tsun-Ming Tseng, Ulf Schlichtmann  
“**Integrated Test Module Design for Microfluidic Large-Scale Integration**”  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 42(6), 1939–1950, June 2023
4. Alexandre Truppel, Tsun-Ming Tseng, Ulf Schlichtmann  
“**Accurate Infinite-order Crosstalk Calculation for Optical Networks-on-Chip**”  
*IEEE/OSA Journal of Lightwave Technology (JLT)* 41(1), 4–16, January 2023
5. Yushen Zhang, Tsun-Ming Tseng, Ulf Schlichtmann  
“**ColoriSens: An open-source and low-cost portable color sensor board for microfluidic integration with wireless communication and fluorescence detection**”  
*HardwareX* 11, e00312, May 2022
6. Moyuan Xiao, Tsun-Ming Tseng, Ulf Schlichtmann  
“**Crosstalk-Aware Automatic Topology Customization and Optimization for Wavelength-Routed Optical NoCs**”  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 41(12), 5261–5274, December 2022
7. Yushen Zhang, Tsun-Ming Tseng, Ulf Schlichtmann  
“**Portable All-in-One Automated Microfluidic System (PAMICON) with 3D-Printed Chip Using Novel Fluid Control Mechanism**”  
*Scientific Reports* 11, 19189, September 2021
8. Alexandre Truppel, Tsun-Ming Tseng, Davide Bertozzi, José Alves, Ulf Schlichtmann  
“**PSION+: Combining logical topology and physical layout optimization for Wavelength-Routed ONoCs**”  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 39(12), 5197–5210, December 2020
9. Philipp Rinklin, Tsun-Ming Tseng, Cai Liu, Mengchu Li, Korkut Terkan, Leroy Grob, Nouran Adly, Sabine Zips, Lennart Weiß, Ulf Schlichtmann, Bernhard Wolfrum  
“**Electronic Design Automation for Increased Robustness in Inkjet-Printed Electronics**”  
*Flexible and Printed Electronics* 4(4), October 2019

10. Tsun-Ming Tseng, Mengchu Li, Daniel Nestor Freitas, Travis McAuley, Bing Li, Tsung-Yi Ho, Ismail Emre Araci, Ulf Schlichtmann  
**“Columba 2.0: A Co-Layout Synthesis Tool for Continuous-Flow Microfluidic Biochips”**  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 37(8), 1588–1601, August 2018
11. Tsun-Ming Tseng, Bing Li, Ching-Feng Yeh, Hsiang-Chieh Jhan, Zuo-Min Tsai, Mark Po-Hung Lin, Ulf Schlichtmann  
**“An Efficient Two-Phase ILP-Based Algorithm for Precise CMOS RFIC Layout Generation”**  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 36(8), 1313–1326, August 2017
12. Tsun-Ming Tseng, Bing Li, Mengchu Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Reliability-aware Synthesis with Dynamic Device Mapping and Fluid Routing for Flow-based Microfluidic Biochips”**  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 35(12), 1981–1994, December 2016
13. Tsun-Ming Tseng, Bing Li, Ulf Schlichtmann, Tsung-Yi Ho  
**“Storage and Caching: Synthesis of Flow-based Microfluidic Biochips”**  
*IEEE Design & Test of Computers (D&T)* 32(6), 69–75, December 2015
14. Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“ILP-based Alleviation of Dense Meander Segments with Prioritized Shifting and Progressive Fixing in PCB Routing”**  
*IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)* 34(6), 1000–1013, June 2015

*International Conference Proceedings:*

1. Liaoyuan Cheng, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Minimizing Worst-Case Data Transmission Cycles in Wavelength-Routed Optical NoC through Bandwidth Allocation”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, October 2024
2. Siyuan Liang, Rongliang Fu, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann, Tsung-Yi Ho  
**“RABER: Reliability-Aware Bayesian-Optimization-based Control Layer Escape Routing for Flow-based Microfluidics”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, October 2024
3. Mengchu Li, Hanchen Gu, Yushen Zhang, Siyuan Liang, Hudson Gasvoda, Rana Altay, Ismail Araci, Tsun-Ming Tseng, Tsung-Yi Ho, Ulf Schlichtmann  
**“Late Breaking Results: Efficient Built-in Self-Test for Microfluidic Large-Scale Integration (mLSI)”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2024
4. Zhidan Zheng, Liaoyuan Cheng, Kanta Arisawa, Qingyu Li, Alexandre Truppel, Shigeru Yamashita, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Multi-Resonance Mesh-Based Wavelength-Routed Optical Networks-on-Chip”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2024
5. Siyuan Liang, Yushen Zhang, Rana Altay, Hudson Gasvoda, Mengchu Li, Ismail Emre Araci, Tsun-Ming Tseng, Ulf Schlichtmann, Tsung-Yi Ho  
**“LaMUX: Optimized Logic-Gate-Enabled High-Performance Microfluidic Multiplexer Design”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2024

6. Siyuan Liang, Meng Lian, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann, Tsung-Yi Ho  
**“ARMM: Adaptive Reliability Quantification Model of Microfluidic Designs and Its Graph-Transformer-Based Implementation”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, October 2023
7. Zhidan Zheng, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
**“XRing: A Crosstalk-Aware Synthesis Method for Wavelength-Routed Optical Ring Routers”**  
*Design, Automation and Test in Europe (DATE)*, April 2023
8. Meng Lian, Yushen Zhang, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
**“FXT-Route: Efficient High-Performance PCB Routing with Crosstalk Reduction Using Spiral Delay Lines”**  
*ACM/SIGDA International Symposium on Physical Design (ISPD)*, March 2023
9. Siyuan Liang, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann, Tsung-Yi Ho  
**“CoMUX: Combinatorial-Coding-Based High-Performance Microfluidic Control Multiplexer Design”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, October 2022
10. Duan Shen, Yushen Zhang, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Contamination-Free Switch Design and Synthesis for Microfluidic Large-Scale Integration”**  
*Design, Automation and Test in Europe (DATE)*, March 2022
11. Zhidan Zheng, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
**“ToPro: A Topology Projector and Waveguide Router for Wavelength-Routed Optical Networks-on-Chip”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2021
12. Tsun-Ming Tseng, Meng Lian, Mengchu Li, Philipp Rinklin, Leroy Grob, Bernhard Wolfrum, Ulf Schlichtmann  
**“Manufacturing Cycle-Time Optimization Using Gaussian Drying Model for Inkjet-Printed Electronics”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2021
13. Fangda Zuo, Mengchu Li, Tsun-Ming Tseng, Tsung-Yi Ho, Ulf Schlichtmann  
**“Relative-Scheduling-Based High-Level Synthesis for Flow-Based Microfluidic Biochips”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2021
14. Kanta Arisawa, Shigeru Yamashita, Tsun-Ming Tseng  
**“MRR Usage Optimization for WRONoC Topology Generation and Communication Parallelism Depending on Bandwidth Requirements”**  
*The 23rd Workshop on Synthesis And System Integration of Mixed Information technologies (SASIMI)*, March 2021
15. Moyuan Xiao, Tsun-Ming Tseng, Ulf Schlichtmann  
**“FAST: A Fast Automatic Sweeping Topology Customization Method for Application-Specific Wavelength-Routed Optical NoCs”**  
*Design, Automation and Test in Europe (DATE)*, February 2021
16. Zhidan Zheng, Mengchu Li, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Light: A Scalable and Efficient Wavelength-Routed Optical Networks-On-Chip Topology”**  
*IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, January 2021
17. Alexandre Truppel, Tsun-Ming Tseng, Ulf Schlichtmann  
**“PSION 2: Optimizing Physical Layout of Wavelength-Routed ONoCs for Laser Power Reduction”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2020



18. Mengchu Li, Tsun-Ming Tseng, Mahdi Tala, Ulf Schlichtmann  
**“Maximizing the Communication Parallelism for Wavelength-Routed Optical Networks-on-Chips”**  
*IEEE/ACM Asia and South Pacific Design Automation Conference (ASP-DAC)*, January 2020
19. Tsun-Ming Tseng, Mengchu Li, Yushen Zhang, Tsung-Yi Ho, Ulf Schlichtmann  
**“Cloud Columba: Accessible Design Automation Platform for Production and Inspiration”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2019
20. Tsun-Ming Tseng, Alexandre Truppel, Mengchu Li, Mahdi Nikdast, Ulf Schlichtmann  
**“Wavelength-Routed Optical NoCs: Design and EDA — State of the Art and Future Directions”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2019
21. Mengchu Li, Tsun-Ming Tseng, Yanlu Ma, Tsung-Yi Ho, Ulf Schlichtmann  
**“VOM: Flow-Path Validation and Control-Sequence Optimization for Multilayered Continuous-Flow Microfluidic Biochips”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2019
22. Alexandre Truppel, Tsun-Ming Tseng, Davide Bertozzi, José Carlos Alves, Ulf Schlichtmann  
**“PSION: Combining logical topology and physical layout optimization for Wavelength-Routed ONoCs”**  
*ACM/SIGDA International Symposium on Physical Design (ISPD)*, April 2019
23. Mengchu Li, Tsun-Ming Tseng, Davide Bertozzi, Mahdi Tala, Ulf Schlichtmann  
**“CustomTopo: A Topology Generation Method for Application-Specific Wavelength-Routed Optical NoCs”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2018
24. Tsun-Ming Tseng, Mengchu Li, Daniel Nestor Freitas, Amy Mongersun, Ismail Emre Araci, Tsung-Yi Ho, Ulf Schlichtmann  
**“Columba S: A Scalable Co-Layout Design Automation Tool for Microfluidic Large-Scale Integration”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2018
25. Mengchu Li, Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Component-Oriented High-Level Synthesis for Continuous-Flow Microfluidics Considering Hybrid-Scheduling”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2017
26. Tsun-Ming Tseng, Mengchu Li, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Columba: Co-Layout Synthesis for Continuous-Flow Microfluidic Biochips”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2016
27. Tsun-Ming Tseng, Bing Li, Ching-Feng Yeh, Hsiang-Chieh Jhan, Zuo-Min Tsai, Mark Po-Hung Lin, Ulf Schlichtmann  
**“Novel CMOS RFIC Layout Generation with Concurrent Device Placement and Fixed-Length Microstrip Routing”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2016
28. Mengchu Li, Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Sieve-valve-aware Synthesis of Flow-based Microfluidic Biochips Considering Specific Biological Execution Limitations”**  
*Design, Automation and Test in Europe (DATE)*, March 2016
29. Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Reliability-aware Synthesis for Flow-based Microfluidic Biochips by Dynamic-device Mapping”**  
*ACM/IEEE Design Automation Conference (DAC)*, June 2015

30. Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Post-Route Alleviation of Dense Meander Segments in High-Performance Printed Circuit Boards”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2013
31. Tsun-Ming Tseng, Bing Li, Tsung-Yi Ho, Ulf Schlichtmann  
**“Post-Route Refinement for High-Frequency PCBs Considering Meander Segment Alleviation”**  
*ACM Great Lake Symposium on VLSI (GLSVLSI)*, May 2013
32. Tsun-Ming Tseng, Mango C.-T. Chao, Chien-Pang Lu, Chen-Hsing Lo  
**“Power-Switch Routing for Coarse-Grain MTCMOS Technologies”**  
*IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, November 2009

*National Conference Proceedings:*

1. Yushen Zhang, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Ein kostengünstiges, tragbares Open-Source-Sensorboard mit drahtloser Kommunikation und Fluoreszenzdetektion zur farbmtrischen Detektion für mikrofluidische Anwendungen”**  
*VDE/VDI-GMM MikroSystemTechnik Kongress*, October 2021
2. Yushen Zhang, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Eine interaktive Design-Plattform für 3D-gedruckte mehrlagige Mikrofluidikchips mit Design-for-Manufacturing-Funktion”**  
*VDE/VDI-GMM MikroSystemTechnik Kongress*, October 2021
3. Yushen Zhang, Tsun-Ming Tseng, Ulf Schlichtmann  
**“Ein tragbares, automatisiertes All-in-One-Mikrofluidiksystem mit 3D-gedrucktem Chip und neuartigem Fluidsteuerungsmechanismus”**  
*VDE/VDI-GMM MikroSystemTechnik Kongress*, November 2021
4. Bing Li, Tsun-Ming Tseng, Tsung-Yi Ho, Ulf Schlichtmann  
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