



THUHANG BUI



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Fagului 32/19, Cluj-Napoca, Romania

ABOUT ME

I am active in modeling, simulating, designing, optimizing & fabricating CMOS material-based SAW transducers for microfluidics. In the past, I held a teaching assistant position at VNU-HN on DSP, electronics & MEMS technology. Given interests & academic background, I aim to take a part in research & development of compact, low-powered microelectronics components, sensor chips.

SKILLS

MEMS: Mask design, FEM, microfabrication process, SEM, AFM.

Semiconductor fabrication: Lithography, wet/plasma etching, thin film CVD, sputtering, furnace oxidation, dicing, wire-bonding.

Electronics: Network analyzer, oscilloscope, signal generators

Software: COMSOL, DesignSpark, Matlab, L-Edit, Visual basic, Visio, SketchUp 3D Design CAE Safety Simulation Engineer software.

RESEARCH INTERESTS

Sensor chip, Packaging, Acoustic waves, Piezoelectric, Microfluidic sensor based on transducer technology, MEMS microfabrication.

Experience

2019 – 5/2019: LECTURER

Fac. of Elects. and Telecoms., Uni. of Eng. and Tech., VNU–HN, VN.

2014 – 2018: RESEARCHER

Design, fabricate, and package SAW devices for liquid applications, TUDELFT, NL.

2011 – 2014: RESEARCHER, ASSISTANT LECTURER

FEM modeling and simulation for the optimized SAW structures, funded by the project “Liquid sensor system based on a SAW structure for smart inkjethead” (NAFOSTED’s FUNDING), UET, VNU-HANOI, VN.

2010: INTERSHIP

SCTP using fountain code in heterogeneous multi-homing networks, GIST, Korea.

7/2010: TRAINEE

GPS Navigation for HN map in Mekong Media Comp (NKM), VN.

2009 – 2010: WEB DESIGNER

Design and build up online computer-generated Vietnamese-Spanish Dictionary funded by Ministry of Science and Technology (MOST) of Vietnam, HUST, VN.

2005 – 2006: PROGRAMMER

Integrate local home devices based on VoIP, called “BK Smart Children Tracker” for the 17th Programming Contest in Japan.

EDUCATION

9/2014 – 11/2018: PHD CANDIDATE

Dept. of Microelectronics, Fac. EEMCS, Delft University of Technology, NL.

2011 – 2013: MASTER IN ELECTRONICS AND TELECOMMUNICATIONS

Fac. of Elects. and Telecoms., Uni. of Eng. and Tech., VNU–HN, VN.

2010: INTERNSHIP

Gwangju Institute of Science & Technology (GIST).

2005 – 2010: BACHELOR OF ENGINEERING

Fac. Elects. and Telecoms., Hanoi Uni. of Sci. and Tech.

AWARDS

2014: “Student Travel Grant” at 2014 IEEE Sensors Apps. Symposium, NZ.

2013: Toshiba scholarship.

2005-2010: Scholarships of Denso, DongHanh Funding, Shinko EN&M, Nextware Comp., AIC-JSC, MIC & Huawei Corp. for excellent students.

OTHERS

PERSONAL SKILLS

Swimming, climbing and badminton.

LANGUAGES

Vietnamese (Mother tongue), English (Fluent), Romanian, Japanese & Chinese (Basic).

PUBLICATIONS

JOURNAL

1. **ThuHang Bui**, Van Nguyen, Sten Vollebregt, Bruno Morana, Henk van Zeijl, Trinh Chu Duc, and Pasqualina M. Sarro, “Effect of Droplet Shrinking on Surface Acoustic Wave Response in Microfluidic Applications”, *Applied Surface Science*, 2017, DOI: <https://doi.org/10.1016/j.apsusc.2017.07.140>.
2. **ThuHang Bui**, Bruno Morana, Atef B. Akhnoikh, Trinh Chu Duc, and Pasqualina M. Sarro, “Liquid Identification by a Micro-electro-mechanical Interdigital Transducer”, *Analyst*, 2017, DOI: <http://dx.doi.org/10.1039/c6an01804a>.
3. **ThuHang Bui**, Bruno Morana, Tom Scholtes, Trinh Chu Duc, and Pasqualina M. Sarro “A mixing surface acoustic wave device for liquid sensing applications: Design, simulation, and analysis”, *Journal of Applied Physics*, 120, 074504 (2016), DOI: <http://dx.doi.org/10.1063/1.4961214>.
4. **Thu Hang Bui**, Tung Bui Duc and Trinh Chu Duc, “Microfluidic Injector Simulation with F-SAW Sensor for 3D Integration”, *IEEE Trans. on Instrumentation & Measurement*, Vol. 64, No. 4, pp. 849 - 856, Apr. 2015. DOI: 10.1109/TIM.2014.2366975, ISSN: 0018-9456.
5. **Thu Hang Bui**, Tung Bui Duc and Trinh Chu Duc, “An optimization of IDTs for surface acoustic wave sensor”, *Int. J. Nanotechnology*, 2015 Vol.12, No.5/6/7, pp.485 – 495, ISBN: 1475-7435.
6. **Bui Thu Hang**, Tran Duc Tan and Chu Duc Trinh, “Three-axis piezoresistive accelerometer with adjustable axial resolutions”, *Vietnam Journal of Mechanics*, ISSN: 0866 7136, vol. 34, no. 1, pp. 45-54, 2012.
7. **Bui Thu Hang**, Bui Duc Tung, Nguyen Tien Dat and Chu Duc Trinh, “Attenuation Coefficient for Surface Acoustic Waves in Fluid Region”, *Vietnam Journal of Mechanics*, ISSN: 0866 7136, vol. 34, no. 4, pp. 225-236, 2012.

CONFERENCE

1. **ThuHang Bui**, An Tran, Bruno Morana, Jia Wei, Trinh Chu Duc, Pasqualina M. Sarro, “Effect of the Interruption of the Propagation Path on the Response of Surface Acoustic Wave Transducers”, *IEEE-Sensors2016*, USA, Oct 30 – Nov 2, pp. 745-747.
2. **ThuHang Bui**, Bruno Morana, Trinh Chu Duc and Pasqualina M. Sarro, “A novel mixing surface acoustic wave device for liquid sensing applications”, 2016 IEEE 29th International Conference on Micro Electro Mechanical Systems (IEEE MEMS), China, ISBN: 978-1-5090-1973-1/16.
3. **ThuHang Bui**, Bruno Morana, An Tran, Tom Scholtes, Trinh Chu Duc and Pasqualina M. Sarro, “SAW device for liquid vaporization rate and remaining molecule sensing”, *IEEE-Sensors2015*, Korea, Nov. 1-4, ISBN: 978-1-4799-8203-5/15.
4. **Hang Bui Thu**, Tung Bui Duc and Trinh Chu Duc, Lina Sarro, “Associated IDTs in Surface Acoustic Wave Devices for Closed-loop Control Inkjet System”, *IEEE-Sensors2014*, Spanish, Nov. 3-5, pp. 1936-1939, ISBN: 978-1-4799-0162-3/14.
5. Tung Bui Duc, Nam Pham Hoai, **Hang Bui Thu**, Trinh Chu Duc, “Effect of the focused surface acoustic wave devices on the microfluidic channel”, *Proceedings of ICEMA 2014*, pp.221-225.
6. **Hang Bui Thu** and Trinh Chu Duc, “Microfluidic Injector Simulation with SAW Sensor for 3D Integration”, *IEEE-Sensors Applications Symposium 2014*, Queenstown, New Zealand, February 18-20, pp. 213-218, ISBN: 978-1-4799-2179-9/14.
7. **ThuHang Bui**, Trinh Chu Duc, “Focused surface acoustic wave devices for pressure sensing at inkjet nozzle”, *ISOME2014 symposium*, Tokyo, Japan.
8. **Hang Bui Thu**, Tung Bui Duc and Trinh Chu Duc, “An optimization of IDTs for surface acoustic wave sensor”, *Proceedings of IWNA 2013*, November 14-16, 2013, Vung Tau, Vietnam, pp. 159-162.
9. **Hang Bui Thu** and Trinh Chu Duc, “Multilayer SAW device for flow rate sensing in a microfluidic channel”, *IEEE-Sensors2013*, Maryland, USA, November 3-6, pp. 487-490, ISBN: 978-1-4673-4642-9/13.
10. **Thu-Hang Bui**, Dat Nguyen Tien, Tung Bui Duc and Trinh Chu Duc, “3-D Finite Element Modeling of SAW sensing system for liquids”, *IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics 2012*, Kaohsiung, Taiwan, July 11-14, pp. 782 – 787, ISSN: 2159-6247, Print ISBN: 978-1-4673-2575-2.
11. Tung Bui Duc, **Thu-Hang Bui**, Dat Nguyen Tien and Trinh Chu Duc, “R-SAW Analysis on Single-Crystal AlN Substrate for Liquid Sensors”, *Proceedings of ICEMA 2012*, August 16-17, 2012, Hanoi, ISBN: 978-604-913-097-7, pp. 13-18.