Surasak Kasetsirikul

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**EDUCATION**

**Master’s degree**, August 2014 – Present

Department of Mechanical Engineering, Chulalongkorn University, Thailand, Current GPA 4/4.

• Thesis topic: *A microfluidic system for separating Malaria-infected red blood cells using a magnet array.*

• Course Highlight: Measurement and Instrumentation, Tissue and Cell Engineering

**Bachelor degree**, June 2010 – March 2013

Department of Mechanical Engineering, Chulalongkorn University, Thailand, overall GPA 3.54/4.

• Senior Project topic: *A sorting of micro particle with microfluidic system.*

• Course Highlight: Micro Fabrication, MEMS/NEMS

**RESEARCH INTEREST**

• Microfluidics device for medical diagnosis focusing on determination of infectious disease in patient samples

• Develop an integrated microfluidics system for alternative disease diagnostic

**RELEVANT RESEARCH PROJECT**

**Microfluidic System for Microfilaria Detection,** March 2015 – August 2015

(Collaboration with faculty of veterinary medicine, Chulalongkorn University with Dr. Sariya Asawakarn and Dr. Prapruddee Piyaviriyakul)

• Design a microfluidic device for microfilaria detection by using hydrophoresis effect

• Compute a pressure distribution and flow profile for explaining the phenomena in a microfluidic device

**Cancer Stem Cell Theory,** June 2013 – April 2014

(Collaboration with faculty of veterinary medicine, Chulalongkorn University, with Assoc. Prof. Dr. Achariya Sailasuta and Dr. Prapruddee Piyaviriyakul)

• Design a microfluidic device for sorting cells by size with deterministic lateral displacement principles

• Test dielectrophoresis (DEP) principle for trapping cancer cells

• Compute a pressure distribution and flow profile for explaining the phenomena in a microfluidic device

**RESEARCH EXPERIENCE:**

**Research Internship**, September 2015 – December 2015

Lutz laboratory (Prof. Barry Lutz), Department of Bioengineering, University of Washington, The United States of America.

• Project topic: *Capturing and releasing DNA fragment by using streptavidin-coated membranes from urine*

• Study on DNA purification method in aspects of point-of-care diagnostic device

• Wet laboratory practice: serial dilution for fluorescence intensity measurement and ELISA

**Research Internship**, June 2015 – August 2015

BioMEMS laboratory (Prof. Sung Yung), Department of Medical System Engineering, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea.

• Bring master thesis to work as internship project

• Learn how to use facilities of clean room

**Engineering Internship (summer),** April 2012 – May 2012

Jardine Engineering Cooperation, the provider of engineering and building services and products across Asia region

• Prove calculation design of mechanical system in the commercial building.

• Study the construction site to gain experience about mechanical system in various types of building.

**TEACHING EXPERIENCE:**

**Teaching assistant**, January 2016 – April 2016

*Mechanical Laboratory and Experiment (Prof. Alongkorn Pimpin),* Department of Mechanical Engineering, Chulalongkorn University

**•** Coordinate between faculty members about materials

**•** Prepare laboratory instrument for laboratory session

**Teaching assistant**, January 2015 – April 2015

*Intro Lab-on-a-chip (Prof. Pahnit Seriburi)*, International School of Engineering, Chulalongkorn University

• Prepare workshop session in the topic of getting know what lab-on-a-chip is and works

• Prepare workshop session in the topic of experiencing flow in microchannel by observing mixing phenomena

• Check attendance

• Grade students’ homework and workshop assignment

**Teaching assistant**, January 2015 – April 2015

*Senior Project for Mechanical Engineering (Mechanical Engineering Faculty members*), Department of Mechanical Engineering, Chulalongkorn University

• Collate the score sheet and necessary documents from the faculty

• Hold the Mechanical Engineering Senior Project Exhibition by giving services to the faculty and senior students

**Teaching assistant**, August 2014 – December 2014

*Micro and Nano Electromechanical System (Prof. Alongkorn Pimpin),* International School of Engineering, Chulalongkorn University

• Check attendance

• Grade students’ homework

• Prepare workshop session in the topic of soft lithography

**Teaching assistant**, November 2013 – March 2014

*Micro and Nano Electromechanical System* *(Prof. Alongkorn Pimpin),* International School of Engineering, Chulalongkorn University

• Record video of micro fabrication about how to fabricate a PDMS microchannel by using soft lithography

• Check attendance

**Private physic tutor**, August 2010 – Present

• Teach physics for high school university admission in the field involving with science and technology

• More than 20 students succeed in getting admission to prestigious universities in Thailand

**LEADERSHIP AND VOLUNTEER EXPERIENCE:**

**Committee of Alumni football competition,** January 2016 – Febuary 2016

*Engineering Football Club Alumni, Faculty of Engineering, Chulalongkorn University*

• Organized a competition schedule by managing a team

• Coordinate between Faculty of Engineering, Football field and Alumni

**The president of football club,** June 2013 – March 2014

*Faculty of engineering, Chulalongkorn University*

• Managed a budget of over Baht 50,000 for developing training facilities and supporting football kits in all competitions including other supports for convenience

• Organized a competition schedule by managing a team

**Vice president of sport**, June 2013 – March 2014

*Engineering student council, Faculty of Engineering, Chulalongkorn University*

• Held engineering student intramural sports

• Coordinated with others universities to held sport events for engineering students

**Volunteer**, summer break (April – June) since 2011 – 2014

*Volunteer Engineering Student Camp (VESC), Faculty of engineering, Chulalongkorn University*

• 39th VESC camp, constructing a 40-meter concrete bridge at Surin province located in the north eastern part of Thailand.

• 40th VESC camp, constructing a 15-meter concrete bridge at Phijit province located in the central part of Thailand.

• 41st VESC camp, constructing a plumbing system providing for 2,000 houses at Sukhothai province in the northern part of Thailand.

• 42nd VESC camp, constructing a 30-meter concrete bridge at Kalasin province located in the north eastern part of Thailand.

**Academic staff**, October 2012

19th *Sangtian Camp, Chulalongkorn University*

• Participate in a Physics teacher

• Part of the recreational team for ice breaking along the whole camp

**Head of academic staff**, March 2013

20th *Sangtian Camp, Chulalongkorn University*

• Participate in a Physics teacher and also organize the study program

• Made the book for teaching

• Part of the recreational team for ice breaking along the whole camp

**Committee chairman** **of the Futsal competition**, December 2011 – April 2012

*Sri Ayudhya Alumni Futsal Champions League, Sri Ayudhya School*

• Referee in the competition

• Organized and drawn matches, and arranged all fixtures

• Coordinated with the school for using the futsal field in school

**President of student council,** May 2009 – March 2010

*Sri Ayudhya School, Bangkok, Thailand*

• Organized and supervised the whole students events and activities

**HONOR, AWARD, PRESENTATION, PUBLICATION:**

Saktip Uthongsap, **Surasak Kasetsirikul**, Werayut Sriturawanich, Sariya Asawakarn, Prapruddee Piyaviriyakul, Wutthinan Jeamsaksiri, Witsaroot Sripumkhai, Alongkorn Pimpin**,** “Microfilaria Filter Microfluidic Chip – Preliminary Study” proceeding 8th Biomedical Engineering International Conference (BMEICON 2015), 25-27 November 2015, Pattaya province, Thailand.

**Surasak Kasetsirikul**, Werayut Sriturawanich, Alongkorn Pimpin, “A numerical study on Motion of Malaria-infected Red Blood Cells under Electromagnetic Field in Microfluidic chip” proceeding 28th conference of the mechanical engineering network of Thailand (MENETT), 15-17 October 2014, Khon Kaen province, Thailand.

Receiving a fellowship, academic year 2014, by department of mechanical engineering, faculty of engineering, Chulalongkorn University.

Outstanding project award (2nd best senior project) 2014 by department of mechanical engineering faculty of engineering, Chulalongkorn University.

**OTHER INTERESTS AND SKILLS:**

Good command of both spoken and written in English.

Proficient in several computer skills: basic office, COMSOL, MATLAB.

**REFERENCES:**

Provided upon request.