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Casmika Saputra, M.Si

Fast Learner, Loyal, Integrity and Diligence

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<https://scholar.google.co.id/citations?user=1UxNRxUAAAAJ>

https://www.researchgate.net/profile/Casmika_Saputra

H-Indexed: 2 (Scopus), 3 (Google Scholar)

Documents: 6 (Scopus), 7 (Google Scholar)

Education

- 2018 – present* **Bandung Institute of Technology**
Doctoral Programme in Physics
Bandung, Indonesia
- 2017 – 2018* **Bandung Institute of Technology**
Graduate Programme in Physics
GPA **3.83** on 4.00 scale – Cum Laude
Bandung, Indonesia
- 2012 – 2016* **Bandung Institute of Technology**
Undergraduate Programme in Physics
GPA **3.63** on 4.00 scale – Cum Laude
Bandung, Indonesia
- 2009 – 2012* **SMA N 1 Anjatan**
Indramayu, Jawa Barat, Indonesia
- 2006 – 2009* **SMP N 1 Anjatan**
Indramayu, Jawa Barat, Indonesia
- 2000 – 2006* **SD N Anjatan Utara 1**
Indramayu, Jawa Barat, Indonesia

Thesis

B.Sc. in Physics (Cum Laude), Institut Teknologi Bandung, Indonesia (Advisor: Dr.Eng. Muhammad Miftahul Munir and Prof. Dr.Eng. Khairurrijal). Title: Humidity and Temperature Control System Design (Simulation, Experiment, Implementation, Control Optimization) and Its Application on Mushroom Cultivation (In Indonesian).

M.Sc. in Physics (Cum Laude), Institut Teknologi Bandung, Indonesia (Advisor: Prof. Drs. Abdul Waris, M.Eng., Ph.D. and Dr.Eng. Muhammad Miftahul Munir). Title: Pulse Height Analyzer (PHA) Development and Its Application (In Indonesian).

Teaching Experience

- 2020 **Engineering Thermodynamics**
Odd Semester 2020/2021
- 2020 **Engineering Mathematics 2**
Even Semester 2019/2020
- 2020 **Physics 2**
Even Semester 2019/2020

Research Experience

- 2020 – present **Research Assistant**
World Class Research (WCR) Research Grant, Research on Nanofiber Membrane Fabrication with the Constant-Current Electrospinning Method for Bio-Aerosol Filter Applications (Principal Investigator: Dr.Eng. Muhammad M. Munir; Investigator: Prof. Dr.Eng. Khairurrijal)
- 2020 – present **Research Assistant**
Penelitian Terapan (PT) Research Grant, Research on Developments of Portable Pollution Level Measuring Instrument for Monitoring Exposure to Pollution and its Impact on Health (Principal Investigator: Dr.Eng. Muhammad Miftahul Munir; Investigator: Prof. Dr.Eng. Khairurrijal)
- 2020 – present **Research Assistant**
Penelitian Terapan Unggulan Perguruan Tinggi (PTUPT) Research Grant, Research on Nanofiber Membrane Fabrication with Needleless Electric Spinning Method for Air Mask Applications (Principal Investigator: Dr.Eng. Muhammad Miftahul Munir; Investigator: Prof. Dr.Eng. Khairurrijal)
- 2018 – 2020 **Research Assistant**
Penelitian Pendidikan Magister menuju Doktor untuk Sarjana Unggul (PMDSU) Research Grant, Research on Developments of Electrical Mobility Spectrometer Systems for Nuclear Aerosol and Air Pollution Measurement

(Principal Investigator: Prof. Drs. Abdul Waris, M.Eng., Ph.D.; Investigator: Dr.Eng. Muhammad M. Munir)

2015 – 2016 Research Assistant

Community Services Grant on the application of humidity and temperature control technology to increase productivity of community mushroom cultivation. (Principal Investigator: Dr.Eng. Muhammad Miftahul Munir; Investigator: Prof. Dr.Eng. Khairurrijal)

2015 – 2016 Research Assistant

Riset Unggulan ITB Research Grant, Research on Developments of Landslide Early Warning System, (Principal Investigator: Prof. Dr.Eng. Khairurrijal; Investigator: Dr.Eng. Muhammad M. Munir, Prof. Masyhur Irsyam, Ph.D.)

2014 – 2017 Research Projects

Designing and Developing of Pendant Drop Tensiometry, Sessile Drop Contact Angle, Falling Head Water Permeability Test, Porometer, Humidifier, Water Lever Image-Based Processing, Low Cost Microcontroller-Based Concentric Cylinders Viscometer, Humidity and Temperature Control Technology, Landslide Early Warning System, Hypothermia Prevention Watches, Soil Moisture Sensor.

Scholarships & Awards

2017 – present Penelitian Pendidikan Magister menuju Doktor untuk Sarjana Unggul (PMDSU)

Kementerian Riset, Teknologi, dan Pendidikan Tinggi Republik Indonesia

2012 – 2016 Bidikmisi

Kementerian Riset, Teknologi, dan Pendidikan Tinggi Republik Indonesia

2018 Graduation with Distinction (Cum Laude)

Bandung Institute of Technology, Physics
Bandung, Indonesia

2016 Graduation with Distinction (Cum Laude)

Bandung Institute of Technology, Physics
Bandung, Indonesia

2013 Dean List

Bandung Institute of Technology, Physics
Bandung, Indonesia

Skills & Interests

Skills **Programming Language:** C, C++, C#, Matlab, PHP, CodeIgniter, Processing, Processingjs, and P5js.

Integrated Development Environment (IDE): Visual Studio, Arduino, and CodeVisionAVR.

Microcontroller and Interfacing

Control and Data Logging

Interests **Physics Instrumentation & Analytical Instrumentation:** Optical Spectrometer, Electrical Aerosol Spectrometer, Mass & ion spectrometer, current-voltage measurement, Porometer, Water Flux, Contact Angle measurement, Spinning Drop Tensiometer, Aerosol Filtration test, etc;

Aerosol Science and Technology: Atmospheric Aerosol Measurement, Aerosol Instrumentation, Aerosol Generator and Spectrometer, Air Pollution & Control, Particulate Matter, Ion Spectrometer, Atmospheric Nucleation, and Ion-Induced Nucleation.

Instrumentation for Early Warning System: Tsunami, earthquake, volcano, landslide, flood; Telemetry & Control; Sensing materials and Sensors; Microcontroller, Microprocessor & Interfacing; Data Logging and Internet of Thing (IoT); Instrumentation for Education.

Nuclear Science and Technology: MSR loop, Freezing Valve, Thermal-hydraulics, Nuclear Instrumentation

International Journal Publications

Casmika Saputra, Muhammad Miftahul Munir, Abdul Waris: *Digital pulse analyzer for simultaneous measurement of pulse height, pulse width, and interval time on an optical particle counter.* Measurement Science and Technology (2020) 31 (6), 065901

Rahmat Awaludin Salam, Muhammad Miftahul Munir, Thariq Warsahemas, **Casmika Saputra**, Hamzah Latief, Khairurrijal Khairurrijal: *A simple solar simulator with highly stable controlled irradiance for solar panel characterization.* Measurement and Control (2019) 52 (3-4), 159-168

Dian Ahmad Hapidin, **Casmika Saputra**, Dian Syah Maulana, Muhammad Miftahul Munir, Khairurrijal Khairurrijal: *Aerosol Chamber Characterization for Commercial Particulate Matter (PM) Sensor Evaluation.* Aerosol and Air Quality Research (2018) 19 (1), 181-194

International Conference Proceedings

Dian Ahmad Hapidin, Widya Sinta Mustika, **Casmika Saputra**, Dian Syah Maulana, Khairurrijal Khairurrijal, Ferry Iskandar, Muhammad Miftahul Munir: *Applying Pulse Height Analysis (PHA) Technique on an Optical Particle Counter (OPC) using Commercial ADC Module.* Materials today: proceedings (2019) 13, 252-257

Akmal Zulfi, Dian Ahmad Hapidin, **Casmika Saputra**, Widya Sinta Mustika, Muhammad Miftahul Munir, Khairurrijal Khairurrijal: *The Synthesis of Fiber Membranes from High-Impact Polystyrene (HIPS) Waste using Needleless Electrospinning as Air Filtration Media.* Materials today: proceedings (2019) 13, 154-159

Rahmat Awaludin Salam, **Casmika Saputra**, Elfi Yuliza, Irwan Meilano, Muhammad Miftahul Munir, Hamzah Latief, Khairurrijal: *Development of a simple low-scale solar simulator and its light distribution*. 2016 International Conference on Instrumentation, Control and Automation (ICA) (2016) 7811470, 28-31

Ali Akbar, **Casmika Saputra**, Muhammad Miftahul Munir, Khairurrijal: *Design and Implementation of Automatic Air Flow Rate Control System*. Journal of Physics Conference Series (2016) 739 (1), 012011

Patents

Muhammad Miftahul Munir, Khairurrijal, Akmal Zulfi, **Casmika Saputra**. 2020. *Pabrikasi Membran Serat Filter Udara dari Limbah High Impact Polysyrene (HIPS) dengan Metode Pemintalan Elektrik Tanpa Jarum*. Paten Indonesia (Registration Number: P00201907094).

Khairurrijal, Muhammad Miftahul Munir, Ahmad Fauzi, **Casmika Saputra**. 2019. *Pembuatan Serat dari Limbah Styrofoam Menggunakan Alat Sentrifugal*. Paten Indonesia (Registration Number: P00201805595).

Muhammad Miftahul Munir, Dian Ahmad Hapidin, Khairurrijal, **Casmika Saputra**. 2019. *Sistem Kontrol Volume Cairan untuk Atomizer*. Paten Indonesia (Registration Number P00201805604).

Khairurrijal, Muhammad Miftahul Munir, Ahmad Fauzi, **Casmika Saputra**, Dian Ahmad Hapidin. 2019. *Sistem Spinneret Alat Rotary Forcespinning untuk Produksi Serat*. Paten Indonesia (Registration Number: P00201807579).

Khairurrijal, Muhammad Miftahul Munir, **Casmika Saputra**, Ahmad Fauzi, Dian Ahmad Hapidin. 2019. *Alat Ukur Terpadu Sudut Kontak dan Tegangan Permukaan*. Paten Indonesia (Registration Number: P00201807580)

International Meetings

Saputra, C., Waris, A.: The Development of Miniature Nuclear Reactor Props as a Learning Media. The 19th International Conference on Emerging Nuclear Energy Systems (ICENES 2019). October 6 - 9, 2019, Bali, Indonesia.

Saputra, C., Waris, A., Wulandari, C., Permana, S., and Bindar, Y.: Thermal-hydraulics Analysis of Simple Apparatus for MSR Loop. International Conference on Advances in Nuclear Science and Engineering (ICANSE 2018). November 29 - 30, 2018, Bandung, Indonesia.

Fadhlika, M., **Saputra, C.**, Fauzi A., Munir, M.M., and Khairurrijal: Flux and Permeability Test System Using Falling-head Method for Water Filtration Performance. The 2017 International Seminar on Sensors, Instrumentation, Measurement, and Metrology (ISSIMM 2017). August 25 - 26, 2017, Surabaya, Indonesia.

Saputra, C., Salam, R.A., Aryantha I N.P., Munir, M.M., and Khairurrijal: Humidity and Temperature Control to Enhance the Mushrooms Cultivation. The 2nd International Conference on Rural

Development and Community Empowerment (Endinamosis 2017). November 2 – 4, 2017, Bandung, Indonesia.

Saputra, C., Fauzi A., Nuryantini, A.Y., Munir, M.M., and Khairurrijal: Application of Concentric Cylinders Viscometers (CCV) as Comprehensive Props to Improve the Quality of Physical Education in High School. The 2nd International Conference on Rural Development and Community Empowerment (Endinamosis 2017). November 2 – 4, 2017, Bandung, Indonesia.

Saputra, C., Fauzi A., Munir, M.M., and Khairurrijal: Design and Development of Microcontroller- Based Capillary Flow Porometry (CFP) for Filter Characterization. International Conference on Inovative Research in Science (ICIRSTM 2017). September 16 – 17, 2017. Singapore.

Saputra, C., Munir, M.M., and Khairurrijal: Observation of the Spread of Water Mist and Its Simulation. Engineering Physics International Conference (EPIC 2016). September 7 - 10, 2016, Bandung, Indonesia.

Saputra, C., Walio, F., Munir, M.M., and Khairurrijal: Low Cost Concentric Cylinders Viscometer based Microcontroller. The 6th Asian Physics Symposium (APS 2015). August 19 - 20, 2015, Bandung, Indonesia.

National Meetings

Saputra, C., Munir, M.M., and Khairurrijal: Model Tanggapan Pelembapan dan Pengeringan Sensor SHT11. Seminar Material, Instrumentasi, Pembelajaran, dan Aplikasinya (SEMIPA 2016). November 5, 2016, Bandung, Indonesia.

Saputra, C., Hendro, & Sandy, J.A.: Rancang Bangun Instrumen Akuisisi Data Kadar Air Tanah Menggunakan Arduino Uno Berbasis Perangkat Lunak Processing. Simposium Nasional Inovasi Pembelajaran dan Sains (SNIPS 2014). June 10 – 11, 2014, Bandung, Indonesia

Organization Experience

2019 **Committee**

International Conference on Emerging Nuclear Energy Systems (ICENES 2019)

2018 **Committee**

International Conference on Advances in Nuclear Science and Engineering (ICANSE 2018)

2017 **Committee**

7th Asian Physics Symposium (APS 2017)

2015 – 2016 **Head Coach of ITB Scouting (Pramuka ITB)**

Bandung Institute of Technology

Bandung, Indonesia

2014 – 2015 **Coach of ITB Scouting (Pramuka ITB)**

Bandung Institute of Technology

- Bandung, Indonesia
- 2013 – 2014 **Chief Scouts of ITB Scouting (Pramuka ITB)**
Bandung Institute of Technology
Bandung, Indonesia
- 2012 – *present* **Member** of Alumni Association (Ikatan Alumni SMAN 1 Anjatan)
- 2012 – 2017 **Member** of ITB Scouting (Pramuka ITB)