



## Muhammad Reza Kahar Aziz, S.T., M.T., Ph.D.

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Assistant Professor of Electrical Engineering (Geolocation and Wireless Communications)  
Institut Teknologi Sumatera (ITERA)  
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### SHORT BIOGRAPHY

Muhammad Reza Kahar AZIZ was born in Bandar Lampung, Indonesia in 1981. He received Bachelor and Master (Cum Laude) degrees, in 2004 and 2012, respectively, from Electrical Engineering (Telecommunications), Institut Teknologi Bandung (ITB), Bandung, Indonesia. His PhD in Information Science degree was obtained from Japan Advanced Institute of Science and Technology (JAIST), Ishikawa, Japan, in 2016.

In 2004 — 2005, Dr. Reza was a Microwave Radio Service Engineer, Siemens Indonesia. Then, he had been with Ericsson Indonesia as Broadband Solution Engineer in 2005 – 2010. After that, he served as Teaching Assistant in ITB and Adjunct Lecturer in Institut Teknologi Telkom / Telkom University (ITT/Tel-U) in 2011. He was a part time researcher as project worker of Geolocation for Illegal Radio Wave Emitter (GOLLERA) funded by Kodan Electronics, Co., Ltd. in JAIST. Since 2012, he has joined Electrical Engineering Department, Institut Teknologi Sumatera (ITERA), Lampung, Indonesia as a Lecturer. Then, he was promoted as Assistant Professor in 2020.

Dr. Reza received top performer award of Ericsson Indonesia employee in 2009, ITB Voucher Scholarship in 2011, JAIST Graduate Research Program (GRP) and Doctor Research Fellow (DRF) in 2013 — 2016, Best Paper Award in Asia Modelling Symposium (AMS) 2015, Malaysia, JAIST Foundation Research Grant for Students for attending the European Wireless Conference 2016 in Oulu, Finland, Best Paper Award in Symposium of Future Telecommunication and Technologies (SOFTT) 2018, Indonesia, and IEEE Journal Award by IEEE Indonesia Section in 2020 and 2021.

In 2017 - 2018, he received received three research grants from ITERA in 2017 and 2018 as principle and co investigators. He has more than 30 scientific contributions including 9 journals, 4 Japan patents (3 grants), a newsletter, 13 conference proceedings, 3 theses, 2 books, and a white paper with 105 citations and h-index of 6 in Google Scholar and h-index of 4 in Scopus. He is currently a IEEE member for Communications Society, Information Theory Society, and Vehicular Technology Society. He is also serving as a TPC member and a reviewer to various international and national conferences and journals, e.g., IEEE ICC, IEEE Globecom, IEEE VTC, IEEE Access, IEEE TVT, etc., with total 166 verified reviews by Publons. He is also a Reviews Editor in Frontiers in Communications and Networks.

### RESEARCH KEYWORDS

Wireless geolocation/localization, factor graph, mobile communications, microwave, electromagnetic, THz communications, quantum communications, channel coding,

information theory, IoT, smart grid, TOA, DOA, DRSS, TDOA, RSS, inverter, antenna and propagation.

## EDUCATION

### PhD Degree

April 2013 - June 2016

- **Japan Advanced Institute of Science and Technology (JAIST)**
- Information Theory and Signal Processing Laboratory, School of Information Science, 1-1 Asahidai, Nomi, Ishikawa, 923-1292 JAPAN
- Doctor of Philosophy (Ph.D.) in Information Science (Telecommunication)
- Dissertation: "Factor Graph-based Geolocation Techniques for Position Detection of Unknown Radio Wave Emitters"
- Supervisor: Prof. Tad Matsumoto
- Co-Supervisors: Asct. Prof. Brian Michael Kurkoski, Asst. Prof. Khoirul Anwar, Asct. Prof. Yuto Lim (Minor Research Supervisor)
- Dissertation Reviewer and Defense Examiner Committee: Prof. Jun-ichi Takada (Tokyo Institute of Technology), Prof. Takeo Ohgane (Hokkaido University), Asct. Prof. Xiaobo Zhou (Tianjin University), Asct. Prof. Brian Michael Kurkoski (JAIST), and Asct. Prof. Yuto Lim (JAIST)

### Master Degree

August 2010 - July 2012

- **Institut Teknologi Bandung (ITB)**
- Electrical Engineering (Telecommunication), School of Electrical and Informatics Engineering, Jl. Ganesha 10, Bandung, Jawa Barat, INDONESIA
- Magister Teknik (M.T.) / Master of Science (M.Sc.) in Electrical Engineering (Telecommunication)
- *Cum Laude* with GPA of 3.82/4.00
- Thesis: "Estimasi Kanal Downlink LTE pada Sistem High Altitude Platforms (HAPs) [*LTE Downlink Channel Estimation in High Altitude Platforms (HAPs) Systems*]"
- Research Supervisor: Asct. Prof. Iskandar
- Academic Supervisor: Asct. Prof. Tutun Juhana
- Thesis Examiner Committee: Prof. Andriyan Bayu Suksmono, Asct. Prof. Adit Kurniawan, and Asct. Prof. Nana Rachmana

### Non Degree

July 2005 - September 2005

- **Mercator Summer School**
- Join program between University of Duisburg Essen (UDE), GERMANY, and Universitas Indonesia (UI), INDONESIA
- Place : Depok Campus of UI

### Bachelor Degree

August 1999 - July 2004

- **Institut Teknologi Bandung (ITB)**
- Electrical Engineering (Telecommunication), Faculty of Industrial Technology, Jl. Ganesha 10, Bandung, Jawa Barat, INDONESIA
- GPA of 3.22/4.00
- Thesis: "Studi Aplikasi Stream Control Transmission Protocol (SCTP) pada Signaling SIP [*Study of Stream Control Transmission Protocol (SCTP) Application for SIP Signalling*]"

- Research Supervisor: Asst. Prof. Ian Joseph Matheus Edward
- Academic Supervisor: Asst. Prof. Kuspriyanto
- Thesis Examiner Committee: Asst. Prof. Suhartono Tjondronegoro, Asst. Prof. Adit Kurniawan, and Asst. Prof. Tutun Juhana

**High School** **1996 - 1999**

- **SMUN 2, Bandar Lampung, Indonesia**
- Best Role Model Student, Chemistry and Physic Olympiad Participant

**Junior High School** **1993 - 1996**

- **SMPN 2, Bandar Lampung, Indonesia, 1994 - 1996**
- **SMPN 1, Kedaton, Bandar Lampung, Indonesia, 1993**

**Elementry School** **1987 - 1993**

- **SDN 2 Teladan, Rawa Laut, Bandar Lampung, Indonesia**

**Kindergarten** **1985 - 1987**

- **TK PTP X, Bandar Lampung, Indonesia, 1986 - 1987**
- **TK Dharma Wanita UNILA, Bandar Lampung, Indonesia, 1985**

**EXPERIENCES**

*Assistant Professor* October 2020 - Present

*Lecturer* December 2012 - September 2020

Electrical Engineering Department, Institut Teknologi Sumatera, Lampung Selatan, Indonesia

- Teaching courses: Digital Signal Processing, Signal and System, Communications System, Probabilistic and Statistics, Introduction of Information Technology, Discrete Structure, Engineering Mathematics, Instrumentation Systems, and Electric Circuit
- Undergraduate final project supervisor for 6 students and co-supervisor for 18 students
- Academic supervisor of 79 students
- Providing scientific speech (orasi ilmiah) in welcoming new students in 2016

*Secretary of Science Faculty* June 2016 - January 2017

Institut Teknologi Sumatera, Lampung Selatan, Indonesia

*Part Time Researcher* October 2012 - June 2016

Information Theory and Signal Processing Lab., School of Information Science, JAIST, Nomi, Japan

- Project Worker of Geolocation for Illega Radio Wave Emitter (GOLLERA) funded by Kodan Electronic, Co., Ltd.
- Graduate Research Program (GRP) in April - September 2013
- Doctor Research Fellow (DRF) in October 2013 - March 2016

*Adjunct Lecturer* August 2011 - January 2012

Electrical Engineering, Institut Teknologi Telkom (ITT) / Former of Telkom University (Tel-U), Bandung, Indonesia

- Teaching two courses: Electric Circuit, Complex Variable

*Teaching Assistant* September - December 2011  
Telecommunication Engineering, STEI, Institut Teknologi Bandung (ITB), Bandung, Indonesia

- Digital Signal Processing, Antenna and Propagation

*Laboratory Assistant* 2011  
Microwave and Radio Telecommunication Laboratory, Telecommunication Engineering, STEI, Institut Teknologi Bandung (ITB), Bandung, Indonesia

- Teaching one course: Analog Communication System

*Solution Engineer for Broadband Network, Transmission, and Transport* November 2005 - July 2010

Ericsson Indonesia, Jakarta, Indonesia

- One month of Engagement Practice for Mobile Broadband (MBB) in Region South East Asia and Oceania (RASO), elite team, July 2010
- Promoted as Microwave Community MUSEA Champion from Indonesia in end of 2008.
- Promoted to Solution Engineer 2 in the middle of year 2008
- Microwave Leader in Solution Team of Ericsson Indonesia.
- Solution Responsible mainly for Microwave Product such as MINI-LINK TN, E, HC, Marconi Long Haul, PDH/SDH/Ethernet and Mobile Backhaul, Mobile Broadband.
- Other products to support and learning are Optical (OMS 800, 1200, 1400, 1600, 2400, 3200 (DXC), MHL3000 (DWDM)) and Broadband Access (EDA1200, 1500 (GPON), 2500 (MSAN))
- Main Job Description:
  - Making Transport and Transmission design, BoQ and Technical Solution Proposal for Bidding purpose and pricing
  - Doing updated product knowledge presentation for customer
  - Knowing deeply every transport and transmission detail product as reference for another engineer
  - Technical Sales Support
  - Making Bill of Quantity for Ordering and Pricing using Excel and Verdi
  - Support and Technical Education for Customer, Account Manager, Transmission Network Design Engineer, Project Team, Pricing Team and Logistic Team
  - Response Solution for RFI, RFP, RFQ
  - Create Master Plan of Microwave and NMS for customer in 3-4 Years
  - Competitor Analysis and Business Intelligence
  - Product Knowledge and Update Presentation to Staff up to High Level Management
  - Presentation in Bahasa and English, small forum up to big forum meeting
  - Workshop and Training Product Overview, Product Knowledge
- Achievement in Ericsson Indonesia:
  - Lead the Migration Solution Design from PDH Microwave Network to Ethernet Microwave Network in two Big Operator Indonesia
  - Lead Several MINI-LINK E, TN Microwave Solution Design for Tender and New Contract Roll Out for many Operators in Indonesia
  - Lead Master Plan of Microwave Network for 3 Years
  - Top performer employee

*Service Engineer for Microwave Radio Point to Point* October 2004 - September 2005

PT. Dian Graha Electrical and PT. Siemens Indonesia (Outsourcing or Extention), Jakarta, Indonesia

- 6 Month Implementation of MW: Commissioning and Trouble Shooting PDH Radio as SRAL and SRAL XD, Backbone SDH Radio SRT 1 F. Training SDH Radio SRA 4. Since March 2005 involved to Microwave Project Management as Project Controller for Roll Out Tinem Project Telkomsel with Ericsson as third party
- Coordinating with Transmission Network Planning (TNP) for deciding Far End, Equipment Type, Link Route to BSC and making Work Order for Ericsson
- to Ericsson and Sub Contractor Coordinating with Sales Team for making forecast and target on air decision
- Coordinating as third party for controlling Delivery and Installation progress
- Checking BAST
- Random Site Visit Installation Supervision

*Internship* 2003

PT. TRG International Research Group, Bandung, Indonesia

- One month internship of installing red hat linux kernel

*Internship* 2003

PT. Indosat, Jakarta, Indonesia

- One month internship

*Laboratory Asisstant* 2002

Telematics Laboratory, Electrical Engineering Department, Institut Teknologi Bandung (ITB), Bandung, Indonesia

## BUDGET ACQUISITIONS

1. Principle Investigator, Mandiri Grant of Institut Teknologi Sumatera, 20,000,000 IDR, *CRLB Derivation for Energy Efficient of RSS and DRSS-Based Factor Graph Wireless Geolocation*, 2017.
2. Co-Investigator, Mandiri Grant of Institut Teknologi Sumatera, 20,000,000 IDR, *Sistem Monitoring Energi Listrik berbasis Internet of Things Menuju Smart Campus di Institut Teknologi Sumatera (ITERA)*, 2017.
3. Co-Investigator, Smart Grant of Institut Teknologi Sumatera, 50,000,000 IDR, *Implementasi Teknologi Smart-Room berbasis Internet of Things (IoT) di lingkungan Institut Teknologi Sumatera menuju Smart-Campus*, 2018.

## PATENTS

1. Shofiyati Nur Karimah, **Muhammad Reza Kahar Aziz**, and Tad Matsumoto, "Estimation method and estimating apparatus using the same (Joint TDOA and DRSS Based Geolocation with Factor Graph)," Original Assignee: Koden Electronics, Co., Ltd., Register: 2017-03-08, No. JP2017043625A, Application: 2018-09-20, No. JP201814647, Japan Patent.
2. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "Estimation method and estimating apparatus using the same (DRSS-based Factor Graph Wireless Geolocation)," Original Assignee: Koden Electronics, Co., Ltd., Register: 2015-07-10, No. JP201513900, Application: 2017-01-26, No. JP2017020910A, Grant: 2018-12-05, No. JP6433386B2, Japan Patent.
3. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "Estimation method and estimating apparatus using the same (TDOA-based Factor Graph Wireless Geolocation with Pythagorean Function)," Original Assignee:

Koden Electronics, Co., Ltd., Register: 2014-11-07, No. JP2014227152A, Application: 2016-05-23, No. JP2016090471, Grant: 2018-09-26, No. JP6765B2, Japan Patent.

4. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "Estimation method and estimating apparatus using the same (Joint DOA and RSS Factor Graph Wireless Geolocation Technique with Weighting Factor)," Original Assignee: Koden Electronics, Co., Ltd., Register: 2013-10-30, No. JP2013225824A, Application: 2015-05-07, No. JP2015085A, Grant: 2018-02-28, No. JP6286182B2, Japan Patent.

## HONORS AND AWARDS

1. **IEEE Journal Award** given by IEEE Indonesia Section, 2020 – 2021
2. **Best Paper Award: Muhammad Reza Kahar Aziz**, Heriansyah, Efa Maydhona Saputra, Anita Pascawati, and Ardiansyah Musa, "CRLB for DRSS-based Factor Graph of Wireless Geolocation," 2nd Symposium of Future Telecommunication and Technologies (SOFTT2018), Telkom University, Bandung, Indonesia, 21 – 22 December 2018
3. **Travel Grant Award: Muhammad Reza Kahar Aziz**, JAIST Foundation Research Grants for Students, Attending European Wireless Conference, Oulu, Finlandia, 2016
4. **Best Paper Award: Muhammad Reza Kahar Aziz**, Yuto Lim, and Tad Matsumoto, "A New Wireless Geolocation Technique Using Joint RSS-based Voronoi and Factor Graph," 9th Asia Modelling Symposium (AMS2015), 7 – 9 September 2015, Kuala Lumpur, Malaysia
5. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto. Selected Technical Document (TD) out of 87 TD in 6th MC and Scientific Meeting Cost IC1004, Malaga, Spain, 2013, for COST IC004 Newsletter, 2013
6. **Doctor Research Fellow (DRF)**, JAIST, Nomi, Japan, October 2013 – March 2016
7. **Graduate Research Program (GRP)** for Doctor Student, JAIST, Nomi, Japan, April – September 2013
8. **Cumlaude**, Master Degree, STEI, Electrical Engineering, ITB, Bandung, Indonesia, 2012
9. **ITB Voucher Scholarship**, Bandung, Indonesia, 2011 – 2012
10. **Top Performer Employee** of Ericsson Indonesia, Jakarta, Indonesia, 2009
11. 2nd **Best Male Role Model** High School Student in Bandar Lampung City, Indonesia, 1998
12. Olympiad of Physics and Chemistry, Representative of SMUN 2 Bandar Lampung, 1998

## PUBLICATIONS IN JOURNALS

1. Carlos de Lima, Didier Belot, Rafael Berkvens, Andre Bourdoux, Davide Dardari, Maxime Guillaud, Minna Isomursu, Elana-Simona Lohan, Yang Miao, Andre Noll Barreto, **Muhammad Reza Kahar Aziz**, Jani Saloranta, Tachporn Sanguanpuak, Hadi Sameddeen, Gonzalo Seco-Granados, Jaakko Suutala, Tommy Svensson, Mikko Valkama, Barend van Liempd, and Henk Wymeersch, "Convergent communication, sensing and localization in 6G systems: An overview of technologies, opportunities and challenges," *IEEE Access*, Vol. 9 (2021), pp. 26902 – 26925, 21 January 2021, DOI 10.1109/ACCESS.2021.3053486, Scopus Q1, WoS IF 3.745

2. Mohammad Anthoni, Rheyuniarto Sahlendar Asthan, Anita Pascawati, Dick Maryopi, **Muhammad Reza Kahar Aziz**, "Perancangan dan Simulasi Antena Mikrostrip MIMO 4x4 Rectangular Patch dengan Double U-Slot dan DGS pada Frekuensi 26 GHz untuk Aplikasi 5G," *Journal of Science and Applicative Technology (JSAT)*, accepted in January 2021
3. Meng Cheng, Muhammad Reza Kahar Aziz, and Tad Matsumoto, "Integrated Factor Graph Algorithm for DOA-based Geolocation and Tracking," *IEEE Access*, Vol. 8 (2020), pp. 49989 – 49998, 09 March 2020, DOI 10.1109/ACCESS.2020.2979510, Scopus Q1, WoS IF 3.745
4. Ardiansyah, Yonghoon Choi, **Muhammad Reza Kahar Aziz**, and Deokjai Choi, "Latency-Optimal Network Intelligence Utilization in SDN/NFV-enabled Energy Internet Communication Network," *IEEE Access*, Vol. 8 (2019), pp. 4485-4499, 30 December 2019, DOI 10.1109/ACCESS.2019.2963139. Scopus Q1, WoS IF 3.745
5. Meng Cheng, **Muhammad Reza Kahar Aziz**, and Tad Matsumoto, "A DOA-based Factor Graph Technique for 3D Multi-target Geolocation", *IEEE Access*, Vol. 7 (2019), pp. 94630-94641, 15 July 2019, DOI 10.1109/ACCESS.2019.2928851. Scopus Q1, WoS IF 3.745
6. Jauhar Ismiyadinata, Harry Yuliansyah, **Muhammad Reza Kahar Aziz**, and Arief Syaichu Rohman, "Desain dan Implementasi Inverter Satu Fasa 400 Watt dengan Metode High Frequency Switching," *Journal of Science and Applicative Technology (JSAT)*, Vol. 3, No. 1 (2019), 9-16, 2581-0545, 23 August 2019, SINTA-4.
7. Anita Pascawati, Pavel Hazdra, Tomas Lonsky, and **Muhammad Reza Kahar Aziz**, "Excitation of a Conducting Cylinder Using the Theory of Characteristic Modes," *Roadioengineering*, Vol. 27, No. 4, pp. 956 – 960, December 2018, DOI: 10.13164/re.2018.0956
8. **Muhammad Reza Kahar Aziz**, Yuto Lim, and Tad Matsumoto, "A New RSS-based Wireless Geolocation Technique Utilizing Joint Voronoi and Factor Graph," *International Journal of Simulation: Systems, Science and Technology (IJSSST)*, Vol. 17, No. 36, pp. 9.1 – 9.9, September 2016, United Kingdom Simulation Society
9. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "A new DOA-based factor graph geolocation technique for detection of unknown radio wave emitter position using the first-order Taylor series approximation," *EURASIP Journal on Wireless Communications and Networking (JWCN)*, 2016(1), 189, 18 Agustus 2016, Springer International Publishing

**PUBLICATIONS  
IN  
CONFERENCES**

1. Ardiansyah, Yonghoon Choi, **Muhammad Reza Kahar Aziz**, and Deokjai Choi, "Latency Minimization for Energy Internet Communications with SDN Virtualization Infrastructure," *Submitted to The 10th IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm 2019) in 18 May 2019, Under Review*
2. **Muhammad Reza Kahar Aziz**, Heriansyah, Efa Maydhona Saputra, Anita Pascawati, and Ardiansyah Musa, "CRLB for DRSS-based Factor Graph of Wireless Geolocation," *in Proc. 2018 2nd Symposium of Future Telecommunication and Technologies (SOFTT)*, Bandung, Indonesia, 20 – 21 December 2018
3. Harry Yuliansyah, Dean Corio, Rajif Agung Yunmar, and **Muhammad Reza Kahar Aziz**, "Smart-Room Technology Implementation Based on Internet of

- Things Toward Smart Campus in Institut Teknologi Sumatera,” in *Proc. 2018 3rd International Conference on Science, Infrastructure Technology and Regional Development (ICoSITeR)*, Lampung Selatan, Indonesia, 19 – 20 October 2018, IOP Conference Series: Earth and Environmental May 2019
4. Harry Yuliansyah, Dean Corio, Rajif Agung Yunmar, and **Muhammad Reza Kahar Aziz**, “Energy Monitoring System Based on Internet of Things Toward Smart Campus in Institut Teknologi Sumatera (Under Review),” in *Proc. 2018 3rd International Conference on Science, Infrastructure Technology and Regional Development (ICoSITeR)*, Lampung Selatan, Indonesia, 19 – 20 October 2018. IOP Conference Series: Earth and Environmental May 2019
  5. Shofiyati Nur Karimah, **Muhammad Reza Kahar Aziz**, and Tad Matsumoto, “A PTDOA-DRSS Hybrid Factor Graph-based Unknown Radio Wave Geolocation,” in *Proc. 2018 2nd International Conference on Signals and Systems (ICSigSys)*, Denpasar, Indonesia, 1 – 3 May 2018, DOI: 10.1109/IC-SIGSYS.2018.8372773
  6. **Muhammad Reza Kahar Aziz**, Heriansyah, Efa Maydhona Saputra, and Ardiansyah Musa, “Theoretical Bound of CRLB for Energy Efficient Technique of RSS-Based Factor Graph Geolocation,” in *Proc. 2017 2nd International Conference on Science, Infrastructure Technology, and Regional Development (ICoSITeR)*, Lampung Selatan, Indonesia, 25 – 26 August 2017, IOP Conference Series: Earth and Environmental Science 124 (2018) 012011, 5 March 2018, DOI: 10.1088/1755-1315/124/1/012011
  7. **Muhammad Reza Kahar Aziz**, Shofiyati Nur Karimah, Niimi Yoshio, Khoiril Anwar, Tad Matsumoto, “Achieving Accurate Geo-location Detection Using Joint RSS-DOA Factor Graph Technique,” in *Proc. 2016 10th International Conference on Telecommunication Systems Services and Applications (TSSA)*, Denpasar, Indonesia, 6 – 7 October 2016, DOI: 10.1109/TSSA.2016.7871076. Full paper
  8. **Muhammad Reza Kahar Aziz**, Khoiril Anwar, and Tad Matsumoto, “DRSS-based Factor Graph Geolocation Technique for Position Detection of Unknown Radio Emitter,” in *Proc. 2016 22nd European Wireless (EW)*, Oulu, Finland, 18 – 20 May 2016
  9. Shofiyati Nur Karimah, **Muhammad Reza Kahar Aziz**, and Tad Matsumoto, “A Hybrid TOA and RSS-based Factor Graph for Wireless Geolocation Technique,” in *Proc. 2016 IEEE 12th International Colloquium on Signal Processing Its Applications (CSPA)*, Malacca City, Malaysia, 4 – 6 March 2016, DOI: 10.1109/CSPA.2016.7515820
  10. **Muhammad Reza Kahar Aziz**, Yuto Lim, and Tad Matsumoto, “A New Wireless Geolocation Technique Using Joint RSS-based Voronoi and Factor Graph,” in *Proc. 2015 9th Asia Modelling Symposium (AMS)*, Kuala Lumpur, Malaysia, 7 – 9 September 2015, pp. 132 – 136, DOI: 10.1109/AMS.2015.29
  11. **Muhammad Reza Kahar Aziz**, Khoiril Anwar, Yamaguchi, Shintaro Araya, and Tad Matsumoto, “Monitoring Spot Configuration of RSS-based Factor Graph Geolocation Technique in Outdoor WSN Environments,” in *Proc. 2015 The Institute of Electronics, Information and Communication Engineers (IEICE) General Conference*, Kusatsu, Kyoto, Japan, 24 February 2015
  12. Iskandar and **Muhammad Reza Kahar Aziz**, “A Study of HAPS-LTE Downlink Channel Performance Simulation Deployed for High Speed User Vehicle,” in *Proc. 2014 8th International Conference On Telecommunication System, Services, And Application (TSSA)*, Kuta Bali, Indonesia, 23 – 24 October 2014, DOI: 10.1109/TSSA.2014.7065929



13. **Muhammad Reza Kahar Aziz** and Iskandar, "Channel Estimation for LTE Downlink in High Altitude Platforms (HAPs) Systems," in *Proc. 2013 1st International Conference of Information and Communication Technology (ICoICT)*, Bandung, Indonesia, 20 – 22 March 2013, DOI: 10.1109/ICoICT.2013.6574570

#### BOOKS AND CHAPTER ON BOOKS

1. Carlos de Lima, Didier Belot, Rafael Berkvens, Andre Bourdoux, Davide Dardari, Maxime Guillaud, Minna Isomursu, Elena-Simona Lohan, Yang Miao, Andre Noll Barreto, **Muhammad Reza Kahar Aziz**, Jani Saloranta, Tachporn Sanguanpuak, Hadi Sardeddeen, Gonzalo Seco-Granados, Jaakko Suutala, Tommy Svensson, Mikko Valkama, Henk Wymeersch, and Barend van Liempd, *6G White Paper on Localization and Sensing*, 6G Flagship, University of Oulu, Finland, June 2020, 6G Research Visions, No. 12, 2020, ISSN 2669-9621 (print), ISSN 2669-963X (online), ISBN 978-952-62-2674-3 (online)
2. **Muhammad Reza Kahar Aziz**, "Orasi Ilmiah: Teknik Geolokasi Nirkawat Sebagai Kunci Teknologi Masa Depan," Sidang Senat Penerimaan Mahasiswa Baru (PMB) di Institut Teknologi Sumatera, August 2016
3. **Muhammad Reza Kahar Aziz** and Eva Jumiyaniti, Editor: Ferry Fathurokhman, "Notes From Ishikawa: Dari Jepang Untuk Indonesia Agar Menjadi Tepat Waktu dan Terintegrasi," ISBN: 9786023680146, Nulisbuku.com, May 2015

#### NEWSLETTERS

1. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "Joint RSS-DOA Factor Graphs based Geo-location Technique," *COST IC1004 Newsletter*, Vol. 4, March 2013

#### TECHNICAL DOCUMENTS

1. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "A Joint RSS-DOA-TOA Factor Graphs based Geo-location Technique," *6th MC and Scientific Meeting of COST IC1004*, Malaga, Spain, 6 – 8 February 2013

#### PRESENTATIONS, LECTURES, MODERATORS/ CHAIRS, TRAINING

1. **Muhammad Reza Kahar Aziz**, "Writing a Qualified International Paper," a Lecture via WhatsApp Group with 20s participants, Bandar Lampung, Indonesia, 2020
2. Khoirul Anwar, **Muhammad Reza Kahar Aziz**, and Ade Irawan, "Introduction of 5G", Training Online, Parakontel, 2017
3. **Muhammad Reza Kahar Aziz**, Moderator/Chair of Keynote Speakers, International Conference on Infrastructure Technology and Regional Development (ICoSITeR) 2016, Lampung Selatan, Indonesia
4. **Muhammad Reza Kahar Aziz**, Shofiyati Nur Karimah, Tad Matsumoto, "Factor Graph Geolocation Techniques," Lectures in Visiting Hokkaido University, 2016
5. **Muhammad Reza Kahar Aziz**, The Student Networking Day (SND) in conjunction with the EU-ASIA Security-and-Networks Symposium (SNS), JAIST, March 2016
6. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "TDOA-based Factor Graphs Geolocation Techniques for Passive Radio Emitter," *Visiting Yamanashi University*, Kofu, Nov 2014
7. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, "Study Life in JAIST", *Visiting Universitas Sriwijaya (UNSRI)*, Palembang, Indonesia, 4-6 March 2014

8. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, “Common Mistake in Writing Research Paper,” *Visiting Univeristi Teknologi Malaysia (UTM)*, Kuala Lumpur Campus, Malaysia, 3-4 March 2014
9. **Muhammad Reza Kahar Aziz**, Khoirul Anwar, and Tad Matsumoto, “Joint RSS-DOA Factor Graphs based Geo-location Techniques,” *Visiting Institut Teknologi Bandung (ITB)*, Bandung, Indonesia 14 May 2013

## SCORES

- Elementary School National Exam (NEM SD) 1993: 43.86/50.00, with math score of 10/10
- Junior High School National Exam (NEM SMP) 1996: 51.13/60.00
- STTB SMP 1996: 100/120
- Senior High School National Exam (NEM SMU) 1999: 54.40/70.00
- STTB SMU 1999: 90/100, with math score of 10/10
- GPA of Bachelor 2004: 3.22/4.0
- GPA of Magister 2012: 3.82/4.0 (Cum Laude)
- TPA Bappenas 2010: 709,50
- TOEIC 2012, Jakarta: 860
- ITP TOEFL 2010: 530

## REVIEWER AND TPC

166 verified review by Publons as reviewer and/or TPC since November 2012. Listed detailed below are 84 reviews up to 2019.

## JOURNALS

1. 5 round reviews, IEEE Transactions on Vehicular Technology
  - 2019 reviewer 1 paper and 2 rounds
  - 2018 reviewer 2 papers and 3 rounds
2. 1 round review, Mathematical Problems in Engineering
  - 2018 reviewer 1 paper and 1 round
3. 1 round review, Acta Polytechnica
  - 2019 reviewer 1 paper and 1 round
4. 8 round reviews, Elkomika
  - 2019 reviewer 1 paper and 2 rounds
  - 2018 reviewer 2 papers and 6 rounds
5. 1 round review, Far East Journal of Electronics and Communications
  - 2017 reviewer 1 paper and 1 round

## CONFERENCES

1. 2016 TPC chair in 1st International Conference on Science, Infrastructure Technology and Regional Development (ICoSITeR), Lampung Selatan, Indonesia
2. 21 papers, IEEE International Conference on Communications (ICC)
  - 2019 TPC member AHSN 2 papers
  - 2018 TPC member AHSN 0 paper
  - 2017 TPC member AHSN 4 papers
  - 2017 reviewer MWN 6 papers

- 2016 TPC member AHSN 3 papers
  - 2016 reviewer MWN 3 papers
  - 2015 reviewer AHSN 3 papers
3. 12 papers, IEEE Global Communications Conference (Globecom)
    - 2019 TPC Member AHSN
    - 2018 TPC member AHSN 1 paper
    - 2018 TPC member MWN 1 paper
    - 2017 TPC member AHSN 3 papers
    - 2017 TPC member MWN 2 papers
    - 2016 TPC member AHSN 2 papers
    - 2016 reviewer CSSMA 0 paper
    - 2016 reviewer MWN 3 papers
  4. 2 reviews, IEEE Vehicular Technology Conference (VTC)
    - 2018 TPC member 1 paper
    - 2017 reviewer 1 paper
  5. 2 papers, IEEE Wireless Communications and Networking Conference (WCNC)
    - 2012 reviewer 2 papers
  6. 1 paper, IEEE International Conference on Computer Communications (INFOCOM)
    - 2017 reviewer 2 papers (1 verified)
  7. 1 paper, Advanced Research in Electrical and Electronic Engineering Technology (ARIET)
    - 2017 reviewer 1 paper
  8. 1 paper, International Conference on Computer, Communication and Control Technology (I4CT)
    - 2018 reviewer 1 paper
  9. 2 papers, International Conference on Control, Electronics, Renewable Energy, and Communications (ICCEREC)
    - 2018 TPC member 2 papers
  10. 3 papers, International Conference on Wireless Communications and Signal Processing (WCSP)
    - 2017 TPC member AHSNS 3 papers
  11. 2 papers, International Conference on Communication and Computer Engineering (ICOCEE)
    - 2018 reviewer 2 papers
  12. 4 papers, International Symposium on Wireless Personal Multimedia Communications (WPMC)
    - 2017 TPC Member 4 papers
  13. 2 papers, IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC)
    - 2018 reviewer 2 papers
  14. 2 papers, International Conference on Electrical Engineering and Informatics (ICon EEI)

- 2018 TPC member 2 papers
- 15. 2 papers, IEEE/CIC International Conference on Communications in China (CIC ICC)
  - 2018 TPC member 2 papers
- 16. 2 papers, International Conference on Signals and Systems (ICSigSys)
  - 2019 TPC member 2 papers
- 17. 1 paper, Recent Development In Sciences, Engineering And Computer Sciences International Conference (RESEECs)
  - 2017 reviewer 1 paper
- 18. 2 papers, International Conference on Computer, Control, Informatics and its Applications (IC3INA)
  - 2013 reviewer 2 papers
- 19. 1 paper, IEEE 5G World Forum
  - 2019 reviewer
  - 2018 reviewer 1 paper
- 20. 2 papers, International Conference on Electrical Engineering and Computer Science (ICEECS)
  - 2017 reviewer 2 papers
- 21. 6 papers, Seminar Nasional Multidisiplin Ilmu
  - 2017 reviewer 6 papers
- 22. 2 papers, International Conference on Industry 4.0, Artificial Intelligence and Communications Technology (IAICT)
  - 2019 TPC member 2 papers
- 23. 2017 IEEE SCORed reviewer 0 paper
- 24. 2017 TENCON reviewer 0 paper
- 25. 2018 ICACCI reviewer 0 paper
- 26. 2018 SISTECH reviewer 0 paper
- 27. 2019 3ICT TPC member 0 paper
- 28. 2019 IEEE MENACOMM TPC member
- 29. 2019 IoTaIS TPC member
- 30. 2019 IEEE-GCC TPC member

**PROFESSIONAL  
MEMBERSHIP**

- 2013 – 2016 Student Member IEEE.
- 2016 – 2019 Member IEEE.
- 2012 – 2016 Member IEICE.
- 2013 – 2014 Board Member ISTECS Chapter Japan.

## **VOLUNTEER ACTIVITY**

- 2014 - 2015 Section Member, Publication Team, Indonesia Student Association, PPI Ishikawa, Japan, Indonesia
- 2014 - 2015 President, JMC JAIST
- 2010 - 2011 Organizing Team Member, ITB Electrical Engineering Alumni Association, IAE-ITB
- 2007 - 2008 Vice President, MEID, Jakarta, Indonesia
- 2002 - 2003 Vice President, ME ITB, Bandung, Indonesia
- 1999 - 2000 Member, Lampung Cultural Association ITB, Bandung, Indonesia
- 2000 - 2001 Coordinator, Insidental Activity, Mata' Salman ITB, Bandung, Indonesia
- 1999 - 2004 Member, Electrical Engineering Student Association, HME ITB, Bandung Indonesia
- 1999 - 2004 Member, Gamais ITB, Bandung, Indonesia
- 1999 - 2004 Member, KM ITB, Bandung, Indonesia
- 1999 - 2004 Member, ME ITB, Bandung, Indonesia
- 1999 - 2000 Member, Mata' Salman ITB, Bandung, Indonesia
- 1997 - 1998 Coordinator, Public Relation, ROHIS SMUNDA, Bandar Lampung, Indonesia
- 1994 - 1995 Member, Public Relation Team, Teenage Scientific Activity, Kegiatan Ilmiah Remaja (KIR), SMPN 2, Bandar Lampung, Indonesia

## **ATTENDED TRAINING**

1. PEKERTI Training, Universitas Lampung, Bandar Lampung, Indonesia, 2016
2. LabView Training, Institut Teknologi Sumatera, Lampung Selatan, Indonesia, 2016
3. VLSI Design Training, Institut Teknologi Sumatera, Lampung Selatan, Indonesia, 2016
4. Research Conducts and Ethics, JAIST, Nomi, Japan, 2016
5. HSDPA P7 System Technique Training, Ericsson Indonesia, Jakarta, Indonesia, Oct 2009, Certificate Available
6. IP Advance Training, Ericsson Indonesia, Jakarta, Indonesia, Nov 2009, Certificate Available
7. IP Networking Training, Ericsson Indonesia, Jakarta, Indonesia, Apr 2008, Course number: LZU 108 6397
8. Barebone Scoping Workshop with BNET Representative, Ericsson Indonesia, Jakarta, Indonesia, Nov 2008
9. Leadership Series Training, Bandung, Indonesia, June 2009, Certificate Available
10. IP Probe Seminar, Jakarta, Indonesia, February 2009, Certificate Available
11. Microwave Education Week, Ericsson Malaysia, Kuala Lumpur, Malaysia, April 2009
12. Sales Enablement Level 2 Marconi Long Haul, Ericsson Backnang, Germany, November 2008, Certificate Available
13. Market Unit South East Asia (MUSEA) Product Presentation Marketing (PPM), Ericsson Malaysia, Kuala Lumpur, Malaysia, October 2008

14. Microwave Competence Week, Ericsson Malaysia, Kuala Lumpur, Malaysia, September 2008
15. Datacom Networking Training, Ericsson Indonesia, Jakarta, Indonesia, April 2008, Certificate Available, Course number: LZU 102 371
16. Sales for Non Sales Training, Jakarta, Indonesia, October 2007, Certificate Available
17. Marconi Long Haul Planning Tool, WinFF2000, Workshop, Ericsson Thailand, Bangkok, Thailand, September 2007
18. Microwave Planning and Theory, Practical Planning using TEMSLink Planner Tools Training, Ericsson Indonesia, Jakarta, Indonesia, May 2007, Certificate Available
19. Sally II, General Security Training, Web based Training, Ericsson Indonesia, Jakarta, Indonesia, May 2007, Certificate Available
20. Broadband Access Sales and Solution, Entrisphere/GPON Seminar, Ericsson Malaysia, Kuala Lumpur, Malaysia, March 2007
21. Effective Business Communication Training, Ericsson Indonesia, Jakarta, Indonesia, November 2006, Certificate Available, Best participant
22. AXX Product Training, Ericsson Axxessit, Bergen, Norway, May 2006
23. Introduction to WCDMA/UMTS Web based Training, Ericsson Indonesia, Jakarta, Indonesia, March 2006, Certificate Available
24. MINI-LINK E Point to Point System Survey Training, Ericsson Indonesia, Jakarta, Indonesia, February 2006, Certificate Available
25. WCDMA Access Transport Network Design Training, Ericsson Indonesia, Jakarta, Indonesia, June 2006
26. WCDMA System Overview Training, Ericsson Indonesia, Jakarta, Indonesia, March 2006, Certificate Available
27. AXX Solution Presentation and Planning, Ericsson Indonesia Jakarta, Indonesia, November 2005
28. Introduction to Organisation Safety and Health (OSH) Management System, Jakarta, Indonesia, May 2005, Certificate Available
29. PDH Split Radio System: SRAL-XD, Operation and Maintenance, Siemens Indonesia and Siemens Italy, , Indonesia, March 2005, Certificate Available
30. SDH Split Radio System: SRA4, Operation and Maintenance Training, Siemens Indonesia and Siemens Italy, Jakarta, Indonesia, March 2005, Certificate Available
31. German Language Course, Goethe Institute Jakarta, Indonesia, 2005
32. German Language Course, MERCATOR Summer School, Jakarta, Indonesia, 2005, Certificate Available
33. German Language Course, Goethe Institute, Bandung, Indonesia, 2004, Certificate Available
34. English Course at LB LIA, Intermediate Level, Bandar Lampung, Indonesia, 1998, Certificate Available
35. English Course at LB LIA, Basic Level, Bandar Lampung, Indonesia, 1997, Certificate Available
36. Arabic Language Course, Bandung, Indonesia

37. Leadership Training for High School Student, SMUN2 Bandar Lampung, Indonesia, 1997

## ONLINE PROFILE

1. Scopus <https://www.scopus.com/authid/detail.uri?authorId=55844998200>
2. GoogleScholar <https://scholar.google.com/citations?user=-tEHPFsAAAAJ&hl=en>
3. Researchgate [https://www.researchgate.net/profile/Muhammad\\_Aziz16/info](https://www.researchgate.net/profile/Muhammad_Aziz16/info)
4. LinkedIn <https://www.linkedin.com/in/rezakahar/>
5. Sinta <http://sinta2.ristekdikti.go.id/authors/detail?id=257544&view=overview>
6. Publons <https://publons.com/researcher/1481644/muhammad-reza-kahar-aziz-phd/>

## SUPERVISING STUDENTS

- **Undergraduate Final Project as Supervisor**  
Muhamad Avesina Firdaus, Azhari Ma'ruf, Wenny Maesy Sianipar, Bayu Saputra, Adi Rismawan, and Febynka Widianara, total 6 students
- **Undergraduate Final Project as co-supervisor**  
Jauhar Ismiyadinata (2018), Auliya Rendy Aidi (2019), Tirani Anarki (2021), Aprizal Arzad (2021), Juli Faer (2021), Dodi Kuswara (2021), Arni Septiawati, Afrizal Ekoprasetya, Agno Salvatious, Tri Wijaya, Rani Maharani, and Muhammad Masyhuda, total 12 students
- **Undergraduate Academic Supervisor**  
Agung Apriadi (2018), Ahmad Hasan Alfikri (2019), Anggi Mukti Saputra (2019), Ahmad Hardiyana Utama (2020), M. Ian Apriansyah (2020), Windy Christiana (2021), Gerika Shafira (2021), Yomi Adil Riawan (2021), Laurensius Vandy Setiawan, Ferdian Hidayatullah, Husnul Khotimah Bafadhal, Muhammad Avesina Firdaus, Amnesti Ana Simarmata, Tri Wijaya, Adhi Murtikto, Muhammad Jundi Hibatullah, Bayu Andrianto, Josep Oktavianus Ambarita, Muhammad Rizky Fauzan, Kevin Inal Arianto, Afrizal Ekoprasetya, Muhammad Satrio Djati, Rani Maharani, Yesi Oktaviani, Gusti Putu Haristyadi, Gifari Rachmawan, Safryady Ghibasa Turnip, Saharman Pasaribu, Roni Pardamean Parinduri, Wenny Maesy, Sianipar, Ady Franata Situmeang, Devana Mansyah Sinaga, Loksa Tobias Maratur Situmorang, Dion Saputra, Wahyudi Pratama, Frikles Lumbantoruan, Dion Pradana Putra, Aprilia Eka Sutantri, Agus Saputra, Iman Sianturi, Moch. Denis Aprillana, Sukma Sanjaya, Ahmad Fajar, Jeremy Hasiholan Parulian Malau, Atonius Rio Panghiutan N, Jhon Ferdinan Tampubolon, Andre Raymond Geraldo, Aarif Nur A. Risman, Lucky Widianto, Arief Mahendra, Muhammad Rakheen Andika Pratama, Muhammad Fiqih Zulkarnaen Saputra, Hardiv Bima Takeru Hutapea, Fakhri Ahmad Mirza, Muhamad Arif Rahman Wahid, Farrel Aryaputra Perdana, Andrew Pratama, Ryan Syehan, Japar Sodik, Alfirro Danang Prasetya, Ringgas Junialis, Leonardus Bayu Sutiyo Pambudi, Figo Apran Sinambela, Adi Putra Saimona, Muhammad Arif Pratama, Ray Achmadiano, Muhammad Nasechudin, Muzid Khoiri, Bayu Saputra Bahri, Yudha Arya Wardhana, Faqih Ahmad Hamami, Fajar Jumanthoro, Dani Chandra Saputra, Zukhruf Sidiq, Marcell Bintang Astadi, Komang Krisna Saputra, dan Muhammad Redho Kristianto, total 77 students
- **Undergraduate Internship as Supervisor**  
Ibrahim Amyas Aksar Tarigan (LIPI, 2017), M. Fadel (Pertamina, 2018), Oktario (Tianjing University, 2019), Mohammad Anthoni (iGlowcom, 2020), Fikar Tsaqib Adnan (Eldikon Engineering, 2020), Muhammad Rizki (PLN, 2020), Dian Aprilia (PLN, 2020), Rosmawan Arwinda Setyaningrum (Lanter Bumi

Nusantara, 2020), Edo Pratama Putra (LAPAN, 2021), and Bambang Irawan Tanjung (PLN, 2021), total 10 students

## EXAMINER

### • Undergraduate Final Project Examiner as Member

Gde KM. Jaya (2016), Bernadus Galih Dwi Wicaksono (2016), Herwin Junion Siboro (2020), Mochamad Donny R (2020), Nando Thaher Ulga (2021), and Widya Febriandaru (2021), total 6 students

### • Undergraduate Final Project Proposal Examiner as Leader

Muhammad Anbia Senggagau (2021), Muhammad Ridluanulloh (2021), Yosua Anugrah (2021), Ega Liguna (2021), Mumir Azhari (2021), Rosmawan Arwinda S. (2021), Agung Prastyo (2021), Muhammad Wahid Hidayat (2021), Hendra Gunawan (2021), Cahyadi Anom Hidayat (2021), Gabriel Jovan Dilivio (2021), Sberlgcamp Dharemsis Simbolon (2021), total 12 students

### • Undergraduate Final Project Proposas Examiner as Member

Nando Thaher Ulga (2020), and Widya Febriandaru (2020), M Iqbal Firdaus B (2020), Siti Andari (2020), Edo Pratama Putra (2021), Rivaldi Heriyan (2021), Josep Oktavianus Ambarita (2021), Egidius Reynaldi (2021), Fikar Tsaqib Adnan (2021), D Doliray Cristmast N (2021), I Komang Sulastra (2021), and Slamet Rianto (2021), total 12 students

### • Undergraduate Internship Examiner

Arni Septiawati (TIK ITERA, 2020), Hendra Gunawan (TIK ITERA, 2020), Valahdyo Arbandy (EE ITERA, 2020), Sarah Rahayu (TIK ITERA, 2020), Muhamad Safriyanto (PLN, 2020), Yoga Maulana Prastyo (PLN, 2020), and Muhammad Ridlunulloh (EE ITERA, 2020), total 7 students

## TEACHING

- 2011 Communications System 1 (Teaching Assistant), Complex Variable, Electric Circuit
- 2016 Digital Signal Processing, Probability and Statistic, Structure Discrete
- 2017 Electromagnetic Field, Signal and System, Communication System
- 2018 Communication Systems, Signal and System
- 2019 Communication Systems, Signal and System
- 2020 Electric Circuit 2, Instrumentation Systems, Engineering Mathematics 1, and Communication Systems

Struktur Diskrit (2016) Probabilitas dan Statistik (2016) Pengolahan Sinyal Digital (2016) Medan Elektromagnetik (2016) Sinyal dan Sistem (2016) Sistem Komunikasi (2016) Pengantar Teknologi Informasi B (2016) Praktikum Rangkaian Elektrik (2017) Struktur Diskrit (2017) Pengolahan Sinyal Digital (2017) Praktikum Pengolahan Sinyal Digital (2017) Praktikum Sistem Kendali (2017) Praktikum Rangkaian Elektrik II (2017) Sinyal dan Sistem (2017) Praktikum Pemecahan Masalah dengan C (2017) Sistem Komunikasi (2017) Struktur Diskrit (2018) Pengolahan Sinyal Digital (2018) Praktikum Pengolahan Sinyal Digital (2018) Praktikum Rangkaian Elektrik II (2018) Sinyal dan Sistem (2018) Praktikum Pemecahan Masalah dengan C (2018) Sistem Komunikasi (2018) Praktikum Sistem Tenaga Elektrik (2018) Rangkaian Elektrik II (2019) Praktikum Rangkaian Elektrik II (2019) Praktikum Pemecahan Masalah dengan C (2019) Sistem Instrumentasi (2019) Matematika Teknik I (2020) Etika Profesi Rekeyasa (2020) Praktikum Sistem Kendali (2020) Sistem Komunikasi (2020) Praktikum Sistem Komunikasi (2020) Rekeyasa Trafik Telekomunikasi (2020) Praktikum Rangkaian Elektrik II (2020) Matematika Teknik II (2020) Sistem Instrumentasi (2020) Etika Profesi Rekeyasa (2020) Proyek Terapan (2020)