Irham Taufik Andika

Curriculum Vitae

Personal

Date & place of birth	*October 6th 1994 in Medan, North Sumatera, Indonesia*
Nationality	*Indonesian*
Family status	*Single*

Education

2016 – 2017   **Master of Science**, *Astronomy Study Program, Institut Teknologi Bandung (ITB)*, Bandung, Indonesia, *GPA – 3.89 (Cum Laude)*.
Thesis: *Study of Double-Peaked Emission Lines AGN as Binary AGN Candidates* – advised by Dr. rer. nat. M. Ikbal Arifyanto.

2012 – 2016   **Bachelor of Science**, *Astronomy Study Program, Institut Teknologi Bandung (ITB)*, Bandung, Indonesia, *GPA – 3.59 (Cum Laude)*.
Thesis: *On the Nature of Type 1 AGN: Emission Properties and Correlations* – advised by Dr. rer. nat. M. Ikbal Arifyanto & Prof. Dr. Wolfram Kollatschny.

2009 – 2012   **Senior High School**, *SMA Negeri 5 Kota Bekasi*, Bekasi, Indonesia.

2006 – 2009   **Junior High School**, *SMP Islam As-Syafi'iyah 06 Kota Bekasi*, Bekasi, Indonesia.

2000 – 2006   **Elementary School**, *SD Angkasa 2 Medan*, Medan, Indonesia.

Work Experience

Sep 2017 – present   **Data Analyst**, *PT. Dwi Cermat Indonesia (cermati.com)*.
Analyze data from various resources to solve problems and deliver insights about the business, the products, and the market. Data modeling using analytic programs, machine learning, and statistical methods. Recommend ways to improve the design, development and delivery of statistical analyses, including automated approaches.

Jun 2017 – Aug 2017   **Research Student**, *The Leiden/ESA Astrophysics Program for Summer Students 2017*, Leiden University.
Combine brand new observations from the Low Frequency Array (LOFAR) radio survey with a wide range of multi-wavelength datasets to find and characterize high redshift radio loud AGN population. Study the different modes of black hole accretion out to unprecedented distances, providing critical constraints on models of black-hole formation and AGN unification theories.

Aug 2016 – Jul 2017	**Data Analyst**, *PT. Dekoruma Inovasi Lestari (dekoruma.com)*. Analyzing complex, incomplete, and large data, from internal and external databases. Providing insights based on data, includes data visualization, inference statistics, predictive modeling, machine learning, and presentation.
Feb 2017 – present	**Content Writer**, *XploreAstro (xploreastro.com)*. Providing astronomical article and content for website and social media.
Aug 2015 – Aug 2017	**Assistant of Lecturer**, *Institut Teknologi Bandung*. Giving assistance for student and assessing the performance of students in the Dynamics of Stellar System, Physics of Galaxy, and Basic Astronomy Laboratory I Courses.
Jan 2016 – Aug 2017	**Research Assistant**, *Open Cluster Research*, Institut Teknologi Bandung. Conduct data reduction and analysis on stellar cluster to determine the membership using various methods and construct the H-R diagram.
Aug 2014 – Dec 2016	**Coordinator of Technical Team and Trainer**, *Indonesian National Astronomy Olympiad Coaching Team (Tim Pembina Olimpiade Astronomi Indonesia)*. Providing lectures and training in theoretical and observational astronomy for high school students participating in international astronomy olympiads as Indonesian national contingent. Maintenance of telescopes and other instruments.
Jul 2014 – March 2015	**Research Assistant**, *The Eclipsing Binary Minima (BIMA) Monitoring Project*, Institut Teknologi Bandung. Conduct data reduction and analysis on eclipsing binaries to construct O-C diagram and determine their physical parameters.
Aug 2014 – Dec 2016	**Assistant of Jury**, *Indonesian National Science Olympiad, Ministry of Education*. Assessing the performance of students participating in national astronomy olympiad.
Jan 2013 – Aug 2016	**Telescope Guide/Public Lecturer**, *Bosscha Observatory & Astronomy Student Association of Institut Teknologi Bandung*. Becoming telescope operator, giving public lectures, and providing explanations at the telescopes.

Research Interest & Experience

2015 – present	**Active galactic nuclei (AGN)**, *Institut Teknologi Bandung, University of Goettingen, and Leiden University*. Perform multiwavelength study of AGN emission properties and correlations, host galaxy environment, physical processes, and its evolution. Study the different modes of black hole accretion out to unprecedented distances by using multiwavelength datasets, providing critical constraints on models of black-hole formation and AGN unification theories.
2016 – 2016	**Stellar cluster**, *Institut Teknologi Bandung*. Conduct data reduction and analysis on stellar cluster to determine the membership using various methods and construct the H-R diagram.
2016 – 2016	**Total Solar Eclipse**, *Institut Teknologi Bandung*. Spectroscopic and photometric study of 9th March 2016 Total Solar Eclipse in Indonesia to measure physical parameters of solar corona and chromosphere.
2014 – 2016	**The Eclipsing Binary Minima (BIMA) Monitoring Project**, *Institut Teknologi Bandung & National Astronomical Research Institute of Thailand*. Conduct data reduction and analysis on eclipsing binaries to construct O-C diagram and determine their physical parameters.

2014 – 2015 **Novae and other emission line objects**, *Kyoto Sangyo University & Institut Teknologi Bandung*.
Conduct spectroscopic observation and data analysis on astronomical emission line objects such as Novae, Planetary nebulae, Wolf-Rayet star, etc. Testing and characterizing the compact spectrograph NEO R-1000.

2014 – 2014 **Exoplanets**, *Bosscha Observatory*.
Conduct photometric observation and data analysis on transiting exoplanets.

Publications

Conferences and Schools

2017 **The Leiden/ESA Astrophysics Program for Summer Students (LEAPS) 2017**.
A 10 weeks summer research programs in collaboration with a research scientist from either Leiden Observatory or ESA/ESTEC. My project is entitled Cosmic Evolution of Radio AGN.

2016 **The NARIT Computational Astrophysics and Cosmology Workshop 2016**.
A workshop on N-body and hydrodynamic simulations of galaxies and large-scale structure.

2016 **International Conference on Mathematic and Natural Sciences 2016**.
Oral presentation which entitled "Star Formation Rates in Type 1 AGN Host Galaxies".

2016 **Advanced Analytical Method in Cosmology and High Energy Physics 2016**.
A workshop on various statistical method in cosmology and high energy physics.

2016 **International Symposium on Sun, Earth, and Life 2016**.
Oral presentation which entitled "On the Nature of Type 1 AGN: Emission Properties and Correlations".

2015 **East Asian Young Astronomers Meeting 2015**.
Oral presentation which entitled "The BIMA Project: Analysis of O-C Diagram on AO Vel".

2014 **International Conference on Mathematic and Natural Sciences 2014**.
Poster presentation which entitled "Exoplanet Transit Observations at Bosscha Observatory".

Refereed Journal Articles

- **Andika, I. T.**, Arifyanto, M. I., Kollatschny, W. 2016. On the nature of type 1 AGN: emission properties and correlations. Journal of Physics Conference Series 771(1):012029.
- Al Kholish, A. M., **Andika, I. T.**, Jihad, I., Puspitaningrum, E., Ainy, F. Q., Ramadhan, S., Arifyanto, M. I., Malasan, H. L. 2016. Imaging and spectroscopic observations of the 9 March 2016 Total Solar Eclipse in Palangkaraya. Journal of Physics Conference Series 771(1):012006.
- Mandey, D., **Andika, I. T.**, Jeanuarieke, F. A., Fitmawyani, W. S., Ramadhan, S., Putra, M. 2015. Exoplanet transit observations at Bosscha observatory. AIPC, 1677, 9M.

Scholarships and Awards

2015 **Erasmus Plus Scholarship**, *European Union*, Germany.

2014 **Japan-Asia Youth Exchange program in Science (SAKURA Exchange Program in Science)**, *Japan Science and Technology Agency*, Japan.

| 2014 | **Dean's List for Academic Performance**, *Institut Teknologi Bandung*, Indonesia. |
| 2012 – 2016 | **Beasiswa Pendidikan Bagi Mahasiswa Berprestasi (Bidik Misi)**, *Institut Teknologi Bandung*, Indonesia. |

Computer Skills

Basic	Java, jQuery, JavaScript, Adobe Photoshop, Corel Draw
Intermediate	HTML & CSS, LaTeX, OpenOffice, Linux
Advanced	Python, SQL, Microsoft Office, Microsoft Windows
Astronomy-related	IRAF, Gadget-2, MESA, SExtractor

Languages Proficiency

Indonesian	**Mothertongue**	
English	**Advanced**	*Conversationally fluent (TOEFL iBT score: 96)*
Japanese	**Basic**	*Basic words and phrases only*
German	**Basic**	*Basic words only*

Interests

- Swimming
- Reading
- Badminton
- Diving
- Coding

Organizational

2016 – 2016	**Local Organizing Committee**, *International Symposium on Sun, Earth, and Life*, Bandung, Indonesia.
2015 – 2016	**Head of Strategic Studies and Education Division**, *Indonesian Student Association (Perhimpunan Pelajar Indonesia) in Goettingen*, Goettingen, Germany.
2014 – 2015	**General Secretary and Senator**, *Astronomy Student Association (Himpunan Mahasiswa Astronomi) of Institut Teknologi Bandung*, Bandung, Indonesia.
2014 – 2015	**Chairman of Works and Innovations Division**, *Bidik Misi Forum of Institut Teknologi Bandung*, Bandung, Indonesia.
2014 – 2014	**Ketua**, *Panitia Perayaan Wisuda Himpunan Mahasiswa Astronomi Institut Teknologi Bandung 2014*, Bandung, Indonesia.
2014 – 2014	**Ketua Divisi Materi dan Metode**, *Panitia Pembinaan Anggota Muda Himpunan Mahasiswa Astronomi Institut Teknologi Bandung 2014*, Bandung, Indonesia.
2012 – 2014	**Staff of Students Welfare Division**, *Student Association Cabinet (Kabinet Keluarga Mahasiswa) of Institut Teknologi Bandung*, Bandung, Indonesia.
2013 – 2013	**Komandan Batalyon 2 Divisi Tata Tertib Kelompok**, *Orientasi Studi Keluarga Mahasiswa Institut Teknologi Bandung 2013*, Bandung, Indonesia.
2012 – 2013	**Chairman of Facilities and Infrastructures Division**, *Student Association of Asrama Sangkuriang Institut Teknologi Bandung*, Bandung, Indonesia.