



Makassar, 28 February 2023

Kepada Yth.

Ketua Jurusan Teknik Elektro

Politeknik Bosowa

Jl. Kapasa Raya No. 23, Kel. Tamalanrea, Kec. Biringkanaya,

Makassar, Indonesia

u/p : Dr. Ir. Isminarti, S.T., M.T.

Perihal: Undangan sebagai **Moderator** dalam Acara **Virtual Workshop on (Nano)-Satellite Bus: Microcontroller and ITS Application**

Yth Dr. Ir. Isminarti, S.T., M.T.,

Seperti Ibu maklumi, inisiatif nanosatelit muncul dengan tujuan antara lain untuk proses pembelajaran yang efektif bagi mahasiswa untuk memiliki pemahaman yang lebih baik dalam merancang dan mengimplementasikan rancangan dan fabrikasi pesawat ruang angkasa dalam ekosistem sederhana termasuk laboratorium elektro-mekanik dan radio. Salah satu bagian terpenting dari setiap sistem satelit tentu saja adalah Sub-sistem mikrokontroler untuk melakukan pelbagai fungsi baik di bus maupun payload. Kami yakin Pendidikan ke arah microcontroller dan aplikasinya dalam desain (nano) satelit menjadi teramat penting di setiap perguruan tinggi.

Kami dari Joint Chapter GRS/AES IEEE Indonesia, bekerja sama dengan Politeknik Negeri Ujung Pandang, akan menggelar Workshop secara Online dengan tema : **Virtual Workshop on (Nano)-Satellite Bus: "Microcontroller Sub-System and ITS Application"**, pada **20 Maret 2023**.

Kami berkeinginan untuk mengundang Dr. Ir. Isminarti, S.T., M.T., untuk menjadi **Moderator** dalam acara tersebut. Term of Reference (TOR) secara singkat terkait Virtual Workshop, dapat dilihat pada bagian Lampiran.

Kami berharap mendapatkan kabar baik dan dukungan Dr. Ir. Isminarti, S.T., M.T. Demikian yang dapat kami sampaikan dan atas perhatiannya, kami selaku Panitia mengucapkan terima kasih.

Hormat Kami,

**Dr. Ing. Arifin Nugroho**

Chairman IEEE AES-GRSS

**Ir. Sandryones Palinggi, S.T., M.T.**

Chairman of Virtual Workshop



# Virtual Workshop on (Nano)-Satellite Bus: Microcontroller Sub-System and ITS Application

March, 20<sup>th</sup> 2023

Brought to you by:



Hosted by:



Supported by:



## TERM OF REFERENCE

# Virtual Workshop on (Nano)-Satellite Bus: Microcontroller Sub-System and ITS Application

IEEE Indonesia Section AES-GRSS Joint Chapter – Politeknik Negeri Ujung Pandang

### I. Background and Reason

Nanosatellites initiatives came about to aiming at, among others, an effective learning process for university students to have a better comprehension in designing and implementing the fabrication of spacecrafts in a simple ecosystem including electro-mechanical and radio laboratory. It is therefore obligatory to cover all the detailed design process of the satellites' subsystems in implementing the nanosatellite. Let alone for One of the most important parts of any satellite system is of course the microcontroller Sub-system(s). For any spacecraft to be functioning throughout its predefined life, there are different functionalities to be aimed at. *Grosso modo*, there are two families of subsystems onboard the satellite which need the support of some microcontroller sub-system(s). First, the satellite bus, necessitate at least the following functionalities: Thermal, Orbital, Attitude, and Power-system controls. The second category resides in the satellite payload, including, but not limited to the following: Transponders, Modems (if any), Traffic, and Antenna beams pointing, functionalities.

This one-day workshop will be addressing to the basic of designing Microcontroller application in the design of satellite including nanosatellite functionalities addressing to the above real requirements, with a vivid example of the nanosatellite and small satellite example drawn from the design of the real system. This workshop will be preceded with Keynote speeches from relevant institution related to the subject, as well as introduction sessions to the microcontroller basics.

It is therefore expected that this workshop will be useful for students and engineers who wish to brush up their knowledge and know-how in well preparing the microcontroller system for (nano)satellite.

The workshop will be held by a cooperation between Politeknik Negeri Ujung Pandang, LAPAN/BRIN and the Indonesia GRS/AES Joint Chapter of the IEEE, sponsored by PT. TELKOMSAT.

### II. Theme

**Virtual Workshop on (Nano)-Satellite Bus**, with the theme “**Microcontroller Sub-System and ITS Application**”.

### III. Host and Date

Hosted by Politeknik Negeri Ujung Pandang and IEEE Indonesia Section AES-GRSS Joint Chapter on March 20<sup>th</sup>, 2023 (Virtual).

### IV. Official Language

English.

### V. Potential Participants

The Virtual Workshop will be attended by potential participants:

1. Ministry of Communication and Informatics of Indonesia
2. Ministry of Defense of Indonesia

3. ITU (International Telecommunication Union)
4. BRIN (National Research and Innovation Agency)
5. Telecommunication and Internet Service Providers
6. MASTEL (Indonesian ICT's Community)
7. Related Industry i.e. Electronic, Telecommunication, Aeronautic
8. Universities and Academia

## VI. The Program Outline of the Virtual Workshop on (Nano)-Satellite Bus: Microcontroller Sub-System and ITS Application, March, 20<sup>th</sup> 2023

Keynote Speaker 1 : **Dr. Ing. Wahyudi Hasbi**, BRIN, Pusat Riset Satelit

Keynote Speaker 2 : **Ir. Abdullah Bazargen, M.T., M.Si**, Politeknik Negeri Ujung Pandang

Session	Topics	Speakers
1	Microcontroller Basic, and Interfacing	<b>Rommy Hartono, S.T.</b> , BRIN.
2	Microcontroller Advancement	<b>Dharma Aryani, S.T., M.T., Ph.D.</b> , Politeknik Negeri Ujung Pandang.
3	Working Example	<b>Roberto Gunawan &amp; Suhandinata</b> , Team Surya Satellite-1, Surya University.

## VII. Organizing Committee

Advisors : **Dr. Ing. Wahyudi Hasbi** (BRIN)

**Dr. Anggoro Widiawan** (TELKOMSAT)

**Dr. Ing. Arifin Nugroho** (Indonesia AES/GRSS Joint Chapter)

Chair : Ir. Sandryones Palinggi, S.T., M.T.

Program Committee : 1. Asma Amaliah, S.T., M.T. (Coordinator)  
 2. Ika Puspita, S.T., M.T.  
 3. Ainun Jariyah, S.T., M.T.  
 4. Muh. Taufiq Yahid

Zoom Committee : 1. Fadli Tamrin, S.Kom. M.Cs. (Coordinator)  
 2. Zulfiana S. Majid, S.T., M.T.  
 3. Muh. Raihan Saputra

Brochure Committee : 1. Muh. Irsan, S.Kom., M.T. (Coordinator)  
 2. Desi Widyaningsih, S.ST. M.T.  
 3. Nur Iqbal Ramli

Promotional Committee : 1. Amhar Davi Dewantara, S.Kom., M.T.I. (Coordinator)  
 2. Dr. Muhira Dzar Faraby, S.T., M.T.  
 3. Muflihun Azis

MC : Auliya Nabila, S.T., M.T

Moderator : 1. Riesa Krisna Astuti, S.T., M.Eng.  
 2. Politeknik Bosowa  
 3. Universitas Tadulako

## **VIII. Contact Person**

1. Dr. Ing. Arifin Nugroho  
Mobile: +62 812-8728-5116 / e-mail: [arfnugroho2008@gmail.com](mailto:arfnugroho2008@gmail.com)
2. Ir. Sandryones Palinggi, S.T., M.T.  
Mobile: +62 858-6005-0332 / e-mail: [sandryones@poliupg.ac.id](mailto:sandryones@poliupg.ac.id), [sandryones@gmail.com](mailto:sandryones@gmail.com)

## **IX. About IEEE Indonesia Section AES-GRSS Joint Chapter**

The International Electrical-Electronics Engineers (IEEE), Aerospace Electronic Systems – Geoscience and Remote Sensing Society (IEEE AES-GRSS) of the IEEE Indonesia Section, was established in 2013, as a joint Society out of the said two societies, under the auspice of the The International Electrical-Electronics Engineers (IEEE) of 3, Park Avenue, 17<sup>th</sup> Floor, New-York, NY, 10016-5997 USA. The Indonesian IEEE AES-GRSS support the advancement of the technology and humanity in the field of the Aerospace systems and Geoscience & Remote Sensing through organizing the technical gatherings, conferences, seminars, and tutorials in the above-mentioned domains, to the benefit of its members and public. Website: <http://www.ieee.id/>

## **X. About Surya University**

Surya University is an Indonesian private university that was founded in 2013 by the educational leader and physicist Prof. Yohanes Surya, Ph.D. Temporary campus was built in the area Scientia Garden, Gading Serpong, Tangerang - Banten. The university was officially established by the Minister of Education and Culture of Republic of Indonesia 07/E/O/2013 issued on January 10, 2013. Website: <http://www.surya.ac.id/>

## **XI. About Politeknik Negeri Ujung Pandang**

Politeknik Negeri Ujung Pandang or commonly abbreviated as PNUP is a vocational state tertiary institution located in Makassar City, South Sulawesi, Indonesia. Previously this college was part of Universitas Hasanuddin so it was named Politeknik UNHAS which was established in 1987. In the 1996/1997 academic year, Politeknik UNHAS broke away from Universitas Hasanuddin and stood on its own and changed its name to Politeknik Negeri Ujung Pandang. Website: <https://www.poliupg.ac.id/>

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**Virtual Workshop on (Nano)-Satellite Bus  
"Microcontroller Sub-System and ITS Application"**



**IEEE Indonesia Section AES-GRSS Joint Chapter – Politeknik Negeri Ujung Pandang  
March 20<sup>th</sup>, 2023**

**Mohon di contreng [✓] pada kotak**

***Please check [✓] on the box***

YA, saya bersedia menjadi Moderator/ *YES, I am willing to become Moderator* \*)

Name : Dr. Ir. Isminarti, ST., MT.

Job Title : Lecturer

Institution : Politeknik Bosowa

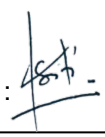
Address : Jl. Kapasa Raya No. 23 Daya, Makassar, Indonesia

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Mobile Phone : +6281355080221

Email : isminarti@politeknikbosowa.ac.id

Tanggal/Date : February 28, 2023 Tanda Tangan/Signature : 

Mohon di scan e-mail kepada Narahubung di [sandryones@poliupg.ac.id](mailto:sandryones@poliupg.ac.id), [sandryones@gmail.com](mailto:sandryones@gmail.com)

*Please scan and e-mail at* [sandryones@poliupg.ac.id](mailto:sandryones@poliupg.ac.id), [sandryones@gmail.com](mailto:sandryones@gmail.com)

Contact: Sandryones Palinggi, Mobile / Whatsapp : **+62 858 6005 0332**

## SURAT TUGAS

Nomor: 015/ST-PBSW/III-2023

Yang bertandatangan di bawah ini :

Nama : ALANG SUNDING, S.ST., M.T.  
Nik : 2013005052  
Jabatan : Direktur Politeknik-Bosowa

Memberikan tugas kepada :

NO	NAMA	JABATAN
1.	Dr. Ir. Isminarti, S.T., M.T.	Dosen Teknik Mekatronika


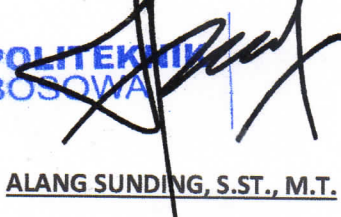
Untuk menjadi Moderator dalam Acara " **Virtual Workshop On (Nano)-Satellite Bus: Microcontroller and ITS Application** " kolaborasi dengan Politeknik Negeri Ujung Pandang, IEEE, GRSS dan AEES yang akan dilaksanakan pada :

Hari/Tanggal : Senin. 20 Maret 2023  
Tempat : Zoom Meeting

Demikian surat tugas ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Makassar, 1 Maret 2023





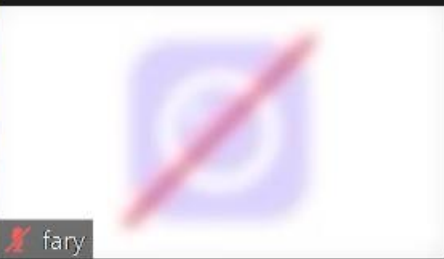






Direktur,



**POLITEKNIK  
BOSOWA**

y ALANG SUNDING, S.ST., M.T.

Recording

 Suhandinata	 Isminarti_PoliteknikBosowa	 Roberto Gunawan	 Abdullah Bazergan Jurusan Teknik Ele...	 fary
 Auliya Nabila	 Sandryones Palinggi (Indonesia)	<b>Asma Amaliah P...</b> Asma Amaliah PNUP	 Muhira Dzar Faraby	<b>Muh Irsan</b> Muh Irsan
 HARDIANSYAH	<b>Elsa Adrianti</b> Elsa Adrianti	<b>Sonny_BRIN</b> Sonny_BRIN	<b>DINI AHRIYANI</b> DINI AHRIYANI	<b>Ainun Jariyah</b> Ainun Jariyah
<b>Riesa Krisna A.S</b> Riesa Krisna A.S	 Sri Reskita Syamsuri	<b>Kismatul Khasa...</b> Kismatul Khasanah	<b>Aisya Ceshara A...</b> Aisya Ceshara Ayyuri Ayunda Irwan	 rumaedah Muslimin
<b>Evandro Wildan</b> Evandro Wildan	<b>Dwi</b> Dwi	<b>Kurniawan HR</b> Kurniawan HR	<b>3A_MELISAH K...</b> 3A_MELISAH KALAKA_ PNUP	<b>cindy imanuela...</b> cindy imanuela mangayuk

Participants (36)

Find a participant

- Sonny\_BRIN
- Sri Reskita Syamsuri
- Tiraeni Songga
- Toni Supriatna
- Zulfa Dhiyaulhaq - SNT
- achirulsani

Invite Mute All

Meeting Chat

Secara pribadi dari punp selamat pada tim surya satelit sukses untuk pengembangan small satelit berikutnya

Sonny\_BRIN to Everyone 15:33

Terima kasih semua nya, izin leave

Who can see your messages? Recording On

To: Everyone Type message here...