

# Strive for *New Phase* Strive for Change















May Peace be upon you and greetings to all.

It is a great pleasure, and an honor, for me to witness the issuance of The 2020 Prospectus of Graduate School of Institut Teknologi Bandung (ITB), which coincidently takes place during the time we are celebrating the 100th anniversary of the Technische Hoogeschool te Bandung (THS), the forerunner of ITB.

The Graduate School is an integrated part of ITB, therefore improving the quality of our graduates, in terms of their knowledge, values, and skills, is the responsibility of all of us.

In 2020, the world has changed very rapidly in the direction that we have never imagined before. The pandemic of Covid-19, while bringing fear and uncertainty, poses a huge challenge to multiple facets of life. Specifically in regard to the area of teaching and learning, as an essential part of education, we are now confronted with the issue of availability and accessibility of applicable delivery methods as well as their appropriateness and quality. ITB provides an updated platform to review the implementation of the learning process capable of overcoming problems in delivery methods during the pandemic. Online learning system that prioritizes and maintains quality education undoubtedly requires extraordinary preparation. In this respect, ITB has emphasized how the curriculum is implemented, and at the same time, elaborated the supporting online learning methods. In view of health and safety aspects during the current pandemic, the Graduate School of ITB has taken several measures, including a hybrid method of offline and online for doctoral defense. Using this method, a total of 21 new PhD graduates with ample knowledge with which they can contribute to society are now ready to take their roles.

In an effort to keep pace with the rapid advances in science, the Graduate School of ITB is developing new multidisciplinary programs, Master's and Doctoral Degrees in Nano Science and Technology. The world has seen the essential of application of this discipline in various fields ranging from basic science to high technology. The new programs are expected to be the avenues for talents in the field of nano science and technology to work together in a dynamic multidisciplinary team that is open for new ideas for further advancement as well as application of science and technology.

As a compilation of information regarding graduate programs from 12 faculties and schools at ITB, this prospectus is expected to be a medium that provides comprehensive, yet concise, information to promote programs which, eventually, contributes to the production of quality graduates.

Finally, I have great expectation that the prospectus would recommend the options of graduate education and contribute to the advancement of Graduate School to support ITB as a locally relevant and globally respected university.

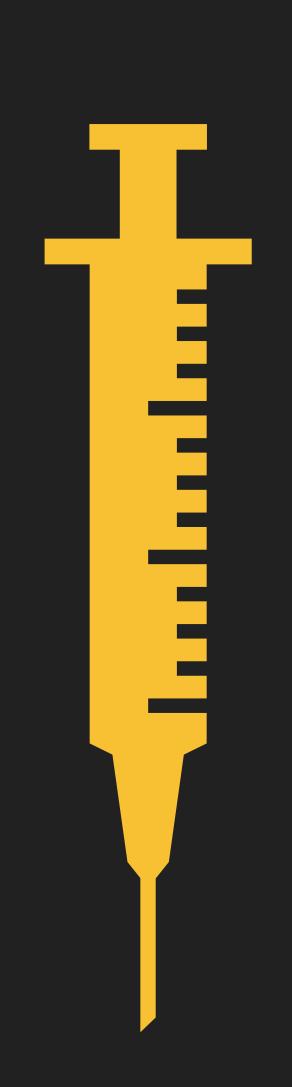
May God bless us in all of our endeavors. In Harmonia Progressio

Professor. Dr. Suprijadi, M.Eng **Dean of Graduate School ITB** 





# Nano Devices & Nanomagnetics



Nano Medicine Nanoparticles for Diagnostic, Therapeutic, Cosmetic and Food Excipients • Nanocarrier Systems for Drug Delivery

Research Center for Nanoscience and Nanotechnology



### GRADUATE SCHOOL INSTITUT TEKNOLOGI BANDUNG GRADUATE PROGRAM IN NANOTECHNOLOGY MAGTER AND DNRTNRAL PROGRAMS

CMOS Devices • Optoelectronics & Energy Devices • Nanosensors • Micromachining Devices • Development of Nano-electronics



### Nano Material for Energy and Industry Purpose Fuel Cell and Hydrogen Storage • Solar Cell and Batteries • Biomass and Coal Gasification • Nanocoating • Nanopowder

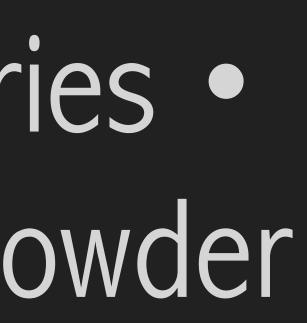


## **Nano Biology & Environment**

Nano-biotechnology and Biomaterials for Farming, Post Harvesting, and Food Technology • Contamination Control and Green Industry



Nanosciences Advanced New Materials • Characterization Tools & Techniques • Theory & Computation



School of Electrical Engineering and Informatics

Faculty of Industrial Technology

School of Business and Management

Faculty of Civil & Environmental Engineering

School of Architecture, Planning and Policy Development

# Strive for New Phase Strive for Change **VIT** SCHOOL OF LTB

Faculty of Mechanical and Aerospace Engineering



Faculty of Earth Sciences and Technology

Faculty of Mathematics and Natural Sciences

School of Life Sciences and Technology

> School of Pharmacy

Faculty of Arts and Design

Faculty of Mining and Petroleum Engineering





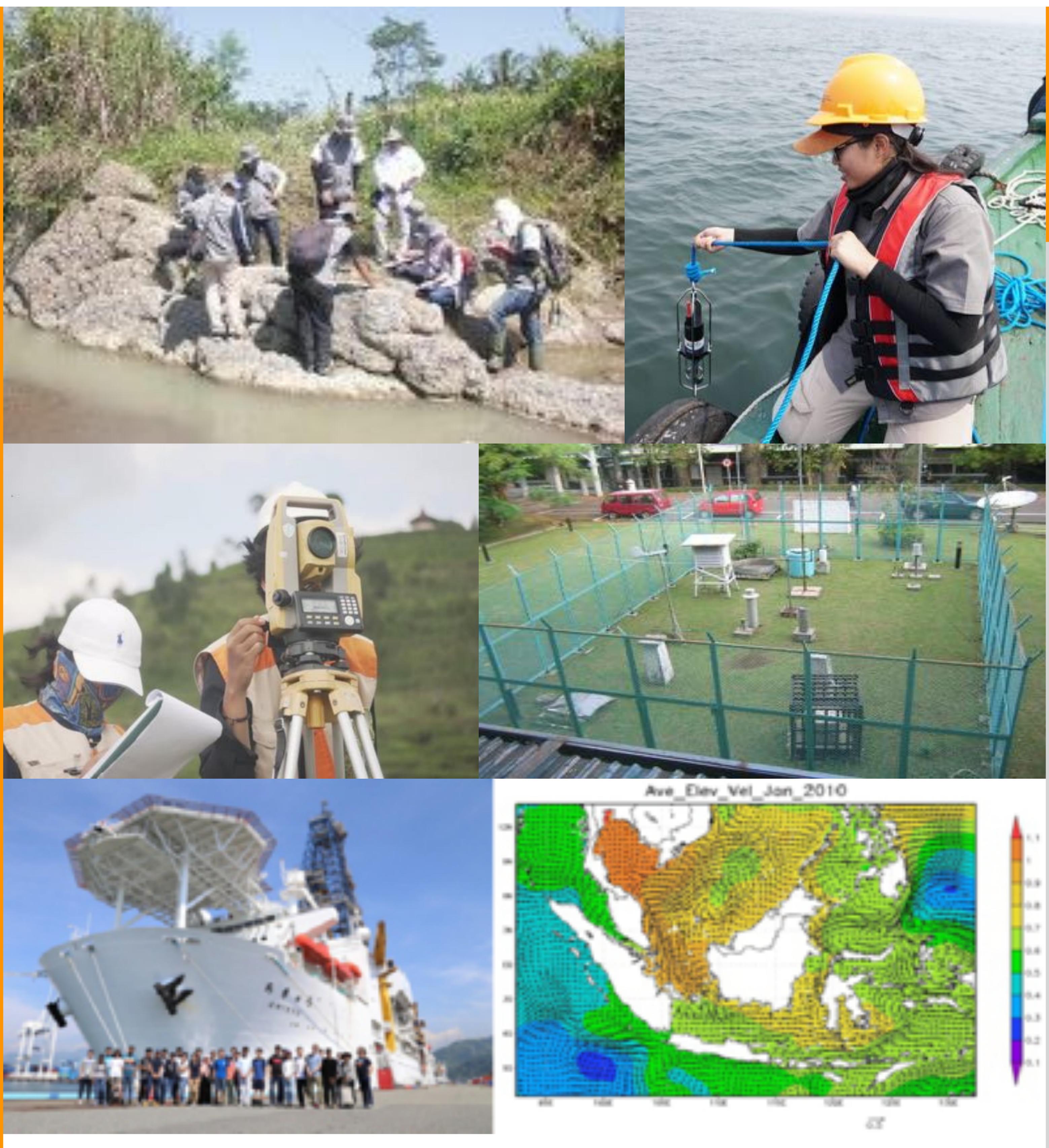
# CCUIVOf EARTH SCIENCE & TECHNOLOGY

"The Faculty of Earth Sciences and Technology is designed to carry out world-class education and research into the dynamics of the earth's surface and interior, including the oceans, and the atmosphere. Indonesia is an ideal pl conduct such research because it is considered as the most active region in the world"

### https://fitb.itb.ac.id



The Faculty of Earth Science and Technology (or Fakultas Ilmu dan Teknologi Kebumian, FITB) of ITB was officially established in August 2007. The FITB comprises six study programs. The education at the FITB is designed to produce capable graduates who are environmentally aware, technology-driven, and possessing strong competitive edges, to serve the earth sciences and technology, and related fields. The research carried out in the faculty also takes into account the nature uniqueness of the Indonesian Archipelago as a maritime continent. The FITB also provides several academic programs aimed at supporting, enhancing, and enriching the quality of the FITB graduates. The FITB is supported by 103 academic staff members with more than 80% holding PhD degree. The academic staffs are grouped into 10 research groups, i.e.: (1) Petrology, Volcanology, and Geothermal, (2) Paleontology and Quaternary Geology, (3) Geodynamics and Sedimentology, (4) Applied Geology, (5) Geodesy, (6) Remote Sensing and Geographical Information Science, (7) Hydrography, (8) Surveying and Cadastral, (9) Atmospheric Science, and (10) Oceanography.



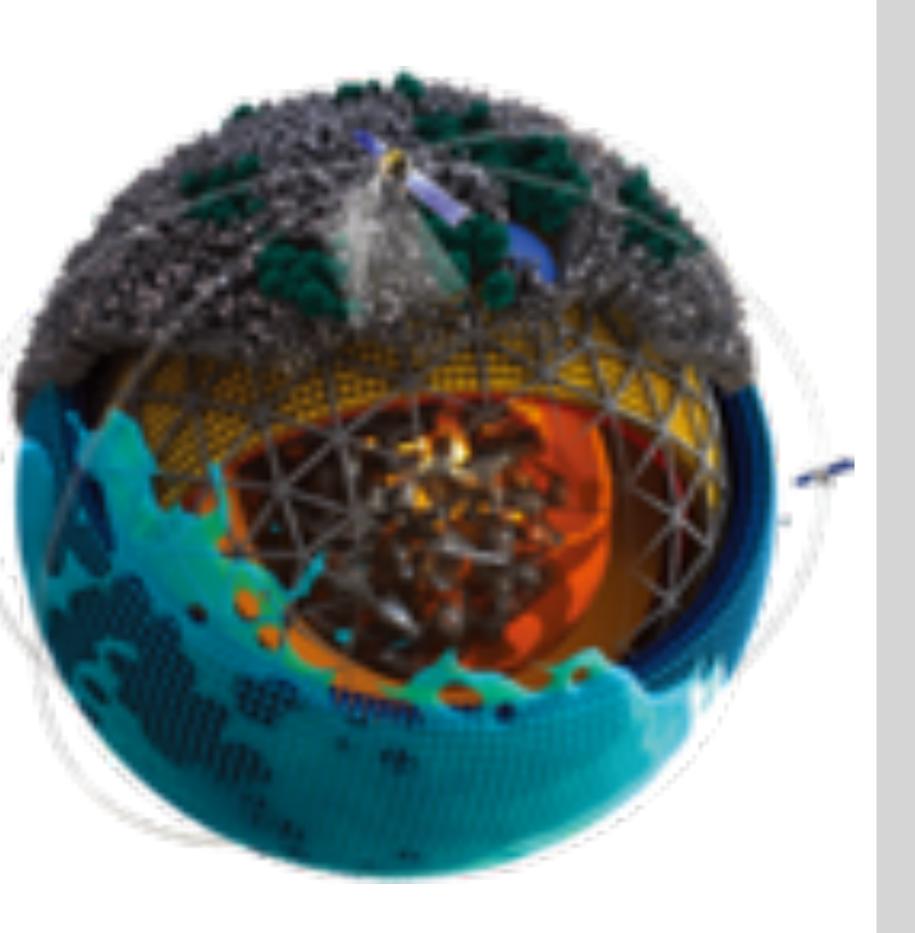


Master and Doctoral Programs in Earth Sciences, with options in Oceanography, Atmospheric Science, and Seismology Master and Doctoral Programs in Geodetic and Geomatics Engineering, with options in Geodesy, Geomatics, Land Administration and Geospatial-based Disaster Risk Management Master Program in Groundwater Engineering

offers the following graduate programs:

Master and Doctoral Programs in Geological Engineering, with options in General Geology, Petroleum Geology, Engineering Geology and Economic Geology





## **Faculyof** Mathematics & Natural Sciences

Greetings from Bandung. Mathematics & Natural Sciences are forever evolving, driven by our fundamental curiosity of phenomena around us. They are the source of new ideas, as well as drivers of disruptive innovation. Combinations of basic and applied sciences make it possible for science and technology to enrich our lives today and beyond. Please come and join us in our strive for advancing mathematics and natural sciences.

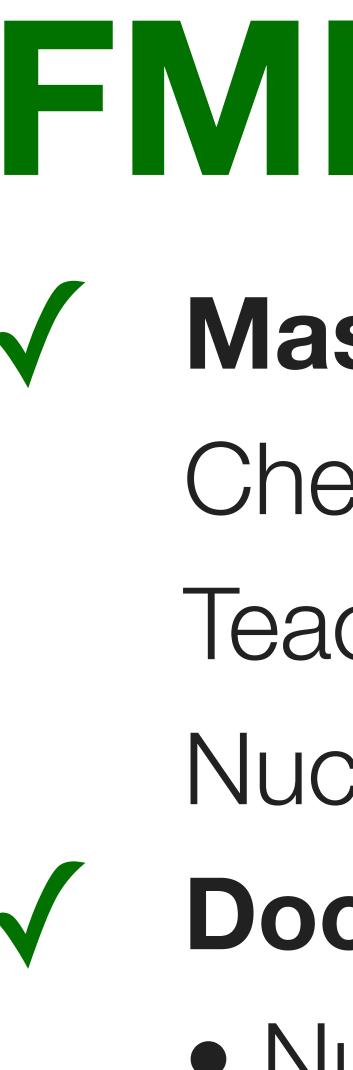
https://fmipa.itb.ac.id



Dr. Wahyu Srigutomo Dean The Faculty of Mathematics and Natural Sciences (or Fakultas Matematika dan Ilmu Pengetahuan Alam, FMIPA) of **ITB** offers education in four branches of scientific disciplines: Astronomy, Chemistry, Mathematics, and Physics. Graduate degrees are offered in all four disciplines via both the pure and applied tracks.

With more than 200 highly dedicated faculty members, FMIPA actively conducts research in 16 sub-divisions of Mathematics and Natural Sciences: Astronomy, Algebra, Analysis and Geometry, Combinatorial Mathematics, Industrial and Financial Mathematics, Statistics, Analytical Chemistry, Biochemistry, Inorganic and Physical Chemistry, Organic Chemistry, Nuclear Physics and Biophysics, Complex Systems and Earth Physics, Physics of Electronic Material, Physics of Magnetism and Photonics, Theoretical High Energy Physics, and Physics of Computational Instrumentation. We strive to provide a conducive research environment, by provisioning world-class research facilities and supports.







Astronomy



Master : Astronomy • Chemistry • Mathematics • Physics • Chemistry Teaching • Mathematics Teaching • Physics Teaching • Actuarial Science • Computational Science • Nuclear Science & Engineering **Doctoral :** Astronomy • Chemistry • Mathematics • Physics Nuclear Engineering



Chemistry





Mathematics

Physics





# E C C U I V of ART & DESIGN



"The Master and Doctoral programs at the Faculty of Art and Design dedicate their courses to create, develop, and share the knowledge in the art, design, craft and humanities that promote the values of Indonesian culture in the global sphere. The academic programs are driven by the common goal to contribute to the formation of a better world through research, innovation, and creativity, in harmony with the development of science and technology."



### https://fsrd.itb.ac.id

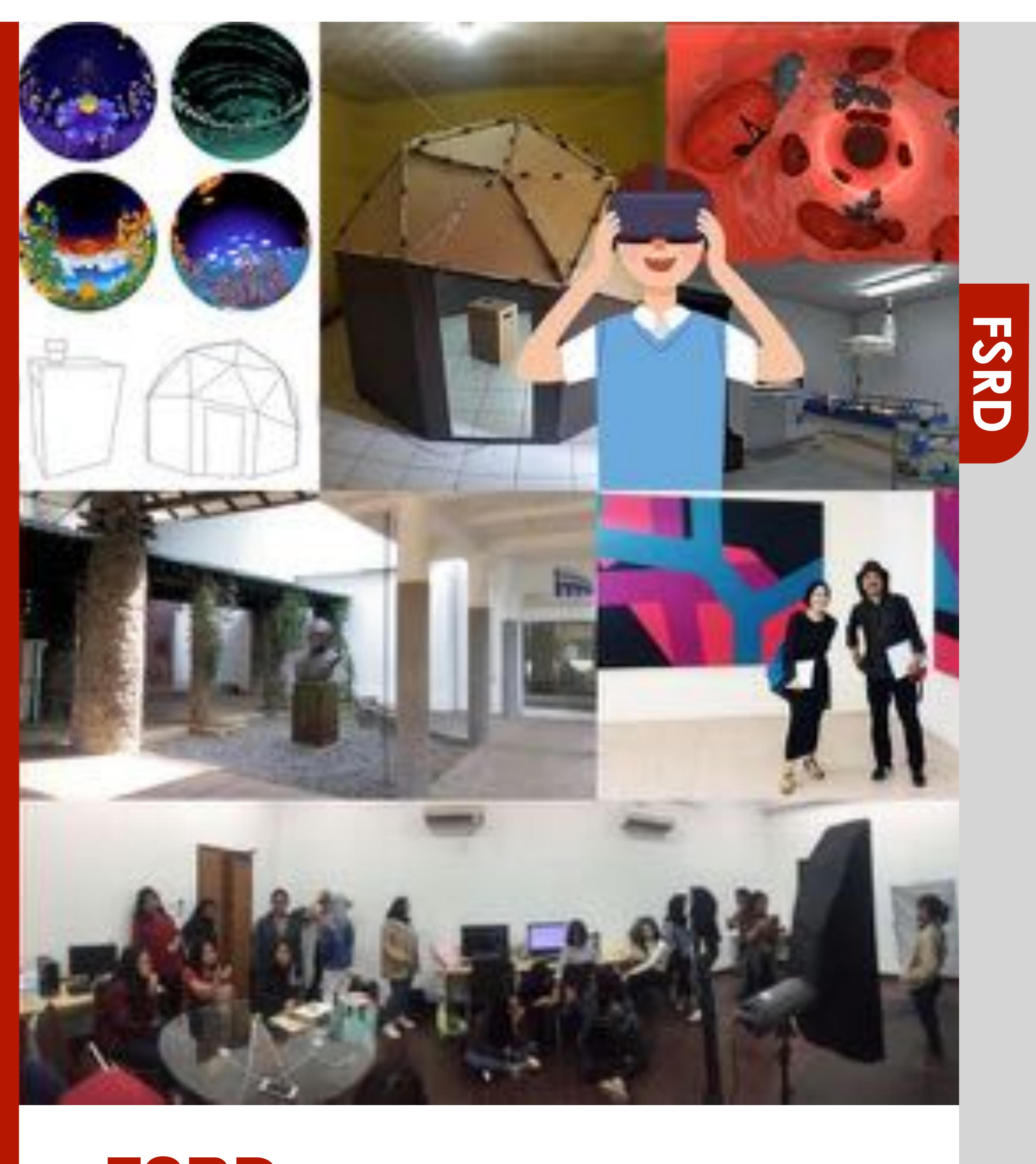


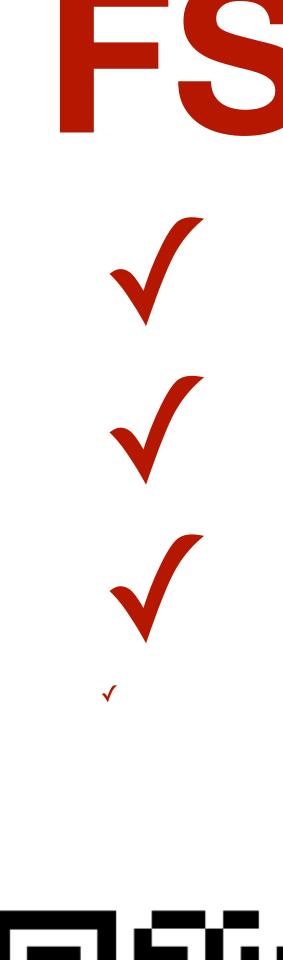
Dr. A. Rikrik Kusmara, M.Sn. Dean

### The Faculty of Art and Design (or Fakultas Seni Rupa dan Desain, FSRD) of ITB offers research based

on creative works and the study of objects and cultural phenomena. The focus of research ranges from traditional to contemporary culture. Through a critical perspective and openness to the possibility of crossdisciplinary and multi-disciplinary studies, the FSRD post graduate program makes its graduates a creative figure sensitive and responsive as well as ready to be involved in the developments of both academics and professionalism.

In general, the ITB FSRD postgraduate program offers a study pathway of works, objects, and cultural phenomena as well as the creation of artworks or design projects. Current research areas in the FSRD post graduate program include work creation, art theory, art history, curatorial and art management, design and artifacts, design and systems, design and environment, design and information, design and human behavior, design and visual culture, and design and material. Specifically, for the doctoral program it offers fields of study that explore traditions and archipelago and popular culture in the context of contemporary Indonesian society.







FSRD offers the following graduate programs: Master Program in Visual Art Master Program in Design **Doctoral** Program in Art and Design







### **ECUIVOF** NDUSTRIAL FCHNOLOGY



The Faculty of Industrial Technology has various graduate programs that are very close to the future technology both for industry and live society. We believe that the research and subject we learn today will shape the future technology of our world. We have several programs in graduate course including engineering physics, instrumentation and control, chemical engineering, industrial engineering and management, and logistics. All programs will stimulate the students to have eagerness as well as the passions to gain the knowledge and frontier research during their stay at our campus. As our world class professors have interactions with the students in all of the programs, the programs also make mutual collaborations with industry, the government and university partner in abroad. These graduate programs will shape the students to have experience in cutting-edge and world class research, real local problems, and competitive academic environments.

### https://fti.itb.ac.id

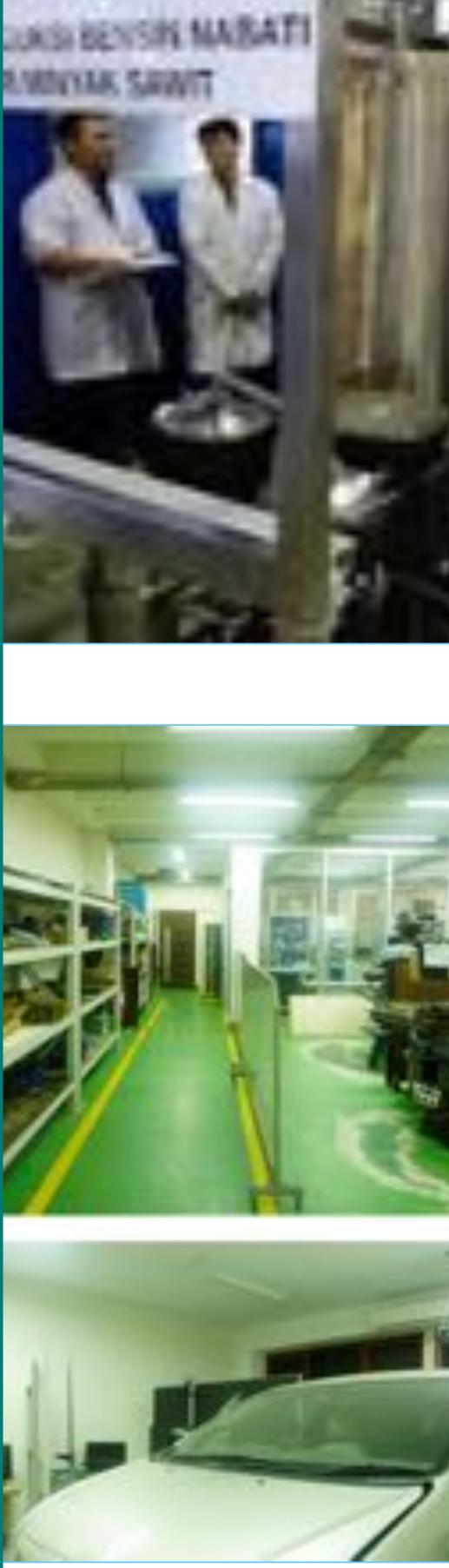




Prof. Brian Yulianto, Ph.D Dean

# The Faculty of Industrial Technology

(or Fakultas Teknologi Industri, FTI) of ITB commenced in 1941 with the implementation of a Chemical Engineering Study Program. But officially, FTI was founded in 1972. After several changes, until December 2005, FTI comprised 7 departments, namely Chemical Engineering Department, Mechanical Engineering Department (offering Mechanical engineering and Material Engineering Degree Programs), Electrical Engineering Department, Engineering Physics Department (also offering master program in Instrumentation and Control), Industrial Engineering Department, Informatics Engineering Department, and Aeronautical Engineering Department. However, the establishment of ITB as an autonomous legal enterprise was deemed as an opportunity to establish a more effective and efficient academic management and utilization of resources.



FI offers the following graduate programs: ✓ Master and Doctoral Programs in Chemical Engineering ✓ Master and Doctoral Programs in Engineering Physics ✓ Master and Doctoral Programs in Industrial Engineering and Management Master Program in Instrumentation and Control **Master** Program in Logistic



(Master)



(Master)







Chem. Engineering Chem. Engineering Engineering Phys. (Doctoral)



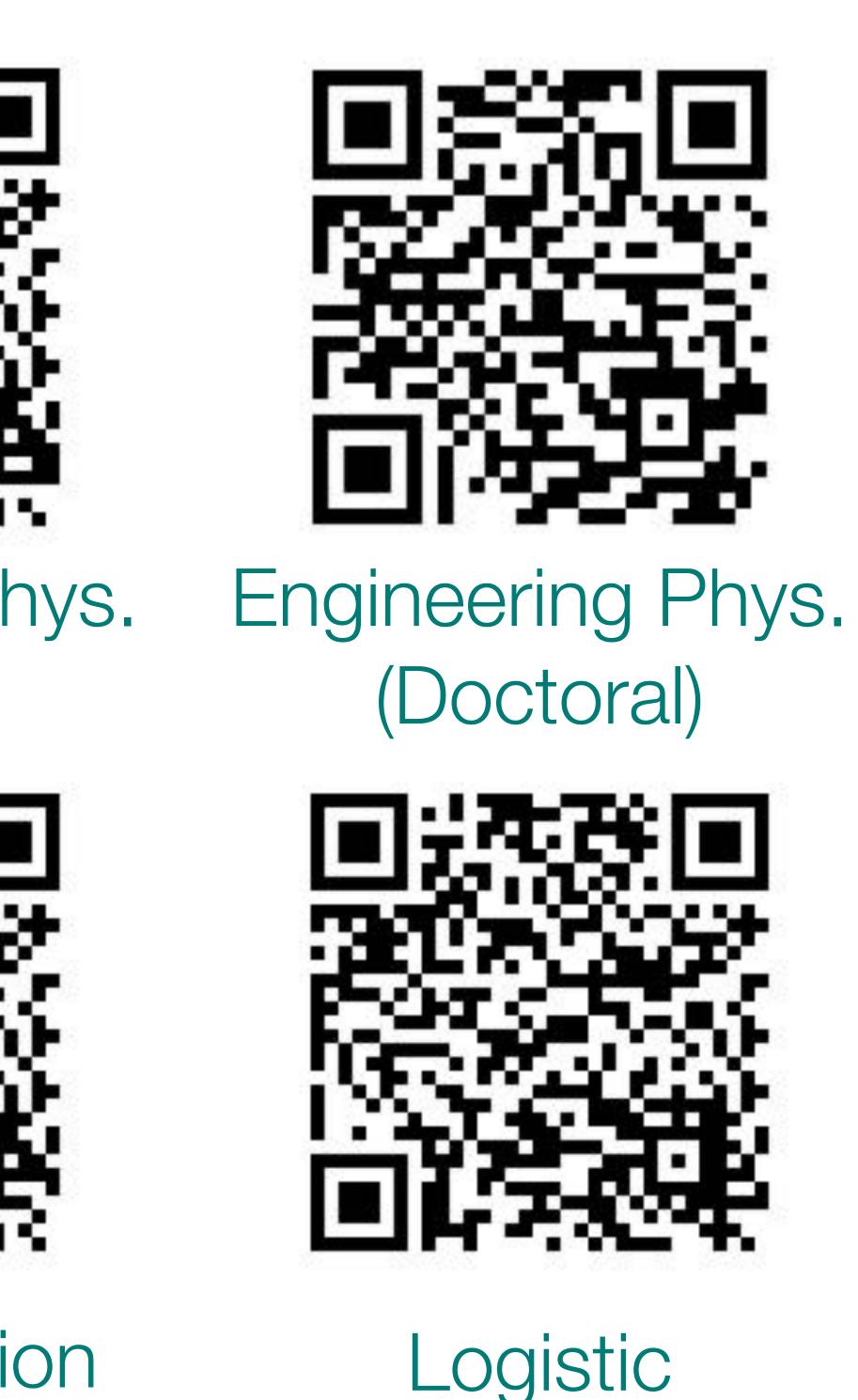
Industrial Eng. & Management (Doctoral)



(Master)



Instrumentation & Control



### FOCUIVof MECHANICAL & AEROSPACE ENGINEERING

"We warmly welcome all of eligible students and guide them to be leading independent thinkers, problem solvers and innovators in engineering."

https://ftmd.itb.ac.id

Faculty of Mechanical and Aerospace Engineering (or Fakultas Teknik Mesin dan Dirgantara, FTMD) of ITB is a hub of high quality engineering education, advanced research, and innovation, with long tradition of international atmosphere. Our renowned and highly qualified faculty members teach and mentor aspiring graduate students with a rigorous curriculum using state-of-the-art facilities and laboratories.

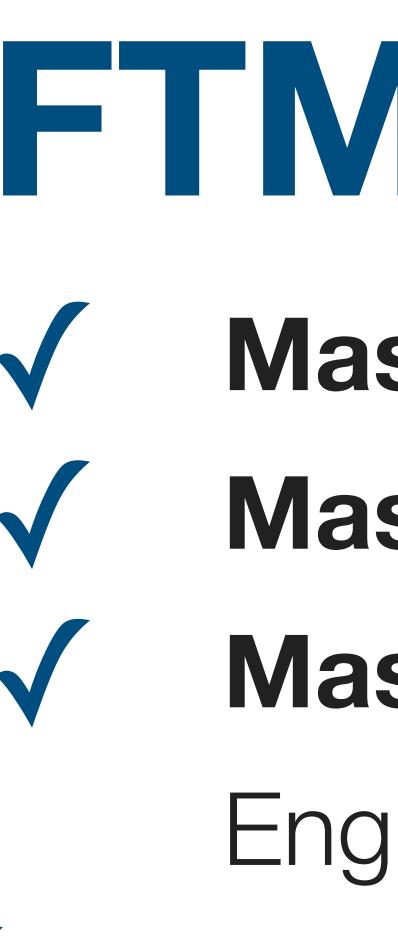
Prof. Dr. Ir Tatacipta Dirgantara Dean

Our graduate program provides a launchpad for graduates to become innovative future leaders in established manufacturing companies and new entrepreneurial ventures by giving combination of in-depth, groupbased graduate subjects and a project-based thesis experience with our comprehensive research partners that will accelerate students' engineering and leadership skills.

Building upon its broad base we offer a number of courses which allow you to specialize in one of the following areas: Design, Dynamics and Control, Production Engineering and Automation, Sustainable Energy Engineering, Aerodynamics and Propulsion, Aircraft Design, Operation, and Maintenance, Flight Mechanics, Lightweight Structures, and Materials Processing, Performance, and Degradation.

The Faculty has an international reputation for its high quality education, advanced research and innovation. It is no wonder that FTMD graduate programs scored highly with an A accreditation from BAN-PT, Indonesian Higher Institution Accreditation Board.







FTMD offers the following graduate programs: Master and Doctoral Programs in Mechanical Engineering Master and Doctoral Programs in Aerospace Engineering Master and Doctoral Programs in Materials Science and Engineering

> **Contact us :** Labtek II, 2nd Floor, JI. E/ JI. Ganesa 10 (022) -22-2504243 info@ftmd.itb.ac.id

# **Faculyof** Civil & Environmental Engineering



"Faculty of Civil & Enviromental Engineering offers excellent opportunity for students to develop knowledge and expertise in the field of sustainable infrastructures and built environment, and to expand their professional capacity to develop innovative solutions to address global and local challenges in the future"

https://ftsl.itb.ac.id

Infrastructure development plays a key role in national development strategy, which will both impact on the live ability and sustainability of cities and regions in Indonesia and raise the sustainable growth rate. Our research areas have been defined based on ITB's strategic agenda, and also in line with national infrastructure goals.

> Ir. Edwan Kardena, Ph.D Dean

The Faculty of Civil and **Environmental Engineering** (or Fakultas Teknik Sipil dan Lingkungan, FTSL) of ITB is an excellent higher education institution in education, research, and community services in the field of infrastructure and built environment.

With more than 150 faculty members, FTSL actively conducts research in 10 research groups of Civil and Environmental Engineering: Structural Engineering, Geotechnical Engineering, Water Resources Engineering, Transportation Engineering, Construction Engineering and Management, Coastal Engineering, Offshore Engineering, Water and Water Waste Engineering, Air and Waste Management, Environmental Management Technology.



# FOCUIVof MINING & PETROLEUM ENGINEERING



Faculty of Mining and Petroleum Engineering (FTTM), Institut Teknologi Bandung, owns the top study programs in Indonesia. The rigorous curriculum of FTTM prepares students to work in industries that greatly contribute to this country. FTTM students have a strong base in the fields of oil and gas as well as geothermal issues, and

https://fttm.itb.ac.id

Prof. Ir. Ridho K. Wattimena, MT., Ph.D., IPU Dean

The Faculty of Mining and Petroleum Engineering (or Fakultas Teknik Pertambangan dan Perminyakan, FTTM) of ITB offers education in five branches of scientific disciplines, namely Mining, Petroleum, Geophysics, Metallurgy and Geothermal.

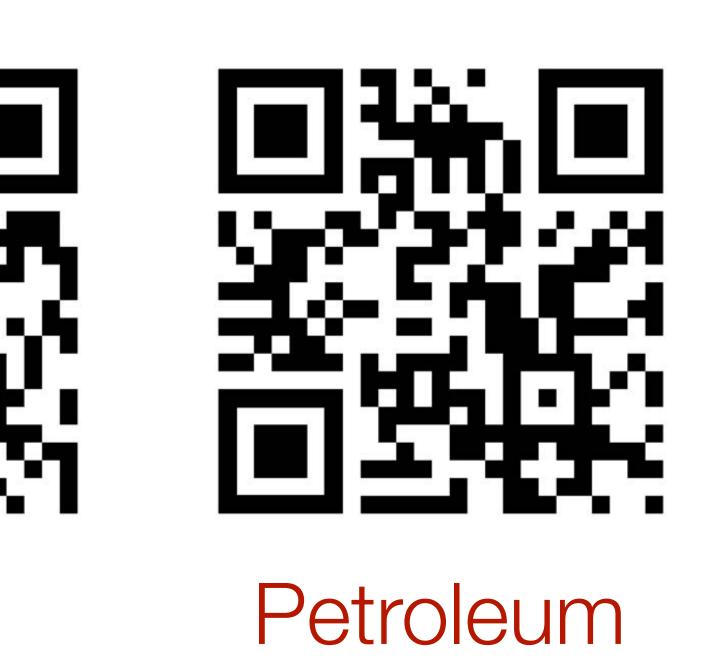
FTTM combines excellence and diversity on a unique scale. The unique strength of our community is to unite many gifted students having diverse backgrounds, interests, perspectives, and ambitions from across the country. We have over 200 courses, and a variety of study programs, research programs, and student organizations. More than 90 permanent lecturers (with 21 fulltime lecturers) teach and practice various subjects. Our expertise covers a wide range of exploration, exploitation of natural resources, and multi-hazard mitigation







FTTM offers the following graduate programs: Master and Doctoral Programs in Mining Engineering Master and Doctoral Programs in Petroleum Engineering Master and Doctoral Programs in Geophysical Engineering Master and Doctoral Programs in Metallurgical Engineering Master Program in Geothermal Engineering



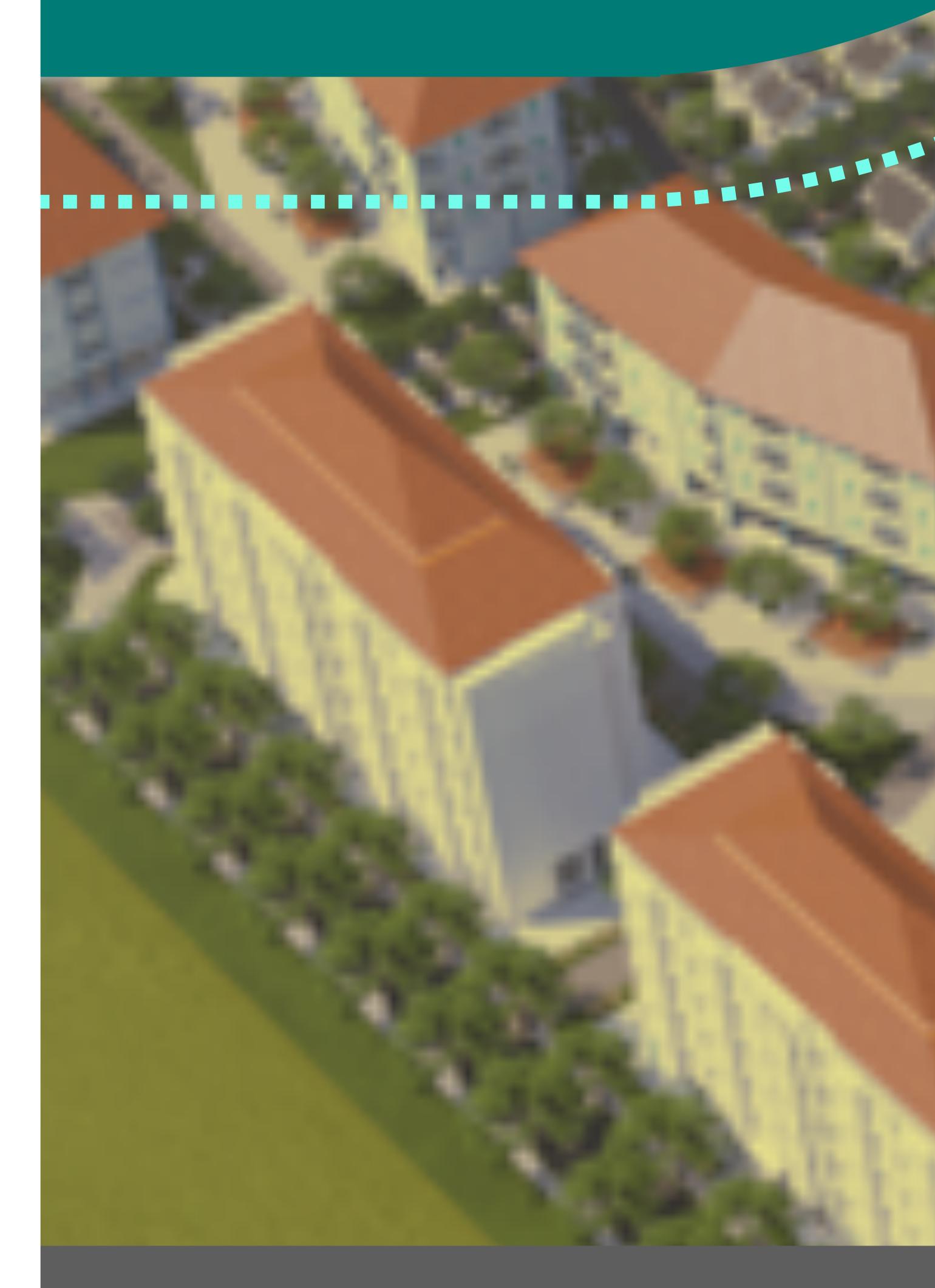








### Schoolof ARCHITECTURE, PLANNING, & POLICY DEVELOPMENT



We nurture an environment that is suitable for creative thinking, inter- and trans-disciplinary dialog, and learner-centered learning in coping with our common challenges to promote better balance and more connections between urban and rural livelihoods, to promote inclusions of underprivileged.

https://sappk.itb.ac.id/eng

The School of Architecture, Planning, and Policy Development (or Sekolah Arsitektur, Perencanaan dan Pengembangan Kebijakan, SAPPK) of ITB, as committed to pursue the goal of realizing sustainable built environments by conducting interdisciplinary and trans-disciplinary researches, developing new and relevant architectural designs, urban and regional planning theories and methodologies, and formulating policy scenarios.

Dr. Sri Maryati, ST, MIP. Dean

### Faculty members and students of the school are actively engaged with various groups of the societies at the local, national and international levels, constantly in pursuit of innovation and creation. We have been passionately working for delivering academic and research excellence within an inspiring and supportive learning environment, and to provide best services for the society in the fields of architecture, urban and regional planning, transportation, development studies, urban design tourism planning and landscape architecture.

With more than 120 faculty members, SAPPK actively conducts research in 9 different research groups, Regional, and Rural Planning, Urban Planning and Design, Regional and Urban Infrastructure System, Development Management and Policy Planning, Architectural Design, Building Technology, Housing and Human Settlement, Architectural History, Theory and Criticism, Economics System and Modeling Research : by provisioning world-class research facilities and supports.









"SBM ITB as the best business school in Indonesia always contributes and brings a significant impact on society at the national and global levels. The business and management disciplines in SBM ITB play an instrumental role in bridging ITB's distinctive strengths in the fields of science and technology to create meaningful value and impact for the society, industry, and government. SBM ITB offers some advantages in terms of interactive learning methods using the most recent business cases, best practices from various reputable companies in Indonesia and globally, and hands-on experiences shared by prominent business leaders. Also, ethical responsibility and principles of sustainability should be the baseline of our learning journey. These are the benefits of learning that are relevant to the current needs of the industry"

https://sbm.itb.ac.id

Prof. Dr. Ir. Utomo S. Putro, M. Eng. Dean

### The MBA programs in Bandung and Jakarta provide students with opportunities to sharpen their leadership skills, develop business ventures and expand professional networks.

MSM program enhances students' research capacity and analytical skills based on robust management frameworks, coupled with double degree programs and scholarship opportunities.

DSM discovers new knowledge by providing solutions to business problems, in collaboration with prominent scholars and professors from the relevant management areas.

With more than 100 faculty members, supporting staff, research centers and also cutting-edge facilities, SBM ITB actively conduct research activities in 6 different interest groups: Business Risk and Finance, Business Strategy and Marketing, Decision Making and Strategic Negotiation, Entrepreneurship and Technology Management, Operations and Performance Management, and People and Knowledge Management.







SBM offers the following graduate programs: Master of Business Administration (MBA) - Bandung Campus Master of Business Administration (MBA) – Jakarta Campus MBA Dual Degree Master of Science in Management (MSM) **Doctor of Science** in Management (DSM)



Jakarta











DSM

# Schoolof PHARMACY

"School of Pharmacy ITB strives for the advancement of health through excellence in pharmacy education, research and practice??

https://fa.itb.ac.id

Prof. Dr. apt. I Ketut Adnyana Dean



### The School of Pharmacy (or Sekolah Farmasi, SF) of ITB harmonizes the drug development process starting from drug discovery ideas, molecular docking, exploration of natural products, analytical methods, preclinical & clinical studies, drug formulation until the proper use of drugs in patients and contributes to the development of sport sciences to improve athlete performance and improve public fitness.

SF, in performing its roles in teaching and learning, research, and community services, is supported by five departments:

1. Pharmacochemistry, 2. Pharmaceutics, 3. Pharmaceutical Biology, 4. Pharmacology-Clinical Pharmacy,

5. Sport Science.

and





SF offers the following graduate programs: Master and Doctoral Programs in Pharmacy Master Program in Industrial Pharmacy Master Program in Sports Science





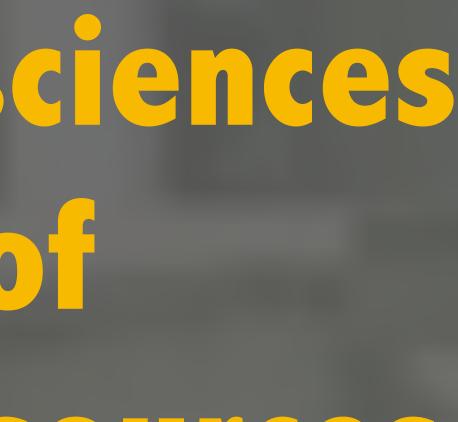




# Schoolof LIFE SCIENCES & TECHNOLOGY



In the 21st century, professionals in life sciences play important roles in the development of bioscience, biotechnology, and natural resources management (bio-management). In fact, biotechnology has been projected to be one of the most important applied sciences.







Dr. Endah Sulistyawati Dean

The School of Life Sciences and Technology (or Sekolah Ilmu dan Teknologi Hayati, SITH) of ITB offers the following graduate programs:

I. Master's Biology which is designed to accommodate students with various backgrounds in biological science. Within this Program, you can select a specialized track from the following: Molecular, Cell, and Organismal Biology and Environmental Biology tracks.

2. Master's Biotechnology which is designed to produce a reliable and expert human resource in the field of biotechnology. Within this Program, you can select a specialized track from the following: Industrial Biotechnology, Medical Biotechnology, and Agricultural Biotechnology specializations.

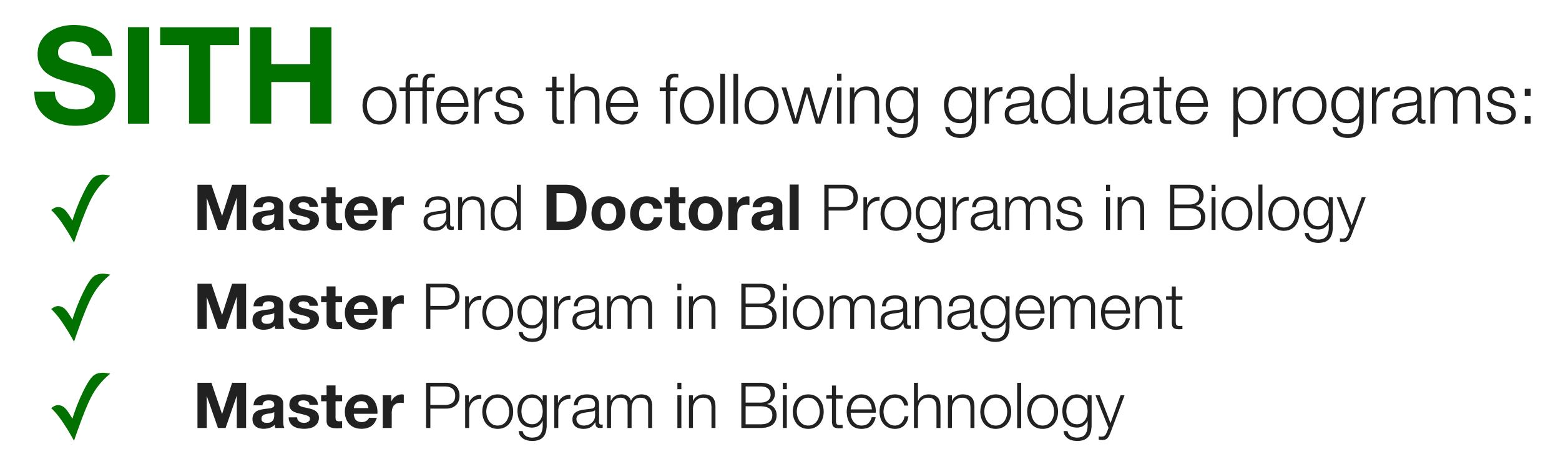
3. Master's Biomanagement which is designed to respond to the need for professional experts capable of managing biological and environmental resources in the tropics. This program uses an interdisciplinary approach to identify problems related to the use, development of added value, and conservation of biological resources; from plan, organize, evaluate an SDH management unit and develop leadership and entrepreneurial capacity.

All Masters' Programs have double degree program with Kyoto University (Master's Biology and Biomanagement) and Osaka University (Master's Biotechnology).

4. Doctor's Biology which is designed to train students to become independent researchers in the life sciences. The solve problems through inter-, multi-, or transdisciplinary approaches, develop new knowledge in the science, applications or engineering of Biology, to produce creative, original, and proven solutions for the benefit of society.











Biomanagement





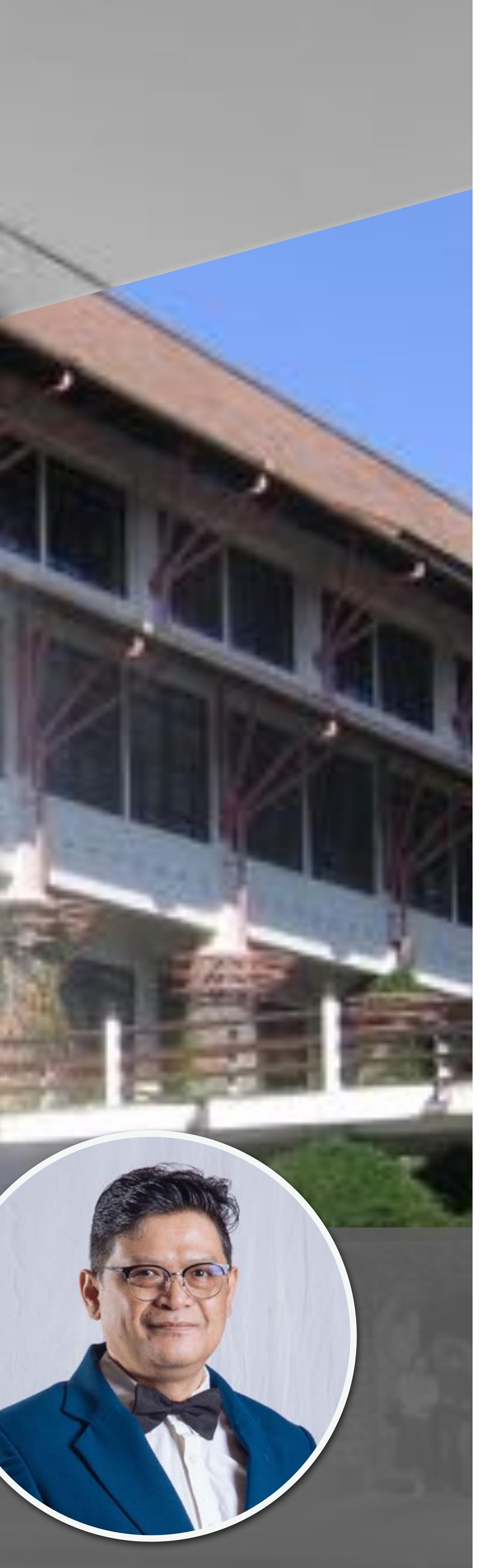
Biotechnology

### Schoolof Electrical Engineering & Informatics

School of Electrical Engineering and Informatics provides educations that support essential technologies for Industrial Revolutions 4.0.: Artificial Intelligence, Internet of Things, Big Data and Coding, as well as their underlying body of knowledge including computer science & software engineering, telecommunication, electronics, control system, robotics, information system & technologies, biomedical engineering and power system.

"We strive to achieve quality education and research. Our graduate programs equip students the necessary skills to address current and future key job markets."

https://stei.itb.ac.id



Dr. Tutun Juhana, ST., MT. Dean

### Established since 2006, The School of Electrical Engineering and Informatics (or Sekolah Teknik Elektro dan Informatika, STEI) of ITB has developed from a merger of two departments – Electrical Engineering department and Informatics / Computer Science department, STEI now has six undergraduate programs, two master programs and one doctoral program, and nine research groups with thriving research projects.

STEI actively conducts research in 9 different research areas: Electronics, Power Engineering, Informatics, Knowledge and Software Engineering, Information Technology, Computer Engineering, Control and Computer System, Telecommunications Engineering, and Biomedical Engineering.





STEI offers the following graduate programs: Master Program in Electrical Engineering Master Program in Informatics **Doctoral** Program in Electrical Engineering and Informatics

(Master)



Informatics (Master)





### INSTITUT TEKNOLOGI BANDUNG





FITB FMIPA FCRD . . . FTMD FTSL FTTM **CAPPK** SF SITH **STEI** 

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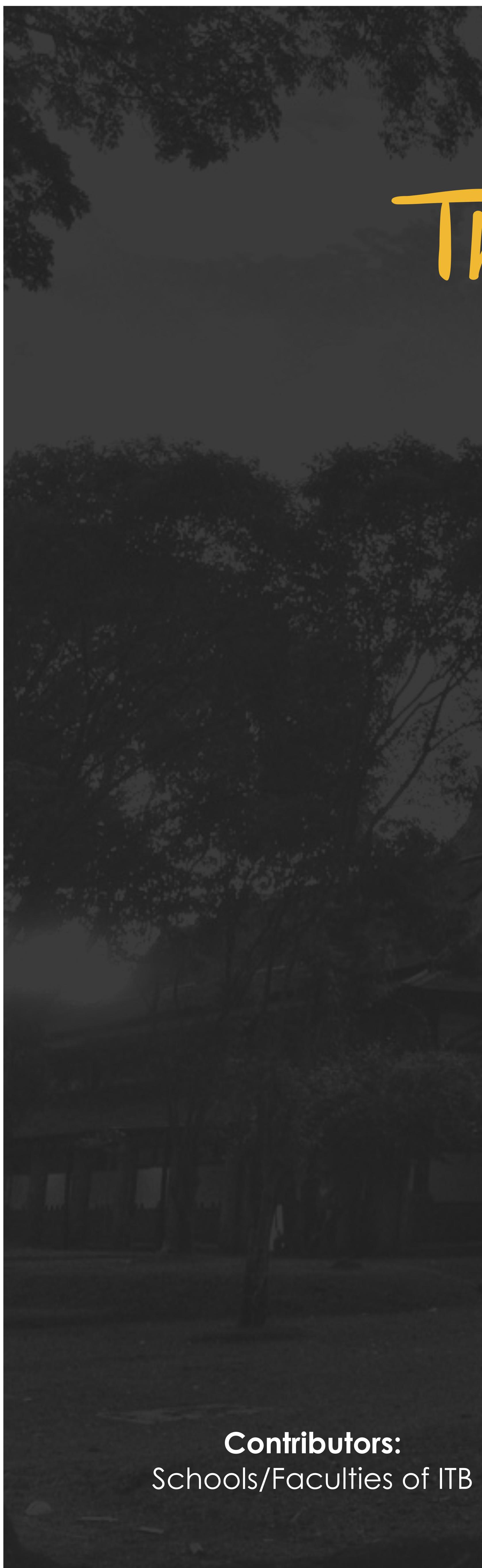












### Graduate School of ITB

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