



Institute of
Technology
Bandung

FTTM ITB

Faculty of Mining and Petroleum Engineering
Institute of Technology Bandung

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Welcome

To FTTM ITB



Faculty of Mining and Petroleum Engineering (FTTM), Institut Teknologi Bandung (ITB), 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, geo-hazards mitigation in Indonesia, mining and metallurgy.

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 full-time lecturers) teach and practice various subjects. Our expertise covers a wide range of exploration, exploitation of natural resources, and multi-hazard mitigation. I sincerely encourage you to spend time getting to know our faculty (FTTM) and all that it offers.

Prof. Ir. Ridho Kresna Wattimena, MT., Ph.D., IPU.
Dean and Professor of Faculty of Mining and Petroleum Engineering

Teamwork begins by building trust.
And the only way to do that
is to overcome our need
for invulnerability

– Patrick Lencioni



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Welcome to

Faculty of Mining and Petroleum Engineering

This is our vision and mision

Vision

Being the excellent faculty in the field of exploration, production, utilization of earth resources and mitigation of natural disasters that contribute to improving the quality of the natural environment, economic and social, for the welfare of Indonesia and mankind

Mission

Creating, sharing and applying the science and technology of earth resource management and disaster mitigation as well as producing excellent human resources especially in Indonesia as well as in the world.

Conducting the management process of Tridarma of Higher Education through transparent, accountable, responsible, independent and fair ways to achieve the best FTTM roles.



Education Programs

Mining Engineering | Petroleum Engineering | Geophysical Engineering
Metallurgical Engineering | Geothermal Engineering





Study Programs at FTTM

The study program is a program/specialization that can be selected by students. Currently the Faculty of Mining and Petroleum Engineering (FTTM) Institut Teknologi Bandung (ITB) has 5 study programs including: Mining Engineering, Petroleum Engineering, Geophysical Engineering, Metallurgical Engineering, and Geothermal Engineering.

Followings are brief explanations of each study program in FTTM ITB.

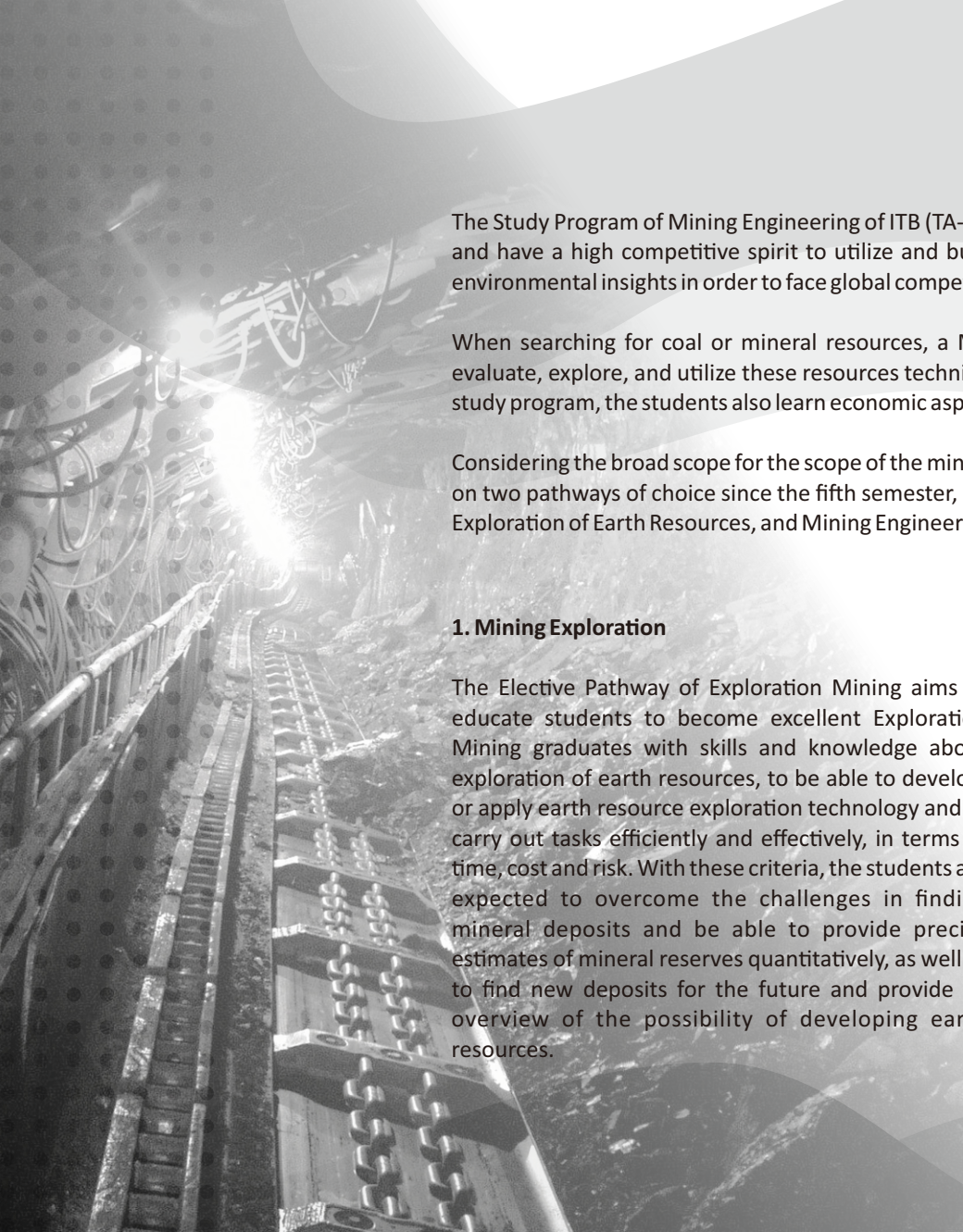
STUDY PROGRAM OF MINING ENGINEERING

In general, the expertise or profession of Mining Engineering requires quite extensive knowledge. Basic sciences such as mathematics, physics, chemistry, scientific writing, and English as a foothold to understand the basic sciences of engineering in general, especially in the field of Mining Engineering. Mining activities include several stages: the exploration stage, the development stage of the mine (development/construction), the mining stage, and the processing/refining stage. The Undergraduate Study Program of Mining Engineering of ITB currently covers the knowledge needed for the exploration stage up to the mining stage; therefore, it consists of 2 (two) optional pathways: Exploration Mining and General Mining. The Study Program of Mining Engineering of FTSM ITB outlines the educational objectives as follows:

1. Bachelor of Mining Engineering with the ability to apply knowledge and skills in good mining practices that include exploration, economics, development, planning and design, and mining operations.
2. Bachelor of Mining Engineering with a good understanding of professional and ethical responsibilities, including occupational health and safety, environmental and social aspects in mining practices.
3. Bachelor of Mining Engineering who has a lifelong learning attitude through further education, as well as research and professional activities, at national and international levels.
4. Bachelor of Mining Engineering with the ability to take part in various types of careers, including government agencies, education, research and development, and entrepreneurship.

The curriculum of the study program is arranged according to ABET criteria so that the graduates are able to face challenges in the fields of science, expertise, and profession of Mining Engineering in the next 10 years including:

1. Increasing production capacity in line with the development of the ability of tools and market demands that demand efficient mine planning and management,
2. Increasing application of underground mining methods due to the increasingly limited number of economic reserves for open mining, as well as the application of resource conservation and reserves due to the increasingly limited number of resources and reserves,
3. Demand for awareness in the application of Good Mining Practices, improving work safety, as well as more attention to social, economic and environmental issues in mining activities.
4. Laws and government policy demand to refine domestic mining materials, as well as the use of marginal deposits including the use of low energy coal.
5. Fluctuating (often low) prices of mining commodities and deposits of minerals that cannot be mined on a large scale, so a good understanding of mine planning is required dealing with these technical and economic limitations.



The Study Program of Mining Engineering of ITB (TA-ITB) produces graduates of Mining Engineering who are superior and have a high competitive spirit to utilize and build conservation of coal and mineral resources by considering environmental insights in order to face global competition.

When searching for coal or mineral resources, a Mining Engineering graduate must have knowledge of how to evaluate, explore, and utilize these resources technically and economically to meet human needs. Therefore, in this study program, the students also learn economic aspects related to the development of coal and mineral resources.

Considering the broad scope for the scope of the mining industry, the goals and objectives of education in TA-ITB focus on two pathways of choice since the fifth semester, namely Exploration Mining supported by the Expertise Group of Exploration of Earth Resources, and Mining Engineering supported by the Expertise Group of Mining Engineering.

1. Mining Exploration

The Elective Pathway of Exploration Mining aims to educate students to become excellent Exploration Mining graduates with skills and knowledge about exploration of earth resources, to be able to develop, or apply earth resource exploration technology and to carry out tasks efficiently and effectively, in terms of time, cost and risk. With these criteria, the students are expected to overcome the challenges in finding mineral deposits and be able to provide precise estimates of mineral reserves quantitatively, as well as to find new deposits for the future and provide an overview of the possibility of developing earth resources.

2. Mining Engineering

The Elective Pathway of Mining Engineering aims to educate students to become reliable Mining Engineering graduates with skills and knowledge about mineral and coal extraction both on the surface and underground, and be able to develop or apply mining technology and to perform tasks efficiently and effectively, in terms of time, costs and risks. With these criteria, the students are expected to be able to overcome the challenges in extracting mineral and coal resources and be able to manage the development of mineral and coal resources based on sound mining engineering principles.

STUDY PROGRAM OF PETROLEUM ENGINEERING

The Study Program of Petroleum Engineering at ITB basically began in 1950. Until 1961, the Petroleum Engineering program was still affiliated with the Mining Engineering department. Since 1962 the Petroleum Engineering program has separated itself from the Mining Engineering department and is independent by the name of the Petroleum Engineering Department. In 2004 ITB established a change in status from Department to Study Program. Since that time the Petroleum Engineering Department changed its name to the Petroleum Engineering Study Program. Until 1980, the Petroleum Engineering department still focused on undergraduate education. The postgraduate programs (master and doctoral education) began in 1980. Initially, post graduate education programs were managed by the ITB Postgraduate Program, together with other post graduate programs at ITB. In the early 1990s, the operation and management of the Petroleum Engineering Postgraduate Program was handed over to the Petroleum Engineering Department. Currently, both the undergraduate and post graduate programs are managed by the Study Program of Petroleum Engineering.

The Bachelor Program in Petroleum Engineering Studies starts with strengthening the foundations of science (mathematics, chemistry, and physics), followed by the introduction of general technology in the upstream industry of petroleum production system. The students are also introduced to basic petroleum engineering knowledge such as basic geology, petroleum geology, reservoir fluids, petrophysics, thermodynamics, and fluid mechanics, and the students are equipped with basic knowledge and abilities needed in engineering practices such as numerical methods, computer programming, statistics, and mechanics material strength.

The students will be provided with materials to apply the basics in the design and operation of drilling, well completion, well log analysis, well testing, reservoir engineering, and production and operation design. Students' experimental abilities are developed through practicum in subjects such as: reservoir fluid analysis, petrophysics, and drilling, mud, and cementing.



Along with the applicative course, the students also learn environmental engineering, field development planning, risk analysis and economic evaluation, and project management. In the final stages of the bachelor program, the students are trained to combine and apply their accumulated knowledge and abilities by doing the followings:

Formulating, analyzing, and solving complex petroleum engineering problems and communicating the findings of the invention; this is related to the final project of the undergraduate program. To improve the students' knowledge and abilities in several areas in petroleum engineering, the study program invites keynote speakers to provide material. Guest lectures are held every week (Friday afternoon) to give a real picture in the world of the oil and gas industry. The speakers come from companies, governments, and research institutions.

All study programs at ITB review the curriculum and improve it every five years. The last review was conducted in the 2012-2013 period. The current curriculum is the "2013 - 2018" curriculum. The achievement results targeted in the curriculum are reported in the SSR which are evaluated based on the implementation of the "2008 - 2013" curriculum. The latest curriculum review concludes that the "2008-2013" curriculum is still relevant and related to the objectives of the study program so that the new curriculum, the "2013-2018" curriculum, is basically the same as the "2008-2013" curriculum. The last review was conducted in 2019, where the Study Program of Petroleum Engineering increased the scope of material related to Artificial Intelligence (AI), data science, coding & sustainability into the new curriculum. ITB's current policy allows study programs to make changes to the curriculum at any time adapted to the need to strengthen study programs to deal with change.

In August 2012, the Study Program of Petroleum Engineering was accredited A (highest rank) by the National Accreditation Board for Higher Education. This accreditation status is still valid until 2023. The Study Program of Petroleum Engineering has also received the ABET international accreditation "Accreditation Board for Engineering and Technology" for undergraduate education programs.

STUDY PROGRAM OF GEOPHYSICAL ENGINEERING

History of Geophysical Engineering Study Program, ITB

Geophysical Engineering ITB is the first Study Program of Geophysical Engineering in Indonesia. Learning about geophysical science has been carried out in various departments of ITB long before this study program was established in 1988 in accordance with the Decree of the Directorate General of Higher Education number 70/DIKTI/Kep/1988 in the Faculty of Mineral Technology (FTM) which is now turned into the Faculty of Mining and Petroleum Engineering (FTTM). The establishment of this study program was also a place for geophysical science studies which were previously divided in various departments at ITB. The formation of this study program was motivated by the national need for geophysicists in the earth resource exploration industry and also the mitigation of earth and environmental disasters. At the beginning of its formation, geophysical science activities focused only on resource exploration. At present, the study program of geophysical engineering has developed into three groups of expertise: Applied and Exploration Geophysics, Global Geophysics, and Exploration and Engineering Seismology.


Geophysical Engineering Undergraduate Program

In accordance with the national standard of higher education in Indonesia, every graduate of the applied Geophysical Engineering undergraduate program is expected to have the following skills:

- able to apply critical, logical, systematic and innovative thinking in the context of developing knowledge in accordance with their fields of expertise
- able to study the implications of the development of geophysical technology based on rules, procedures and scientific ethics in providing solutions to problems in the field of geophysical expertise based on the results of analysis and information or data.
- able to be responsible for the work achievement of the supervision group and evaluation of the work completion assigned

The graduates of the bachelor degree of geophysical engineering are expected to become prospective experts who are able to apply geophysical science in the world of work related to their expertise. A Geophysical Engineering graduate is expected to work in the exploration of natural resources such as oil and gas, minerals and also in the field of disaster mitigation such as earthquakes, volcanoes etc. nyak dan gas bumi, mineral dan juga dibidang mitigasi kebencanaan seperti gempa, gunung api dll.





In this Postgraduate Program, Geophysical Engineering has been divided into two study programs: Master program and Doctoral program of Geophysical Engineering. The graduates of the Geophysical Engineering postgraduate program are not only required to become geophysics experts or experts in geophysical science who are able to provide constructive solutions to problems in their field of expertise, but the graduates are also expected to be able to develop and create new innovations in the field of geophysical engineering that are beneficial to humanities.

Graduation Of The Magister Program

According to the national standard of tertiary education in Indonesia, every graduate of the applied master program in Geophysical Engineering is expected to have the following skills:

- able to apply critical, logical, systematic and innovative thinking in the context of developing knowledge in accordance with their fields of expertise
- able to carry out academic validation or studies in their field of expertise in solving problems in industry or society through developing their knowledge or expertise
- able to make decisions in the context of solving the problem of applying technology in the field of geophysics based on experimental studies of data or information.

Graduation Of Doctor Programs

According to the national standard of higher education in Indonesia, every graduate of the Doctoral program in Applied Geophysical Engineering is expected to have the following skills:

- able to create, discover, and make new contributions to the development of science in the field of Geophysical Engineering that pays attention to the value of the humanities to solve problems based on logical, critical, creative and wise thinking
- able to arrange concessions on the results of studies in accordance with their fields of expertise based on the rules, procedures, and scientific ethics in the form of dissertation papers and scientific works in international journals
- able to compile scientific arguments and solutions based on a critical view of facts, concepts, principles and theories that are able to be accounted for in academic ethics and communicate them to the public.

STUDY PROGRAM OF METALLURGICAL ENGINEERING

Metallurgical Engineering is a field of study that uses the scientific principles of physics, mathematics, and chemistry as well as engineering processes to explain in detail and in depth the phenomena of mineral processing (including coal processing), metal extraction processes and alloy making, the relationship between metal mechanical properties with its structure, corrosion, metal degradation, and the role of solid oxide systems. Three basic sciences are used in developing the three basic sectors of the Metallurgical Body of Knowledge which include Chemical Metallurgy, Metallurgical Physics and Process Engineering.

Since 1963, Metallurgical education has been taught under the Department of Mining Engineering, ITB. Starting from 1970, the Metallurgical Engineering education program has been taught as one of the sub-majors (options) together with the sub-department of Exploration Mining and General Mining. The plan to establish a separate Metallurgical Engineering Study Program from the Mining Engineering Department began in 1998. On December 31, 2004, the establishment of the Study Program of Metallurgical Engineering was approved by the ITB Academic Senate through Decree No. 69/SK/K01.SA/2004. The approval by the ITB Board of Trustees was obtained on May 22, 2006, and finally the Study Program of Metallurgical Engineering was officially opened based on ITB Chancellor Decree No. 123/SK/K01/OT/ 2006 on June 9, 2006. In 2016, the Master Program of Metallurgical Engineering Study was officially opened through the Decree of the Rector of Institut Teknologi Bandung No. 140/SK/I1.A/OT/2016. The Master Program of Metallurgical Engineering has 4 elective pathways: Mineral and Metallurgical Engineering, Coal Utilization Technology, Corrosion Engineering, and Metal Reliability Engineering. On March 3, 2017, the Study Program of Metallurgical Engineering has been internationally accredited for 6 (six) years by the JABEE (Japan Accreditation Board for Engineering Education).



The Study Program of Metallurgical Engineering of FTTM ITB aims to produce graduates who:

1. have basic knowledges on mathematics, chemistry, and physics and also have reliable knowledge and self development in the fields of mineral and coal processing, metal extraction and refining, physical metallurgy, metal alloy design, and metal corrosion control.
2. are able to be a pioneer and leader in managing, processing, utilizing and increasing the added value of mineral resources wisely, effectively and efficiently by paying attention to environmental balance and sustainable development that is superior and able to compete at national and international levels.
3. can be accepted into further education programs at leading universities both at home and abroad and have the ability to complete the education program properly.
4. have the ability to play an active role in anticipating and successfully facing technological developments, able to overcome various challenges in the future and have an insight into entrepreneurship in the field of metallurgy for the greatest prosperity of Indonesian people, as well as being responsive to responding to the demands of changing in society and industry especially the metallurgical industry.

The Master Program of Metallurgical Engineering of FTTM ITB aims to produce graduates who:

1. have high integrity and personality and have the ability to foster groups and their professions and have professional ethics especially in the efforts to increase the added value of mining products through domestic processing and refining.
2. have the ability to provide input at the design and production stages in the metallurgical industry, especially relating to the demands of process efficiency, increasing productivity, improving product quality and minimizing negative impacts on the environment.
3. have the ability to develop science and technology (IPTEK) research in solving problems related to metallurgical design and processes, and be able to produce innovations in the development of metallurgical science and technology.

STUDY PROGRAM OF GEOTHERMAL ENGINEERING

The Master Program of Geothermal Engineering was established in 2008. In August 2018, the Study Program was accredited A (highest rank) by the National Accreditation Board for Higher Education. This accreditation status is valid until 2023. This study program organizes integrated geothermal education programs ranging from exploration, feasibility assessments, steam field development (exploitation) to the utilization (utilization) of geothermal energy, both for the electricity sector, and for direct use (non-electricity) to produce graduates who can meet the needs and demands of the geothermal industry, as well as government, central or regional institutions.

The Master Program of "Geothermal Engineering" is oriented to the mastery and development of science and technology. The Geothermal Masters level is divided into two elected fields/pathways: exploration and engineering. Geothermal exploration pathways cover the fields of geology, geophysics, and geochemistry used for surveying/exploring and developing geothermal fields. Meanwhile, the engineering pathway includes geothermal exploitation and utilization engineering, namely drilling engineering, reservoir engineering, production engineering, electrical conversion engineering (power plants) and direct utilization of geothermal fluids. For both fields, expertise is added with environmental, management and economic analysis, feasibility analysis/evaluation of geothermal prospects, and research methodology.



Every week there is also a regular forum that invites practitioners from industries and government institutions to give lectures and share the latest information on geothermal and renewable energy related information. In addition to teaching and learning activities, this study program has successfully held an annual event in the form of ITB International Geothermal Workshop (IIGW) which has been held for 8 times since 2012. The event is an international scientific meeting attended by more than 400 people from various countries each year.

Group of Expertise

Earth Resources Exploration | Mining Engineering
Engineering of Drilling, Production and Management of Oil and Gas
Reservoir Engineering | Exploration & Engineering Seismology | Applied Geophysics & Exploration
Global Geophysics | Metallurgical Engineering | Geothermal





Expertise Group at FTTM ITB

The expertise group is a functional organ in a faculty consisting of lecturers who have certain scientific disciplines in the scientific area of an allied field. At present FTTM ITB has already 9 Expertise Groups, including:

1. Exploration of Earth Resources
2. Mining Engineering
3. Oil and Gas Drilling, Production and Management Engineering
4. Reservoir Engineering
5. Metallurgical engineering
6. Applied Geophysics and Exploration
7. Global Geophysics
8. Exploration and Engineering Seismology
9. Geothermal Engineering

Following is a brief explanation of each expertise groups at FTTM ITB.

EARTH RESOURCES EXPLORATION

The Expertise Group of Earth Resources Exploration (KK ESDB) is a group of expertise covering the field of exploration of earth resources, especially in exploration: minerals, coal, non-conventional energy resources, groundwater, geothermal, geotechnical and earth environmental components.

Strengthening research at KK ESDB is carried out by collaborating with industry or national / international institutions, conducting research applications which include the following focus:

- fossil energy exploration (organic), related to the characterization of oil shale deposits for the development of non-conventional energy resources and the characterization of coal deposits for the underground coal gasification program;
- mineral exploration and evaluation including mineral exploration technology development in the tropics and mineral exploration evaluation, evaluation of resources and reserves evaluation, and geostatistical application and reserve quantification;
- geotechnology for exploration with a focus on field research for direct and indirect geotechnical engineering, geophysical applications, remote sensing for mineral exploration and energy resources;
- the field of groundwater resources, geothermal and environment includes research and development of knowledge for groundwater resource search, the application of hydrogeology for exploration and exploitation of energy and mineral resources by considering environmental aspects.

Community service activities conducted by the ESDB KK include survey/exploration activities for minerals, geothermal and coal, modeling and estimation of mineral/coal resources and reserves, which are expected to solve community and industrial problems, taking into account sustainability in the mining industry and being environmentally sound.





MINING ENGINEERING

The Expertise Group of Mining Engineering (KK TA) has several members with the expertise in rock engineering, the mining environment and the mineral economy. All of the members have doctoral qualifications that are experienced not only in education and research, but also have work experience in industry and government institutions/agencies. KK TA always strives to be at the forefront in producing open and underground mining operations that are safe, environmentally sound and provide optimal benefits.

The Policy Direction and Strategy of the KK TA follows the framework in the form of the main objectives of the expertise group in accordance with the Tri Dharma of Higher Education supported by Human Resources, Facilities and Infrastructure, and the Organization. Research conducted by the expertise group of Mining Engineering covers the following fields:

- Research in sub-fields of geomechanics and mining technology, deep surface mining stability, development of underground structure research, rock mass demolition, seminars or symposiums
- Research in the sub-fields of the mine environment, and mine and pit lake acid water, mine water management, mine closure plans, coal combustion, explosion mechanism due to methane gas and coal dust content, and mine ventilation.
- Research in the fields of economics and mineral policy. The economic benefits of mining activities, macro policy on the management of mineral and coal resources, and the preparation of the white paper on the management of mineral and coal resources (Minerals and Coal)

ENGINEERING OF DRILLING, PRODUCTION AND MANAGEMENT OF OIL AND GAS

The Expertise Group of Oil and Gas Drilling, Production and Management Engineering (KK TPPMM) includes engineering in connecting the bottom of the well with the surface, removal of reservoir fluids: oil, gas and water to the surface, optimization of well & field production, oil and gas management including project regulation and management. KK TPPMM upholds the spirit of togetherness and helping each other in building personal careers, research road maps and institutional development. The research areas include:

1. Modeling well stimulation
2. Modeling Microbubble EOR
3. Modeling Progressive Cavity Pump (PCP)
4. Evaluation of Wells Data using Machine Learning
5. Optimization of Production
6. Hydraulic fracturing of hydraulic fractures on gas reservoirs with low permeability (tight gas reservoir)
7. Management of sand problems
8. Modeling system dynamics
9. Optimization of EOR's techno-economic aspects

These efforts are in the context of forming strong expertise groups in:

- contributing to international standard education on teaching and good guidance from lecturers and teaching materials;
- producing works, both papers and other products, at national and international levels;
- creating an institution that partners closely and directly benefits the oil world, especially Indonesia.

The targets of KK TPPMM program are mainly to:

- create a conducive academic atmosphere in education and research
- implement the results of research and community service in the education process
- hold Standard Operating Procedures (SOP) in coaching lecturers
- develop Integrated curriculum;
- link and match between oil and gas industries and institutions with education and research of the expertise group;
- hold continuing education.



RESERVOIR ENGINEERING

The Expertise Group of Reservoir Engineering, the Faculty of Mining and Petroleum Engineering, Institut Teknologi Bandung, is a scientific group whose vision is to become a scientific group conducting educational, research, community service, and human resource development practices with reservoir engineering knowledge to preserve, apply, and develop reservoir engineering that supports the development of petroleum engineering.

The Expertise Group of Reservoir Engineering studies oil and gas reservoirs to be well characterized so that later they can be produced and a maximum recovery is obtained. In achieving this, the field of Reservoir Engineering Expertise Group moves a lot upstream, including reservoir rock & fluid characterization, estimation of oil and gas reserves, performance forecasting of oil and gas reservoirs, enhanced oil recovery, unconventional hydrocarbons and modeling & simulation reservoir.

The Expertise Group of Reservoir Engineering develops science in accordance with the need for Reservoir Engineering knowledge at the academic and industrial level, both in the form of lecture basic material and direct application to real conditions in the field. Some research conducted by the Expertise Group of Reservoir Engineering is based on field cases and the development of existing knowledge. There is a lot of this group's research that has been applied directly in the industry as a part of problem solving for those occurring in the field.

EXPLORATION & ENGINEERING SEISMOLOGY

Seismology (from Ancient Greek seismós meaning "earthquake" and logía meaning "study of") is the scientific study of earthquakes and the propagation of elastic waves through the Earth or through other planet-like bodies. Exploration seismology is the application of seismology for prospecting energy sources, mainly oil, gas, coal and geothermal. Engineering seismology is the application of seismology for supporting geotechnics & environmental, shallow geohazards, earthquake engineering and related instrumentation design.

Exploration and Engineering Seismology used extensively in a number of fields and its applications can be categorized into two main groups, each defined by their depth of investigation. Near-surface applications, an application that aims to understand geology at depths of up to approximately 1 km, typically used for engineering and environmental surveys, as well as coal and mineral exploration. Hydrocarbon exploration, used by the hydrocarbon industry to provide a high-resolution map of subsurface up to 10 km within the subsurface. This can be combined other exploration geophysics tools and used to help geologist build a geological model of the area of interest.

The research group in general focus on the following activities on exploration and engineering seismology:

1. Instrumentation - designing and developing instruments.
2. Data acquisition - survey design and operation.
3. Data processing - delivering high quality and accurate data.
4. Data modelling and imaging - modelling of the data to deliver high quality and accurate of surface and sub-surface images.
5. Data analysis and interpretation - providing reliable and plausible information on exploration and engineering.

All members of Exploration and Engineering Seismology Research Group actively publish their research on reputable international journals.

An aerial photograph of a mountainous region. A winding road or path is visible, cutting through the green, forested hills. A river or stream flows through the valley. The terrain is rugged and hilly.

APPLIED GEOPHYSICS & EXPLORATION

The Expertise Group of Applied and Exploration Geophysics is a group of expertise that fosters competencies based on engineering, earth science, especially geophysics and natural science, for scientific application (geological/interior properties including the natural environment) and geophysical technology used for the exploration of earth resources. The Expertise Group of Applied and Exploration Geophysics Scientific has several members with the fields of expertise in Exploration Geophysics, Imaging Geophysics, Geoelectromagnetic, Engineering & Environmental Geophysics, and Applied Geophysics.

In its implementation, the application of geophysical technology is based on the application of laws and physical concepts supported by other sciences including: mathematics, geology and other earth sciences, computing, and instrumentation. Therefore, in Geophysical science it cannot be separated between scientific aspects and application/applied aspects. Geophysics developed in this group includes scholarship including: Seismology, Geodynamics, Seismic Exploration, and Applied Geophysics to produce subsurface images. The activities of the Applied Geophysics and Exploration expertise group include several things, namely data acquisition including design and measurement of geophysical parameters, data processing, and interpretation. The leading fields of the Applied and Exploration Geophysical Expertise Group:

1. Near-Surface and Environmental Geophysical Technology for Carbon Capture and Storage (CCS), Geotechnics, Soil Movement, Groundwater Exploration, Soil Pollution and Groundwater. The method used is GPR, TDEM, gravity, magnetic, geoelectric, radiometric, and NMR.
2. Geophysical Technology for Subsurface Exploration for CCS, Mineral and Oil and Gas Exploration, Monitoring of Reservoir Fluid, Tectonics and Firearms. The method used Gravity, Magnetic, EM (MT), and Geoelectric.
3. Energy Technology for Oil and Gas Exploration, Geothermal Exploration. The method used Gravity, Magnetic, EM (MT), and Geoelectric.
4. Instrumentation and Computing Technology for the Development of Geophysical Data Measurement and Processing Equipment.

GLOBAL GEOPHYSICS

Global Geophysics, one of the nine research groups in the Faculty of Mining and Petroleum Engineering (FTTM), Institut Teknologi Bandung, driven by a curiosity about processes on Earth, has board study interests. Our studies concern mainly on understanding the subsurface of the Earth.

The Global Geophysics research group fields of study include:

1. Seismology and geodynamics,
2. Imaging the earth structure through tomography,
3. Geomagnetism,
4. Volcanism,
5. Seismic hazard,
6. Earth deformation using the Global Navigation Satellite System (GNSS), and
7. Developing methods to understand the Earth.

Our global geophysics research group also develops studies which have grave importance to society, i.e., related to mitigation effort of geological hazards such as due to earthquake, tsunami, and volcanic activities. We also apply our methods to environment, engineering and agricultural purposes.

Through many research collaborations with other universities, e.g., Australian National University, University of Cambridge, MIT, and Brown University, the Global Geophysics research group becomes one of the leading research groups in Indonesia for their fields of study. The members of Global Geophysics research group also actively publish their research results in international journals and proceedings with the member highest h-index of SCOPUS is 19.

METALLURGICAL ENGINEERING

The Expertise Group of Metallurgical engineering, Faculty of Mining and Petroleum Engineering, Institut Teknologi Bandung, is a scientific group that has a broad scope of scientific interests ranging from those directly in contact with mining activities, , namely processing minerals or mining materials through the separation of valuable minerals from their impurities, followed by the extraction process to take valuable metals, and then engineer the metals that have been extracted to become metal alloys that can provide the properties needed for engineering use in various fields such as energy, oil and gas, mining, transportation, construction, communication, medical, chemical, pharmaceutical and food industries.

The development of metallurgical engineering field of study has taken place so dynamically and rapidly. Various research activities have taken place to respond this demand. Increasing the level of research from the laboratory scale to the commercial scale continues to be pursued. In the future it is planned that research orientation will be increased to obtain a higher level of industry readiness. Collaboration with external parties, especially industry, is strived to be more intensive in order to achieve independence in the production of high-quality metal alloys in the country to reduce import dependence.



GEOTHERMAL

The Expertise Group (KK) of Geothermal is a combination of several fields of expertise and shelter in the Master Program of Geothermal Engineering of ITB. This expertise group focuses on geothermal activities carried out through education and teaching, research and development, and community service. These activities include geothermal work from upstream to downstream. In the exploration phase, an integrated geology, geochemistry and geophysics study is conducted to determine the geothermal system of a prospect area as outlined in the form of a conceptual model. This model is the basis for drilling geothermal wells so that it can proceed to the resource utilization stage. At this stage, the study is conducted in the form of integration between reservoir techniques, production techniques, and electrical conversion techniques. To maintain the sustainability of geothermal energy, monitoring on geothermal fields is important both in the reservoir, surface facilities and in the surrounding environment. In this case, the Expertise Group of Geothermal conducts studies using the latest and best methods to be able to assess a geothermal prospect appropriately.

Regarding geothermal developments in Indonesia, this expertise group is also involved in activities such as formulating government policies related to geothermal and helping to solve technical and social problems that arise in the geothermal industry. This expertise group has an important role not only in Indonesia but also in the international arena. Aside from being in the field of electricity generation, the Expertise Group of Geothermal also helps to increase the use of geothermal for people living around the geothermal environment by applying direct use methods in the field.



INTERNATIONAL PARTNERSHIP DISCUSSION



International Partnership Discussion With
Bundesministerium Für Bildung Und Forschung (BMBF)
Delegation From Germany



PARTNERSHIP



Cooperation Of PT. GAG Nikel with FTTM ITB



Cooperation Of PT. Landmark Concurrent Solusi Indonesia(Halliburton) with FTTM ITB



Partnership of PT. Autmin Indonesia With FTTM ITB



Cooperation Of PT. Sumber Energi Sukses Makmur with FTTM ITB

COLLABORATION CROSS UNIVERSITY



Jazan University
Afghanistan

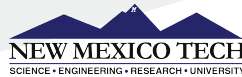


Sebha University
Libia



ACADEMIC AND RESEARCH COLLABORATIONS

Overseas University



BROWN

THE UNIVERSITY
OF RHODE ISLAND



ACADEMIC AND RESEARCH COLLABORATIONS

Institutional Collaborations



LECTURERS

Eksplorasi Sumber Daya Bumi

- **Prof. Dr. Ir. Komang Anggayana, MS.**
- Ir. Teti Indriati, MT.
- Dr.rer.nat. Ir. Lilik Eko Widodo, MS.
- Dr. Ir. R. Budi Sulistijo, M.App.Sc.
- Dr.Eng. Syafrizal, ST., MT.
- Mohamad Nur Heriawan, ST., MT., Ph.D.
- Dr.phil.nat. Agus Haris Widayat, ST., MT
- Dr. Irwan Iskandar, ST., MT.
- Arie Naftali Hawu Hede, ST., MT., Ph.D.
- Dr.mont. Andy Yahya Al Hakim, ST., MT.

Teknik Pertambangan

- Prof. Dr. Ir. Made Astawa Rai, DEA.
- Prof. Dr. Ir. Irwandy Arif, M.Sc.
- Prof. Dr.-Ing. Ir. Rudy Sayoga Gautama Benggolo
- **Prof. Dr. Ir. Budi Sulistianto, MT.**
- Prof. Ir. Ridho Kresna Wattimena, MT., Ph.D.
- Dr.-Ing. Ir. Aryo Prawoto Wibowo, M.Eng.
- Dr.Eng. Nuhindro Priagung Widodo, ST., MT
- Dr.Eng. Ganda Marihot Simangunsong, ST., MT.
- Dr.Eng. Ginting Jalu Kusuma, ST., MT.
- Dr.Eng. Fadhila Achmadi Rosyid, ST., MT.
- Dr.Eng. Tri Karian, ST., MT.
- Firly Rachmaditya Baskoro, ST., MT.
- Simon Heru Prassetyo, ST., M.Sc., Ph.D.
- Dr.Eng. Sendy Dwiki, ST., M.Eng.

Teknik Reservoir

- Prof. Dr. Ir. Hasian Parlindungan Septorotno Siregar, DEA.
- **Prof. Ir. Dobby Abdassah, M.Sc., Ph.D.**
- Prof. Ir. Pudji Permadi, M.Sc., Ph.D.
- Prof. Ir. Asep Kurnia Permadi, M.Sc., Ph.D.
- Prof. Dr. Ir. Taufan Marhaendrajana, M.Sc.
- Zuher Syihab, ST., Ph.D.
- Dr. Dedy Irawan, ST., MT.
- Pahala Dominicus Sinurat, ST., M.Sc.
- Ivan Kurnia, ST., MT.
- Rani Kurnia, S.Si., MT.
- Billal Maydika Aslam, ST., MT.

Teknik Pemboran, Produksi dan Manajemen Migas

- Prof. Ir. Purnomo Yusgiantoro, M.Sc., MA, Ph.D.
- Prof. Dr. Ir. Sudjati Rachmat, DEA
- **Prof. Ir. Tutuka Ariadji, M.Sc., Ph.D.**
- Ir. Utjok W. R. Siagian, M.Sc., Ph.D.
- Dr.-Ing. Bonar Tua Halomoan Marbun
- Dr. Amega Yasutra, ST., MT.
- Ardhi Hakim Lumban Gaol, ST., M.Si.
- Dr. Adityawarman, ST., MT.
- Wijoyo Niti Daton, ST., MT.
- Silvyia Dewi Rahmawati, S.Si, M.Si., Ph.D.
- Steven Chandra, ST., MT.
- Prasandi Abdul Azis, S.Si., MT.
- Muhammad Ichsan, ST., M.EnergyChangeAdv.

Geofisika Terapan dan Eksplorasi

- **Prof. Dr. Ir. Djoko Santoso, M.Sc.**
- Prof. Dr. Wawan Gunawan Abdul Kadir, MS.
- Dr. Darharta Dahrin, MS
- Dr.rer.nat. Ir. Wahyudi Widyatmoko Parnadi, MS.
- Dr. Ir. Agus Laesanpura, MS
- Dr. Warsa, S.Si., MT.
- Dr. Susanti Alawiyah, ST., MT.
- Dr. Setianingsih, ST., MT.
- Dr. Eko Januari Wahyudi, ST., MT.
- Dr.rer.nat. Widodo, ST., MT.
- Indra Gunawan, S.Kom., M.Si.
- Dadi Abdurrahman, ST., MT.
- Faridz Nizar Ahmady, ST., MT.

Geofisika Global

- Prof. Dr. Satria Bijaksana
- Prof. Ir. Sri Widiyantoro, M.Sc., Ph.D., IPU.
- **Prof. Dr. Antonius Nanang Tyasbudi Puspito, M.Sc.**
- Prof. Dr.rer.nat. Awali Priyono
- Dr. Wahyu Triyoso, M.Sc.
- Afnimar, M.Sc., Ph.D.
- Dr. Tedi Yudistira, S.Si., M.Si.
- Dr. Andri Dian Nugraha, S.Si, M.Si
- Dr. Zulfakriza, S.Si., MT.
- Dr.rer.nat. David Prambudi Sahara, ST., MT.
- Rexha Verdhora Ry, ST., MT.
- Silvia Jannatul Fajar, ST., MT.
- Endra Gunawan, Dr., ST., M.Sc.
- Shindy Rosalia, ST., MT.

Seismologi Eksplorasi dan Rekayasa

- **Prof. Dr. Ir. Sigit Sukmono, M.Sc.**
- Dr.Eng. Ir. T. A. Sanny, M.Sc.
- Ignatius Sonny Winardhie, Ph.D.
- Dr. Ir. Fatkhan, MT.
- Dr. Alfian Bahar, MT
- Dr.rer.nat. R. Mohammad Rachmat Sule, ST, MT
- Dr. Tedy Setiawan
- Dr.rer.nat. Andri Hendriyana, ST., MT.
- Dona Sita Ambarsari, ST., MT.
- Fernando Lawrens, ST., MT.
- Ekkal Dinanto, ST., MT.

Geothermal

- **Prof. Dr. Hendra Grandis**
- Ir. Nenny Miryani Saptadji, Ph.D.
- Dr.Eng. Ir. Sutopo, M.Eng.
- Heru Berian Pratama, ST., MT.
- Nurita Putri Hardiani, ST., MT.
- Dimas Taha Maulana, ST., MT.
- Angga Bakti Pratama, S.Si., MT.
- Betseba br Sibarani, ST., MT.

Teknik Metalurgi

- **Prof. Dr. Ir. Syoni Soepriyanto, M.Sc.**
- Prof. Ir. Eddy Agus Basuki, M.Sc., Ph.D.
- Prof. Dr.mont. Mohammad Zaki Mubarak, ST., MT.
- Dr. Ir. Ismi Handayani, MT.
- Ir. Edy Sanwani, MT., Ph.D.
- Ir. Siti Khodijah Chaerun, MT., Ph.D.
- Dr.-Ing. Zulfiadi Zulhan, ST, MT
- Dr.Eng. Akhmad Ardian Korda, ST., MT.
- Taufiq Hidayat, ST., M.Phil., Ph.D.
- D.Sc. (Tech.) Imam Santoso, ST., M.Phil.
- Tria Laksana Achmad, ST., MT., Ph.D.
- Dr.Eng. Bonita Dilasari, ST., MT.
- Wahyudin Prawira Minwal, ST., MT.
- Nurulhuda Halim, ST., MT.
- Fadhli Muhammad, ST., MT.
- Muhammad Abdur Rasyid, ST., M.Phil.
- Zela Tanlega, ST., M.Phil.
- Dadan Suhendar, S.Si., MT.
- Achmad Ariaseta, ST., M.Eng.

Laboratory

we have 30 laboratories to support academic or research





Laboratory

To support the effective lecture processes, FTTM has 30 Laboratories that each is managed by a Laboratory Manager.

LABORATORY

MINING ENGINEERING

Laboratory of Exploration and Deposit Evaluation

This laboratory supports academic activities in the fields of: the development of exploration techniques, geostatistics, modeling of mineral resources.

Laboratory of Mineralogy, Microscopy and Geochemistry

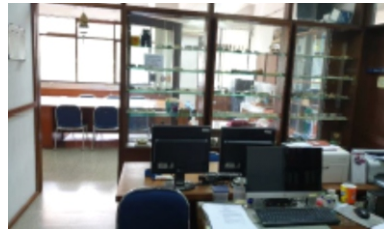
This laboratory supports academic activities in the fields of: mineralogy, mineragraphy, organic petrology, and geochemistry.

Laboratory of Hydrogeology and Hydrogeochemistry

This laboratory supports academic activities in the fields of: hydrogeological modeling, mine hydrogeology, and hydrogeochemistry

Laboratory of Geomechanics and Mining Equipment

This laboratory supports academic activities in the fields of: geomechanics, slope stability, tunneling techniques, blasting, mining equipment, mine ventilation



Laboratory of Exploration and
Deposit Evaluation



Laboratory of Hydrogeology and Hydrogeochemistry



Laboratory of Mineralogy, Microscopy
and Geochemistry



Laboratory of Geomechanics and Mining Equipment

Laboratory of Mine Environment

This laboratory supports academic activities in the fields of: mine environmental management, mine drainage, acid mine drainage.

Laboratory of Mine Planning and Valuation

This laboratory supports academic activities in the fields of: mine planning, mine design, mine valuation.

Laboratory of Mineral Economics and Computing

This laboratory supports academic activities in the fields of: modeling and estimation of ore/coal reserves, mineral/coal economics

Center of Research Excellence (CoRE)

The Center of Research Excellence (CoRE) in Underground Mining and Mining Safety (UMMS) is one form of ITB's contributions in anticipating the nation's problems in the mining sector. UMRE CoRE focuses on research on underground mining and mining safety.



Laboratory of Mine Environment



Laboratory of Mine Planning and Valuation



Laboratory of Mineral Economics and Computing



Center of Research Excellence (CoRE)

LABORATORY

PETROLEUM ENGINEERING

Laboratory of Engineering Petroleum Computer

The Computer Laboratory is located in the main oil engineering building, focusing on simulation activities for students. The computer laboratory has 30 sets of computers accompanied by desks and chairs.

Laboratory of Improved Oil Acquisition

This laboratory focuses on increasing oil acquisition on a laboratory scale. The experiments carried out include Nitrogen gas injection, CO₂ injection, surfactants, polymers, and water flooding. Students in this laboratory will examine rock characteristics, hydrocarbon screening, chemical properties, and core flood. This laboratory should only be used by OGRINDO researchers and final-year students for their final assignments.

Drilling Laboratory

The Drilling Laboratory focuses on measuring the physical and rheological properties of drilling mud, such as viscosity, yield point, gel strength, density, and lubricity. In addition to drilling mud, measurements are also carried out on cement mixtures such as measurement of consistency. This laboratory is used by third-level students, with supervision from final-level students. The Drilling Laboratory has facilities that can assist the analysis of parameters related to drilling activities. The facilities owned by this drilling laboratory include:

Fann Viscometer Model 70, Dynamic Filtration System, Swelling Potential Test, HPHT Curing Chamber, Salt Content Test Kit, Mud Mixer Cup, Marsh Funnel and Cup Measuring, Cement Water Bath, Cement Blender, Mud Multimixer, Digital Analytical Scales, Mud Agitator, Rolling Agitator, Rolling Ovens and Aging Cells, PH Meters, Electric Stability Tester, LPLT Filter Press, Fann VG Viscometer, OFI Retort Kit Tester, Mud Balance and Mud Balance Pressurized, EP Lubricity Tester, Cement Molds, Hydraulic Pressure and Consistometer.





Reservoir Fluid Analysis Laboratory

The reservoir fluid laboratory focuses on measuring the physical properties of crude oil samples such as specific gravity, viscosity, flash point, dew point, and flow point. In this laboratory, the students also learn about emulsions and the properties of formation water. Due to the limited capacity and number of tools, practicum activities are carried out under the supervision of practicum assistants when the practitioners conduct experiments.

The Reservoir Fluid Analysis Laboratory, Petrophysics, and Improved Oil Acquisition have facilities for testing that can assist analysis in the reservoir field, including:

1. Measurement of Physical Properties of Fluid
2. Measurement of Permeability
3. Porosity Measurement
4. Capillary Pressure Measurement
5. Interface Voltage Measurement
6. Surface Tension Measurement
7. Measurement of pH
8. Measurement of Fluid Viscosity
9. Measurement of Fluid Density
10. Contact Angle Measurement
11. Coreflooding Testing

Laboratory of Petrophysics

The Laboratory of Petrophysics is located outside the main building of Petroleum Engineering and focuses on measuring the physical properties of core samples such as porosity, saturation, permeability, capillary pressure, and grain distribution. This laboratory is generally used by second-level students, under the supervision of final-level students.

Laboratory of Reservoir Engineering

These measurements and tests are supported by tools available at the Reservoir Engineering laboratory, including:

1. Liquid Permeameter
2. Gas Permeameter
3. Capillary Pressure Apparatus
4. Gas Porosimeter
5. Vacuum Pump
6. portable pH meter
7. Dead Weight Tester
8. Solvent Extraction Apparatus
9. Air Compressor
10. Conductivity Meter Portable Probe Permeameter
11. Shave Shaker
12. Spinning Drop Tensiometer
13. Densitometer
14. Tensiometer Pendant Drop
15. Coreflooding Apparatus

LABORATORY

GEOPHYSICAL ENGINEERING

Laboratory of Geophysical Exploration

The laboratory of exploration geophysics focuses on the development and research of geophysical methods in the exploration of earth resources including the process of acquisition, data processing and interpretation. The exploration method can be applied in oil and gas exploration, geothermal, minerals, etc.

Engineering and Environmental Laboratory

Engineering and environmental geophysics laboratories focus on the use of geophysical methods in dealing with various engineering/engineering and environmental problems. The application of geophysical methods in this field can be applied in imaging subsurface conditions in infrastructure development, disaster mitigation, monitoring, groundwater, and pollution.

Laboratory of Reservoir Geophysics

The main aim of Laboratory of Reservoir Geophysics facility is to provide high-end computing software and hardware needed for exploration and development geophysics, specially to support integrated Geology, Geophysics and Reservoir (GGR) subsurface modeling. Current researches supported by Laboratory of Reservoir Geophysics are: Anisotropic seismic processing and modeling, deep-water petroleum exploration in Indonesia and Gulf of Mexico, and application of fractal methods in geosciences

Laboratory of Seismology & Geodynamics

Research: Seismic analysis to understand the characteristics of the earthquake, subsurface velocity models and general geodynamics. The research includes determining earthquake parameters, determining the mechanism of earthquake sources, subsurface imaging and geodynamics.

Laboratory of Volcanology and Geothermal

Research: Analysis of seismicity (event) on volcanoes and geothermal includes determining the location of events, determining one-dimensional velocity models, as well as imaging subsurface volcanoes and geothermal using body wave velocity and ambient noise models. The subsurface imaging of volcanoes has the purpose of analyzing the source and distribution of magma. On the other hand, subsurface imaging on geothermal fields has the aim of modeling geothermal energy.

Laboratory of Instrumentation and Geophysical Electronics

Geophysical Engineering ITB is also equipped with laboratories facility to support researches and the learning process. The laboratories provide instrumentation related to geophysical data acquisition tools. The main objective of geophysical instrumentation functionality is to simulate and/or to obtain geophysical measurement, whether it is on laboratory scale project or field research.

Laboratory of Characterization and Modeling of Physical Properties of Rocks

Research: Paleoclimate reconstruction, environmental magnetism, and magnetic characterization of volcanic rocks, with the following equipment:

Spinner Magnetometer, Magnetic Susceptibility Meter, Molspin AF Demagnetizer

Laboratory of Geophysical Computing

Geophysical Engineering of ITB is equipped with computer laboratories specifically for seismic data processing. Several hardware listed as part of the Computational Geophysics Laboratory involves Workstations, Servers, UPS: 6 x Riello 60kVA, HDD LS-Disk, 14 HDD Rack. The workstations are also encompassed with commercial seismic processing software as provided from our alumni.



LABORATORY

METALLURGICAL ENGINEERING

Laboratory of Mineral Processing

This laboratory focuses on the process of preparation of minerals as well as ways of separating valuable minerals from their mineral impurities based on differences in the physical properties of minerals in order to obtain products that meet user requirements.



Laboratory of Mineral and Coal Analysis

This laboratory focuses on coal characterization, coal quality parameters, coal preparation and washing, and further utilization of coal through the process of gasification and liquefaction of low rank coal, biodesulfurization of organic sulfur from Indonesian coal, hydrothermal treatment of lignite and bituminous coal, characterization and beneficiation of industrial minerals, and biodegradation of cyanide waste from gold processing.



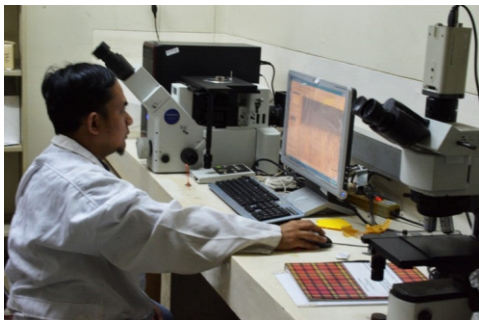
Laboratory of Pyrometallurgy

This laboratory focuses on the process of extracting metals from ore/concentrates at high temperatures, metal extraction from slag and tailings, the utilization of metallurgical by-product processes, improving the efficiency of pyrometallurgical processes, and the process of recycling materials through the pyrometallurgical pathway.



Laboratory of Development of Alloys and Characterization

This laboratory focuses on engineering design of ferrous and non-ferrous metal alloys, design criteria and design concepts of metal alloy, as well as designing metal alloys for energy saving, maritime and medical needs.



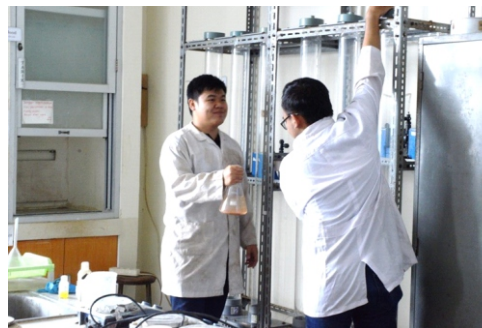
Laboratory of Solid Oxide System

This laboratory focuses on the manufacture of solid oxide systems from natural minerals, which include: synthesis of alumina/nano compounds for various industrial applications, ceria synthesis/yttria based electrolyte solid systems, synthesis of dye-sensitized solar cell titania doped rare-earth oxides thin film substrate, and electrochemical impedance spectroscopy studies of rare-earth oxides dopant in ceria/yttria based oxides.



Laboratory of Hydro-electrometallurgy

This laboratory focuses on leaching techniques, purification and recovery of metals and other products from leachate solutions, aspects of thermodynamics, kinetics and hydro-electrometallurgical process engineering, and improving the efficiency of hydro-electrometallurgical processes in industry.



Laboratory of Reliability of Metals and Corrosion

This laboratory consists of aqueous corrosion laboratory and high temperature corrosion laboratory. The aqueous corrosion laboratory focuses on studies of corrosion control in various environments, such as the marine environment, atmospheric environment, and soil environment. Meanwhile, high temperature corrosion laboratories focus on studies of operating conditions and high temperature environments in the industry and the development of metal alloys for use in such environments.



LABORATORY

GEOTHERMAL ENGINEERING

Geological Exploration Laboratory

The geological exploration laboratory is a laboratory that provides two Nikon ecliose Ci POL type H550S polarization microscopes. The microscope can be used to analyze rocks using petrographic, mineragraphic and fluid inclusion methods. Petrographic analysis aims to identify primary and secondary minerals, as well as rock texture in thin incisions, while analytical analysis aims to identify ore minerals in polish cuts. Meanwhile, fluid inclusion analysis aims to measure the homogenization temperature and melting temperature of a fluid inclusion observed in the double polished section. The measurement of fluid inclusion temperature is also supported by the LINKAM THMSG600 tipa microtermometer.

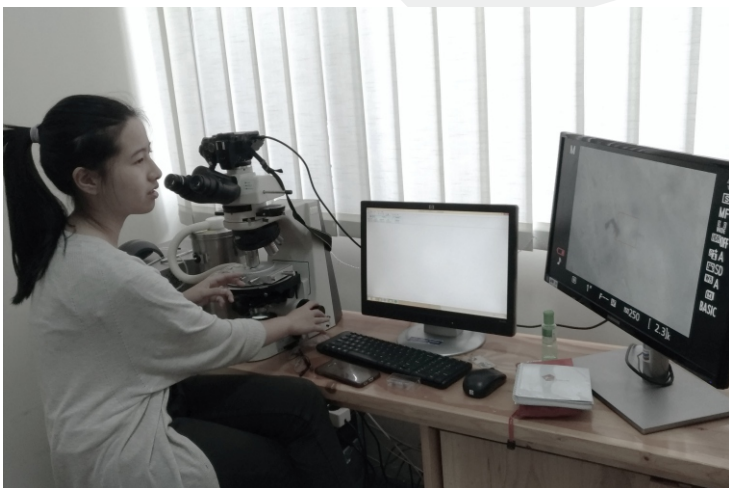
The geological exploration laboratory also has several rock samples, thin cuts and polish cuts that can be used as a demonstration during practical activities. In addition, this laboratory is usually used by the students who are completing a thesis or research. In this laboratory, the students can also borrow field equipment needed in geological mapping activities, such as the geological hammer, geological compass and GPS.

Geochemical Laboratory

The geochemical laboratory is used as a place for storing and supplying the tools needed for water and gas sampling from geothermal manifestations, measuring physical characteristics of manifestations, and titration analysis. The equipment is generally used for field college activities. In addition, students can also borrow the equipment to do research and write theses.

Laboratory of Geothermal Engineering

The laboratory of geothermal engineering is a place to conduct reservoir modeling and simulation activities for engineering and exploration specialization students. This laboratory has 17 sets of computers accompanied by a work desk. The specifications of the available computers are: Intel® Core™ i7-4790K CPU @ 4.00GHz, 1863GB HDD, 8GB DDR3 memory, Gigabyte Technology mainboard, wireless keyboard & mouse.



Mining Engineering

Bachelor Master Doctoral

Accredited A by BAN-PT
and international
accreditation
by ABET

Petroleum Engineering

Bachelor Master Doctoral

Accredited A by BAN-PT
and international
accreditation
by ABET

Geophysical Engineering

Bachelor Master Doctoral

Accredited A by BAN-PT
and international a
ccreditation by ASIIN
and EUR-ACE

Metallurgical Engineering

Bachelor Master Doctoral

Accredited A for S1
(bachelor degree) by BAN-PT
and international
accreditation by JABEE,
and Accredited B for S2
(master degree) by BAN-PT

Geothermal Engineering

Bachelor Master Doctoral

Accredited A
by BAN-PT



Engineering
Technology
Accreditation
Commission



Accreditation

FTTM is nationally accredited by BAN-PT
and internationally it is accredited by ABET, ASIIN, JABEE and EUR-ACE.



STUDY PROGRAMS & BAN-PT ACCREDITATION

BACHELOR'S DEGREE (S1)

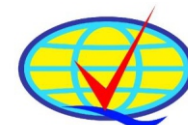
- | | |
|------------------------------|---|
| 1. Mining Engineering | A |
| 2. Petroleum Engineering | A |
| 3. Geophysical Engineering | A |
| 4. Metallurgical Engineering | A |

MASTER'S DEGREE (S2)

- | | |
|------------------------------|---|
| 1. Mining Engineering | A |
| 2. Petroleum Engineering | A |
| 3. Geophysical Engineering | A |
| 4. Metallurgical Engineering | B |
| 5. Geothermal Engineering | A |

DOCTORAL DEGREE (S3)

- | | |
|----------------------------|---|
| 1. Mining Engineering | A |
| 2. Petroleum Engineering | A |
| 3. Geophysical Engineering | A |



BAN-PT
BADAN AKREDITASI NASIONAL
PERGURUAN TINGGI

INTERNATIONAL ACCREDITATION

Mining Engineering



Engineering
Technology
Accreditation
Commission

Petroleum Engineering



Engineering
Technology
Accreditation
Commission

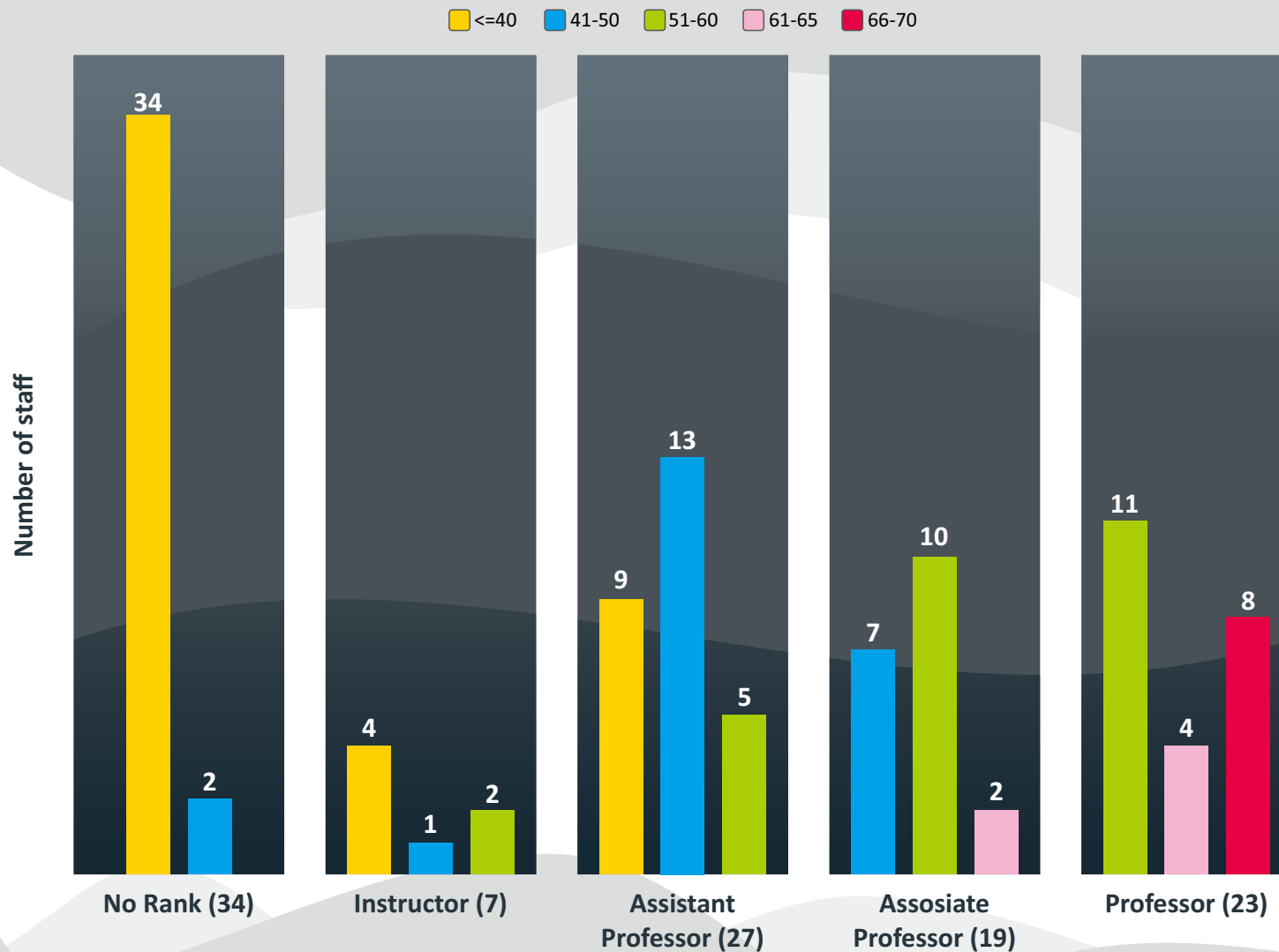
Geophysical Engineering



Metallurgical Engineering



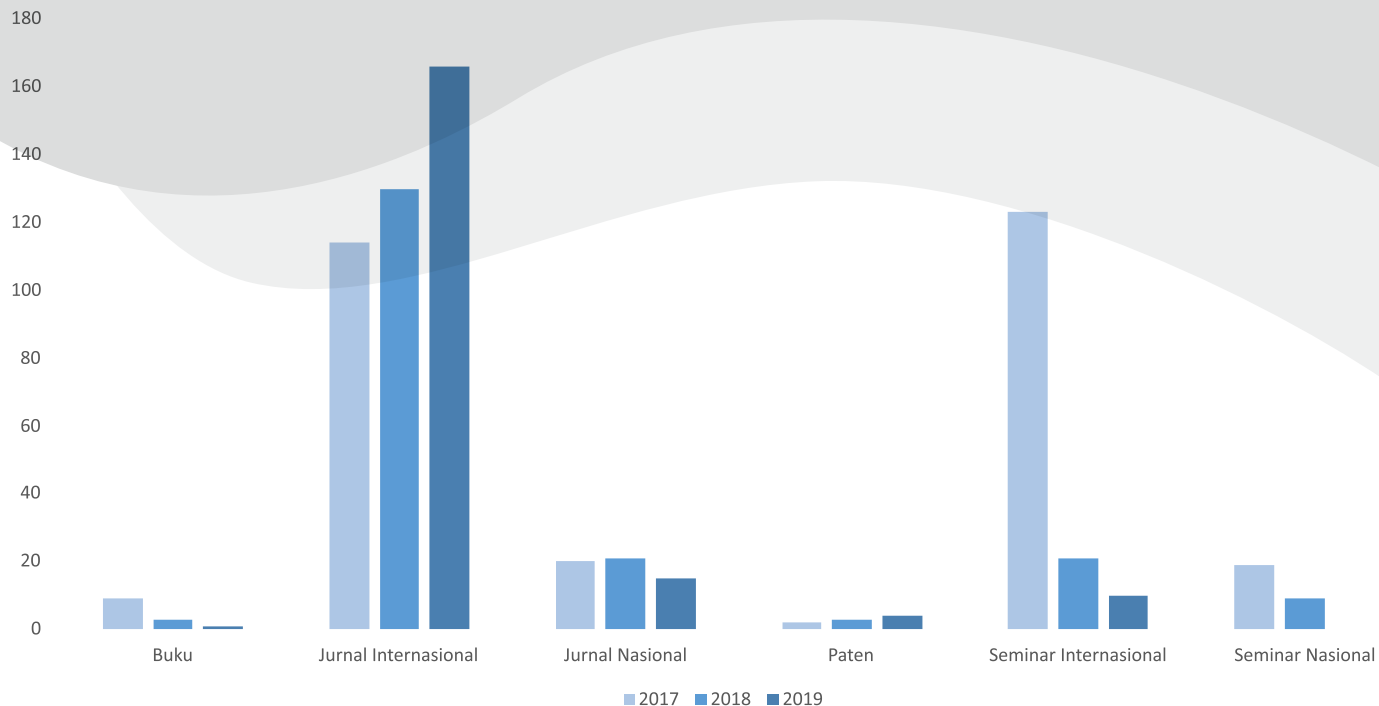
FACULTY MEMBERS



Publication



PUBLICATION



Publication	2017	2018	2019
Books	9	3	1
International Journals	114	130	166
National Journals	20	21	15
Patents	2	3	4
International Seminars	123	21	10
National Seminars	19	9	0

* Based on <https://inside.ftm.itb.ac.id>, November 2019



Institute of
Technology
Bandung

FTTM ITB Faculty of Mining and
Petroleum Engineering

1st Edition
2020