

# MEMBANGUN BUDAYA ILMIAH UNGGUL

Prof. I G. Wenten – WRRI ITB

- **SINERGI & KOLABORASI:** Riset – Akademik – Kemitraan
- **RENIP – RENSTRA:** Globally Respected Locally Relevant
- **KUALITAS PENELITIAN:** Kualitas Publikasi Ilmiah
- **KUALITAS KEILMIAHAN** Inovasi & Pengabdian Masyarakat
- **PENGUATAN BUDAYA ILMIAH:** Peningkatan Kapasitas Keilmuan
- **BUDAYA ILMIAH UNGGUL:** Riset - IpTek - Daya Saing Bangsa
- **PERANGAI ILMIAH/Scientific Temper**
- **Membangkitkan Kembali Jiwa ITB**

# Leading by Research

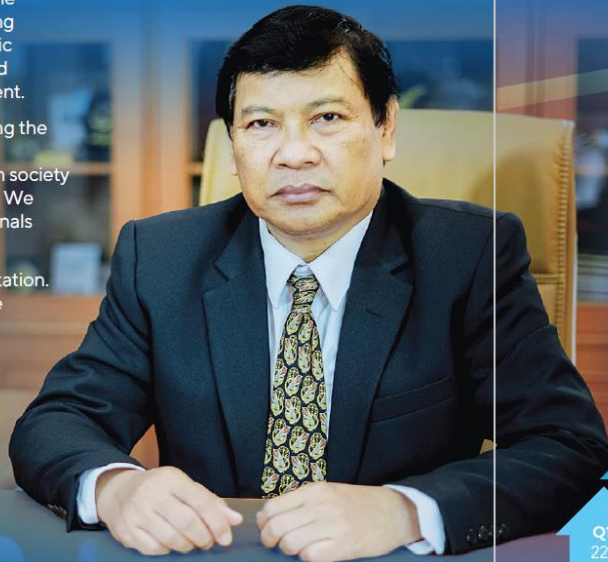
Prof. I Gede Wenten, Ph.D., Vice Rector for Research and Innovation, ITB

We believe one of significant role of universities as our society try to address some pressing issues, such as disaster and climate change mitigation, energy, improving productivity, laid on research quality as an essential element of excellent scientific culture. In more broad and social perspective, research is a guide for learning and teaching in universities that are part of the knowledge democratization movement.

Moreover, research is the foundation for invention and innovation that supporting the contribution of universities in creating added value in society and lead the transformation in technocratic way. In this perspective, how significant our role in society is depends on research quality. This quality means the universal standard quality. We encourage our scientist to publish more in Q1 journals as the highest quality journals along with meaningfulness to the society.

There are three essential points in the vision of global and national reputation.

First, ITB is the initiator of the national economy of Indonesia's future industry development; second, as the leading actor in community empowerment; and third, as the center of the national civilization development through innovation and advanced educational activities.



Prof. I Gede Wenten, Ph.D.

As a platform of research and innovation communication that aims to enhance readability and increase audience, this first edition of "ITB Research Bulletin" covering major publications from different topics, such as earthquakes, coastal protection, biomass conversion, nanomaterials, membrane science, etc. in Research Highlight pages. There is also information about scientist profiles and awards, and selected programs from Research Department of LPPM ITB.

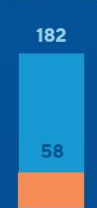
We do welcome for responses and feedback to improve our communication program, especially the publication of "ITB Research Bulletin". \*



Earthquakes  
882



Coastal Protection  
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Biomass Conversion  
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Travel Behavior  
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Nanomaterials - Zinc Oxide  
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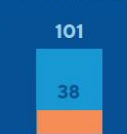
Membrane Science - Ultrafiltration  
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Building Engineering - Thermal Comfort  
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Enhanced Oil Recovery  
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Electrical Engineering - Power Transformers  
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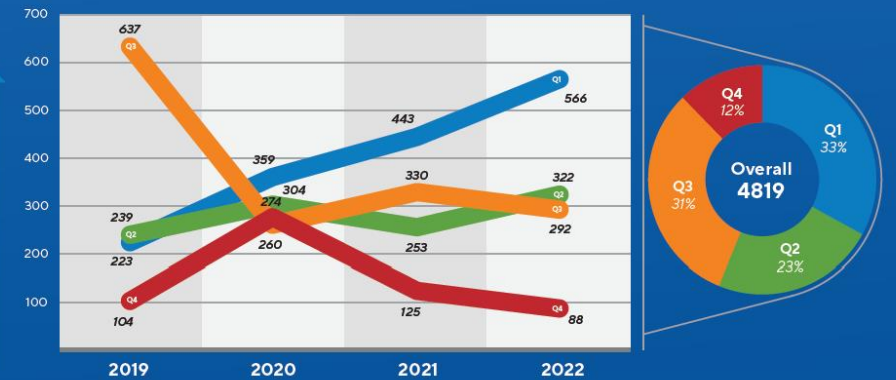
Web of Science Documents Times Cited

## QS World University Rankings of ITB

Ranking 235



## ITB Publications (2019-2022) based on Quartile SJR from Scival Elsevier Database



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# KERMA STRATEGIS INTERNATIONAL

LOMPATAN KEDEPAN



# ITB Mampu Berkolaborasi Setara dengan Universitas Top Dunia



**CHEMICAL REVIEWS**  
pubs.rsc.org

**Electrochemical Methods for Water Purification, Ion Separations, and Energy Conversion**  
Mohammad A. Alkhadra, Xiao Su, Matthew E. Suss, Huanhuan Tian, Eric N. Guyes, Amit N. Shocron, Kameron M. Comfort, J. Pedro de Souza, Nayoung Kim, Michele Tedesco, Khoiruddin Khoiruddin, I Gede Wenten, Juan G. Santiago, T. Alan Hatton, and Martin Z. Bazant\*

**ACES**  
doi.org/10.1002/asla.202100702

**Red Bean Pod Derived Heterostructure Carbon Decorated with Hollow Mixed Transition Metals as a Bifunctional Catalyst in Zn-Air Batteries**  
Muhammad Adib Abdillah Mahbub,<sup>1</sup> Cefi Gustine Adios,<sup>2</sup> Michael Xu,<sup>3</sup> Bagas Prakoso,<sup>4</sup> James M. LeBeau,<sup>5</sup> and Afriyanti Sumboga<sup>1\*</sup>

**Advances in Colloid and Interface Science**  
journal homepage: www.elsevier.com/locate/cis

**Novel ionic separation mechanisms in electrically driven membrane processes**  
I.G. Wenten<sup>1,2\*</sup>, K. Khoiruddin<sup>3,4</sup>, Mohammad A. Alkhadra<sup>5</sup>, Huanhuan Tian<sup>1</sup>, Martin Z. Bazant<sup>6,7,8</sup>



## Top Collaborator of MIT from Indonesian Institutions

		Number of Publications 2017-2022
1	Institut Teknologi Bandung	13
2	Universitas Indonesia	10
3	LIPI (now BRIN)	6
4	Universitas Diponegoro	5
5	Universitas Hasanuddin	4
6	Universitas Syiah Kuala	4
7	Universitas Brawijaya	3
8	Universitas Padjadjaran	3
9	IPB University	2
10	Ministry of Health of Indonesia	2

Source: Scival Elsevier (accessed on Aug 1st, 2022)

# Produk Inovasi ITB | Mendukung 10 Prioritas Riset Nasional



	Ketahanan Nasional	Ketahanan Pangan	Ketahanan Ekonomi	Ketahanan Energi
	ICT dan Industri Kreatif	Kesehatan, Pangan dan Ilmu Hayati	Transportasi dan Infrastruktur	Energi dan Lingkungan
<b>Transformasional</b>	<ul style="list-style-type: none"> <li>• <b>Kazee (Big Data Platform)*</b></li> <li>• Halofina</li> <li>• <b>Integrasi sistem EEG, EKG, dan EMG*</b></li> <li>• <b>NFC Enabled Smart WiFi Access Point*</b></li> <li>• <b>Smart Online Reporting &amp; Observation Tools*</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>NIVA: Cardio Vascular Tech*</b></li> <li>• <b>Diagnostic Kit untuk Hepatitis B*</b></li> <li>• <b>Kaki Palsu Atas Lutut Endoskeletol*</b></li> </ul>	<ul style="list-style-type: none"> <li>• Bis Listrik ITB (Trans Jakarta)</li> <li>• Inverter Motor Listrik BLDC 120kW dan SRM 5kW</li> <li>• SMB eTrike dan eBus</li> <li>• <b>Smart DashBoard kenlis e-trike*</b></li> <li>• Metro Capsule</li> <li>• <b>Pengontrol VSD cerdas, Optimal, dan Efisien*</b></li> <li>• Inovasi Rumah Blok Kayu Modular</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Katalis Merah Putih*</b></li> <li>• Tesla Daya Elekrika</li> </ul>
<b>Breakthrough</b>	<ul style="list-style-type: none"> <li>• Radar Nasional</li> <li>• SVARA (Online Radio Streaming)</li> <li>• <b>Chatbot untuk Helpdesk Smart City*</b></li> <li>• <b>SmartEdu*</b></li> </ul>	<ul style="list-style-type: none"> <li>• Portibi: Anti-Tuberculosis</li> <li>• Eragano</li> <li>• Technozone</li> <li>• Neurafarm</li> </ul>	<ul style="list-style-type: none"> <li>• Pengembangan Platform Untuk Kendaraan Berbasis Listrik</li> <li>• <b>Struktur Tahan Ledak untuk Kendaraan Tempur*</b></li> <li>• Autonomous Underwater Vehicle/Glider for Maritime Surveillance</li> <li>• Autonomous Surveillance Hexacopter</li> <li>• Range Extender untuk Bus listrik</li> </ul>	<ul style="list-style-type: none"> <li>• Mobilizer to Enhance Oil Recovery (MENOR)</li> <li>• Cool Upgrading Technology</li> <li>• Khaira Power</li> </ul>
<b>Incremental</b>	<ul style="list-style-type: none"> <li>• Prosa.id (Hoax Analyzer)</li> <li>• Sistem Prediksi Cuaca Dan Maritim</li> <li>• A.B.D.I: Mesin pendeteksi sentimen ujaran kebencian</li> <li>• Smartcard</li> <li>• <b>Base Station dan Smartphone 4G*</b></li> <li>• <b>Sistem Fotonik Batik*</b></li> <li>• Inpoint</li> <li>• Lokapoin</li> <li>• Eduxa</li> <li>• Learnycy Education</li> </ul>	<ul style="list-style-type: none"> <li>• Microbial Symbiosis</li> <li>• <b>Bell Society: Selulosa bakteri pengganti kulit*</b></li> <li>• Calorie Restriction dengan Resveratrol</li> <li>• Sistem Monitoring Penyebaran Mikroba Patogen di Udara untuk Deteksi Dini Penyakit Menular</li> <li>• MyClinicalPro</li> <li>• Bio-N Oils</li> <li>• ReadyDok</li> <li>• Mayciz</li> <li>• Ferofee</li> <li>• BIOS</li> <li>• Biomed Project</li> <li>• Rekacipta Bioteknologi Indonesia</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Kursi Kereta Kelas Ekonomi untuk Kereta Api dalam Negri*</b></li> <li>• <b>Produk Propeller HiPerProp Untuk Drone*</b></li> <li>• <b>Sistem Hybrid On-Board generator untuk Drone Rotary Wing*</b></li> <li>• Penyempurnaan Dinding Ekstrusi Aluminium untuk Carbody LRT dan Tram</li> <li>• Pengembangan Bogie LRT dan Tram</li> <li>• Pengembangan Pelapis Lantai Kereta</li> <li>• PoreBlock by Tech Prom Lab</li> <li>• INSITEK</li> <li>• Rumanaga</li> <li>• iROStech</li> <li>• Imperia Dirgantara</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Hollow Glass Sphere (HSG)*</b></li> <li>• <b>Software Analitik untuk Peningkatan Recovery Produksi minyak berbasis data elektromagnetik*</b></li> <li>• Pengembangan Mikrokonverter Efisiensi Tinggi untuk Aplikasi Energi Terbarukan</li> <li>• BIOPS Agrotekno</li> <li>• Resikel Termal Teknindo</li> </ul>