

STAFF HANDBOOK



[\(SCOPUS\)](#) [\(SINTA\)](#)

Name	<i>Dr. Esmar Budi, M.T.</i>
Position	<i>Lecturer in Physics Education, Universiats Negeri Jakarta</i>
Educational Background	<ol style="list-style-type: none"> 1. <i>Bachelor's degree in Physics, Universitas Padjadjaran Bandung</i> 2. <i>Master's degree in Material Science and Engineering, Institut Teknologi Bandung.</i> 3. <i>Doctoral degree in Manufacturing Engineering, Universiti Teknikal Malaysia Melaka.</i>
Academic Career (Employment)	<ol style="list-style-type: none"> 1. <i>Lecturer in Physics and Physics Education Program of FMIPA UNJ (1999-now)</i> 2. <i>Secretary of Physics Department of FMIPA UNJ (2003-2005)</i> 3. <i>Head of Physics Program of FMIPA UNJ (2011-2015)</i> 4. <i>Head of Physics Education of Program of FMIPA UNJ (2015-2019)</i> 5. <i>Head of Physics Education Program of FMIPA UNJ (2019-2021)</i> 6. <i>Vice Dean of Academic Affair of FMIPA UNJ (2021-now)</i>
Research and Development project over the last 5 years	<ol style="list-style-type: none"> 1. <i>Struktur Mikro Lapisan Komposit Elektrodeposisi Nikel-/Nitrida, PTF, BLU FMIPA UNJ 2022.</i> 2. <i>Struktur Kristal dan sifat mekanik lapisan komposit elektrodeposisi nikel-/nitride, PTF, BLU FMIPA UNJ 2021.</i> 3. <i>Lapisan komposit elektrodeposisi nikel-/nitride sebagai material pelapis pintar dan fungsional pelindung aus dan korosi, PTUPT, Dikti, 2019-2021.</i> 4. <i>Tribologi lapisan elektrodeposisi komposit nikel-/nitrida pada proses pemotongan baja Perkakas, PTF, BLU FMIPA UNJ 2020.</i> 5. <i>Kajian pengaruh suhu elektrodeposisi pada pembentukan lapisan komposit pintar nikel-/nitride, PTUPT, Dikti 2019.</i> 6. <i>Fabrikasi lapisan tipis super keras komposit Ni-TiAlN/Si3N4 menggunakan kaidah elektrodeposisi sebagai pengganti material keras intan, PTUPT, Dikti 2017-2018.</i>

<p>Industry collaboration/ Community Services over the last 5 year</p>	<ol style="list-style-type: none"> 1. <i>Pembelajaran Fisika Berbasis Laboratorium di Satuan Pendidikan Wilayah Jakarta Timur, PKM-KDUPIP, BLU FMIPA UNJ 2022.</i> 2. <i>Analisis Osilasi Harmonis melalui Percobaan dan Simulasi untuk Pembelajaran Fisika Jarak Jauh, PKM-KDUPIP, BLU FMIPA UNJ 2021.</i> 3. <i>Kajian Sifat Elastisitas Bahan Melalui Percobaan Laboratorium Hukum Hooke, PKM-Kemitraan Masyarakat, 2020.</i> 4. <i>Kajian induksi elektromagnetik melalui percobaan laboratorium untuk pembelajaran fisika, PKM-Kemitraan Masyarakat, 2019.</i> 5. <i>Kajian Mekanika, Listrik dan Magnet Melalui Percobaan Laboratorium untuk Pembelajaran Fisika, PKM Kemitraan Masyarakat, BLU FMIPA UNJ 2018.</i>
<p>Patents and Intellectual Property Right (IPR)</p>	<ol style="list-style-type: none"> 1. <i>Video pengujian Drill Tungsten Karbida Pada Pengeboran Baja Perkakas, HKI 2022 (EC00202240047)</i> 2. <i>Video Pembelajaran Analisis Osilasi Harmonis Melalui Percobaan dan Simulasi untuk Pembelajaran Fisika Jarak jauh, HKI 2022 (EC00202242512).</i> 3. <i>Video Pembelajaran Kajian Gerak osilasi Harmonis Sederhana Melalui Percobaan Laboratorium Fisika, HKI 2022 (EC00202240048).</i> 4. <i>Perhitungan pengaruh variasi tegangan substrat terhadap fraksi komposisi lapisan dan laju deposisi percikan magnetron TiAlN pada perubahan laju alir gas nitrogen, HKI 2020 (EC00202016859).</i> 5. <i>Buku: Fisika Modern Teori dan Aplikasinya, HKI 2019 (EC00201932488).</i> 6. <i>Buku: Elektrodeposisi Lapisan Komposit Nikel-/Nitrida, HKI 2019 (EC00201951004)</i> 7. <i>Buku: Gelombang, HKI 2018 (EC00201824949).</i> 8. <i>Sistem Potensiostat berbasis ATmega328p dalam Sistem Minimum Arduino Uno untuk proses elektrodeposisi lapisan tipis komposit nikel-/nitride. HKI 2017 (EC00201704746).</i>
<p>Important publications over the last 5 years</p>	<ol style="list-style-type: none"> 1. <i>Mechanical and Tribology Properties of Electrodeposited Ni-TiN/Si₃N₄ Composite Coatings. Materials Science Forum 1057 (2022) 218-226.</i> 2. <i>Preliminary Study on High-Temperature Oxidation of Ni-AlN-TiN/Si₃N₄ Electrodeposition Composite Coatings. Journal of Physics: Conference Series 2019 (1) (2021) 012067.</i> 3. <i>Effect of elevated temperature on Ni-TiN-AlN/Si₃N₄ composite coatings in electrodeposition process. AIP Conference Proceedings 2331 (1), 030033.</i> 4. <i>Effect of elevated temperature on composition and morphology of Ni-TiN/Si₃N₄ composite coatings. AIP Conference Proceedings 2320 (1), 030005.</i> 5. <i>High temperature oxidation resistance of nickel-/nitride composite coatings: A brief review. AIP Conference Proceedings 2320 (1) (2021) 030007.</i>

	<ol style="list-style-type: none"> 6. <i>Electrodeposition of Ni-Nitride composite coatings: A review of recent study IOP Conference Series: Materials Science and Engineering 1098 (6) (2021) 062053.</i> 7. <i>Electrodepositing Ni-TiN/Si₃N₄ Composite Layer with Variation of Current Density Key Engineering Materials 860 (2020) 320-326.</i> 8. <i>Effect of Temperature on Electrodeposited Nickel Nitride Composite Coatings. Journal of Physics: Conference Series 1428 (2020) 012015.</i>
<p>Activities in Professional organizational over the last 5 years</p>	<ol style="list-style-type: none"> 1. <i>Member of Asosiasi MIPA LPTK Indonesia, 2014-now.</i> 2. <i>Member of Semirata BKS-PTN Barat, 2003-now.</i> 3. <i>Member of MIPA-net, 2014-now.</i>