

## STAFF HANDBOOK



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| Name                                                          | Fasih Bintang Ilhami, S.Kep.,M.T.,Ph.D.                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                          |                                         |
| Position                                                      | Lecturer at Science Education, Universitas Negeri Surabaya (UNESA)                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                          |                                         |
| Academic Career                                               | Bachelor                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Nursing Science, Ngudia Husada Madura Collage                                                                                                                                            | 2010 - 2014                             |
|                                                               | Master                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Biomedical Engineering, Airlangga University                                                                                                                                             | 2014-2016                               |
|                                                               | Doctor                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Biomedical Engineering, National Taiwan University of Science and Technology                                                                                                             | 2017-2020                               |
| Employment                                                    | <b>Position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Employer</b>                                                                                                                                                                          | <b>Period</b>                           |
|                                                               | <ul style="list-style-type: none"> <li>Lecture at Science Education in Faculty of Mathematic and Natural Science, Universitas Negeri Surabaya, 2022-present</li> <li>Post-Doctoral Research Fellow in Institute of Atomic and Molecular Science, Academia Sinica Taiwan, 2022</li> <li>Post-Doctoral Research Fellow in Graduate Institute of Applied Science and Technology (National Taiwan University of Science and Technology, Taiwan), 2021</li> </ul> |                                                                                                                                                                                          |                                         |
| Research and community service projects over the last 5 years | <b>Year</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Title</b>                                                                                                                                                                             | <b>Fund</b>                             |
|                                                               | 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Enkapsulasi Ekstrak Rumpuk Gajah ( <i>Pennisetum purpureum</i> ) Pada Supramolecular Polymeric Nanopartikel untuk Mengurangi Plak Aterosklerosis Pada Pembuluh Darah Tikus Strain Wistar | DPPM (Government)                       |
|                                                               | 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                         | The application of durian seed and chitosan as polyelectrolyte complex for bioimaging kannker                                                                                            | Indonesian Toray Science Foundation     |
|                                                               | 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Nanopartikel Berbasis Karbon Dari Kulit Kacang Berlapis $\beta$ -Cyclodextrin sebagai Media Bioimaging untuk Mendeteksi Sel Kanker                                                       | Non APBN (University)                   |
|                                                               | 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Prodrugs Zeolitic Imidazolate Framework-8 (ZIF-8) Enkapsulasi Merkuri (Hg) Nanopartikel Sebagai Agen Multifungsional Terapi                                                              | DRTPM (Government)                      |
|                                                               | 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Green Syntesis Karbon Material Berlapis Supramolekular Nanopartikel Kombinasi Photodynamic Therapy Sebagai Dual Terapi Pada Sel Kanker                                                   | Internasional Program EQUITY Unesa 2023 |
|                                                               | 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Crafting Bahan 2D Nanomaterial Carbon Dots (C-dots) sebagai Photocatalyst Menggunakan Green Technologies                                                                                 | Non APBN (University)                   |

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| Industry collaborations over the last 5 years |             |                                                                                                                                                                                                                                                                                                                              |                                                    |
| Patents and Property rights                   | <b>Year</b> | <b>Title</b>                                                                                                                                                                                                                                                                                                                 |                                                    |
|                                               | 2023        | Pemanfaatan Ekstrak Rumput Gajah (Pennisitum Purpureum) Berbasis Nanoteknologi Untuk Mengurangi Lesi Aterosklerosis Pada Pembuluh Darah                                                                                                                                                                                      |                                                    |
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| Publications over the last 5 years            | <b>Year</b> | <b>Tittle</b>                                                                                                                                                                                                                                                                                                                | <b>Publication</b>                                 |
|                                               | 2025        | Investigation of Phytochemicals and Antibacterial Efficacy in Flower Extracts of Vernonia amygdalina: Complemented Molecular Docking Analysis.<br><br>(Penulis: Abere Habtamu Manayia, <b>Fasih Bintang Ilhami</b> , Sapti Puspitarini)                                                                                      | Journal of the Indian Chemical Society             |
|                                               | 2025        | Investigating the Potential of Marine Animal Bioelectricity as a Basis for Renewable Energy Development<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Tutut Nurita, Vivi Azmilah, Azzahra Vima Lika, Erina Maulidatul Komariyah, Hilmatul Aisyiyah, Frengki Adolf Tanaem)                                                   | Bioelectricity                                     |
|                                               | 2025        | Polyelectrolyte nanoparticles derived from durian seed gum modified with chitosan for selective targeting in cancer cells<br><br>(Penulis: Jindrayani Nyoo Putro, <b>Fasih Bintang Ilhami</b> , Chih-Chia Cheng, Keziah Janice Imanuela, Dave Mangindaan, Wenny Irawaty, Astrid Rahmawati, Osamu Shimomura, Suryadi Ismadji) | International Journal of Biological Macromolecules |
|                                               | 2025        | Unlocking the Folkloric Uses of Rhus retinorrhoea Steud. Ex A. Rich Leaf Crude Extracts: Phytochemical Screening, Antioxidant and Antibacterial Activities<br><br>(Penulis: Yihenew Simegniew Birhan, Ayenew Getachew Binalf, Biniyam Zewdie Hiruy, and <b>Fasih Bintang Ilhami</b> )                                        | Journal of Agriculture and Food Research           |

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| 2025 | <p><i>Protective layer <math>\beta</math>-cyclodextrin within peanut (<i>Arachis hypogaea</i> L.) shells' nanoparticles enhances intracellular stable fluorescence for bioimaging applications: An in vitro and in silico study</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Sapti Puspitarini, Fitriana, Astrid Rahmawati, Noor Rohmah Mayasari, and Hepy Herliniati)</p> | Plant Nano Biology                   |
| 2025 | <p><i>Meniran (<i>Phyllanthus niruri</i> L.) embedded zeolitic imidazolate framework (ZIF-8) nanoparticle for cancer chemotherapy: supported molecular docking analysis</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Sari Edi Cahyaningrum, Andika Pramudya Wardana, Noto Susanto Gultom, Hasan Subekti, Astrid Rahmawati and Sapti Puspitarini)</p>                       | RSC Advances                         |
| 2025 | <p><i>Exploring perspective of impact ranking university trend in five universities in East Java Indonesia</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Mufidatul Khasanah, Nadi Suprpto, and Bambang Sigit Widodo)</p>                                                                                                                                                    | Social Sciences & Humanities<br>Open |
| 2024 | <p><i>Potential of a CO<sub>2</sub>-Responsive supramolecular drug-carrier system as a safer and more effective treatment for cancer</i></p> <p>(Penulis: Enyew Alemayehu Bayle, <b>Fasih Bintang Ilhami</b>, Jem-Kun Chen, and Chih-Chia Cheng)</p>                                                                                                                            | Materials Today Bio                  |
| 2024 | <p><i>Exploring the Bioelectricity of Fruits as Sources for Sustainable and Renewable Energy</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Anis Rahma Cahyani, Desyana Auralia Azizah, Maya Widya Risma, and Iva Tien Nur Hidayatul Ullum)</p>                                                                                                                              | Bioelectricity                       |
| 2024 | <p><i>Optimizing antibacterial photodynamic therapy of biocompatible ZnO/Ag<sub>2</sub>O pn heterojunction: In vitro and in silico study</i></p>                                                                                                                                                                                                                                | Surfaces and Interfaces              |

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|      | (Penulis: Noto Susanto Gultom, <b>Fasih Ilhami Bintang</b> , Misganaw Alemu Zeleke, Aulia Sukma Hutama, Dong-Hau Kuo, Mati Horprathum, Camellia Panatarani, Ferry Faizal, Budi Adiperdana)                                                                                                                                                    |                                                                  |
| 2024 | Zinc Oxide/Carbon Material-Embedded Supramolecular Drug Delivery System with Photoswitching Properties for Highly Selective and Effective Chemotherapy<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Munasir, Noto Susanto Gultom, Chih-Chia Cheng)                                                                                          | ACS Applied Bio Materials                                        |
| 2024 | Hydrogen-bonded cytosine-endowed supramolecular polymeric nanogels: Highly efficient cancer cell targeting and enhanced therapeutic efficacy<br><br>(Penulis: Wen-Lu Fan, Shan-You Huang, Xiu-Jing Yang, <b>Fasih Bintang Ilhami</b> , Jem-Kun Chen, Chih-Chia Cheng)                                                                         | Journal of Colloid and Interface Science<br>2024                 |
| 2024 | Developing Zinc Oxide and Peanut Shell-Derived Carbon Star-Shaped Composite Materials for Effective Photo-Antibacterial Treatment<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Tjandrawati Moezf, Muh Nur Khoiru Wihadi, Mufidatul Khasanah, Nugrahani Primary Putri, Diah Hari Kusumawati, Chen-Yu Kao, Dong-Hau Kuo, Noto Susanto Gultom) | Heliyon<br>2024                                                  |
| 2024 | The Effectiveness of Case-Based STEM Integrated with Mobile Simulation to Foster Students' Creative Thinking Skills<br><br>(Penulis: Tutut Nurita, Lia Yuliati, Muhamad Arif Mahdiannur, <b>Fasih Bintang Ilhami</b> )                                                                                                                        | International Journal of Interactive Mobile Technologies<br>2024 |
| 2024 | In vitro Investigation on Pennisetum purpureum Leaf Extracts Grown in Indonesia of Phytochemical Components, Optical Characteristics, and Antioxidant-Antibacterial Activities<br><br>(Penulis: Muhammad Budiyanto, Sapti Puspitarini, Syarif Prasetyo, Hasan Subektia, Yihenew S. Birhan, Ahmad Qosyim and <b>Fasih Bintang Ilhami</b> )     | Brazilian Journal of Biology<br>84 (2024)                        |

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| 2024 | <p><i>CO<sub>2</sub>-Responsive Water-Soluble Conjugated Polymers as a Multifunctional Fluorescent Probe for Bioimaging Applications</i></p> <p>(Penulis: Yu-Nong Hsiao, <b>Fasih Bintang Ilhami</b>, and Chih-Chia Cheng)</p>                                                                                                                         | <p><i>Biomacromolecules</i><br/>25 (2) 997–1008</p>                                |
| 2024 | <p><i>Hydrogen-Bonding Interactions from Nucleobase-Decorated Supramolecular Polymer: Synthesis, Self-Assembly and Biomedical Applications</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Yihenew Simegniew Birhan, and Chih-Chia Cheng)</p>                                                                                                        | <p><i>ACS Biomaterials Science &amp; Engineering</i><br/>10 (1) 234-254</p>        |
| 2023 | <p><i>Self-assembled supramolecular nanoparticle by host-guest interaction for thermo-controlled released of magnolol in cancer chemotherapy</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Erman, Astrid Rahmawati, Yihenew Simegniew Birhan, Fitriana, Ardila Hayu Tiwikrama)</p>                                                                 | <p><i>Journal of Drug Delivery Science and Technology</i><br/>89 (2023) 105078</p> |
| 2023 | <p><i>Development of CO<sub>2</sub>-responsive supramolecular drug carrier system for potential application in anticancer treatment</i></p> <p>(Penulis: Enyew Alemayehu Bayle, <b>Fasih Bintang Ilhami</b>, Sin-Yu Huang, Ting-Hsuan Su, Yeong-Tarng Shieh, Jem-Kun Chen, Chih-Chia Cheng)</p>                                                        | <p><i>Applied Materials Today</i><br/>33 (2023) 101865</p>                         |
| 2023 | <p><i>CO<sub>2</sub>-Responsive drug delivery system created by supramolecular design and assembly for safer, more effective cancer therapy</i></p> <p>(Penulis: Vo Thuy Thien Ngan, <b>Fasih Bintang Ilhami</b>, Sin-Yu Huang, Ting-Hsuan Su, Hsin-Hsuan Tsai, Chih-Chia Cheng)</p>                                                                   | <p><i>Materials Today Advances</i><br/>19 (2023) 100400</p>                        |
| 2023 | <p><i>Crafting Two-Dimensional Materials For Contrast Agents, Drug, And Heat Delivery Applications Through Green Technologies</i></p> <p>(Penulis: Dwi Setyawan, Tahta Amrillah, Che Azurahanim Che Abdullah, <b>Fasih Bintang Ilhami</b>, Diva Meisya Maulina Dewi, Zuhra Mumtazah, Agustina Oktafiani, Fayza Putri Adila, Moch Falah Hani Putra)</p> | <p><i>Journal of Drug Targeting</i><br/>31 (4), 369–389</p>                        |

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| 2023 | <p><i>Water-Soluble Graphene Quantum Dot-Based Polymer Nanoparticles With Internal Donor/Acceptor Heterojunctions For Efficient And Selective Detection Of Cancer Cells</i></p> <p>(Penulis: Yi-Hsuan Chang, Wei-Hung Chiang, <b>Fasih Bintang Ilhami</b>, Cheng- Yu Tsai, Sin-Yu Huang, Chih-Chia Cheng)</p>                                                         | <p><i>Journal of Colloid and Interface Science</i><br/>637, 389-398</p>  |
| 2023 | <p><i>A CO<sub>2</sub>-Responsive Imidazole-Functionalized Fluorescent Material Mediates Cancer Chemotherapy</i></p> <p>(Penulis: Vo Thuy Thien Ngan, Po-Yen Chiou, <b>Fasih Bintang Ilhami</b>, Enyew Alemayehu Bayle, Yeong-Tarng Shieh, Wei-Tsung Chuang, Jem- Kun Chen, Juin-Yih Lai, Chih-Chia Cheng)</p>                                                        | <p><i>Pharmaceutics</i><br/>15(2), 354</p>                               |
| 2023 | <p><i>Photoreactive Mercury-Containing Metallosupramolecular Nanoparticles with Tailorable Properties That Promote Enhanced Cellular Uptake for Effective Cancer Chemotherapy</i></p> <p>(Penulis: Abere Habtamu Manayia, <b>Fasih Bintang Ilhami</b>, Sin-Yu Huang, Ting-Hsuan Su, Cheng-Wei Huang, Chih-Wei Chiu, Duu-Jong Lee, Juin- Yih Lai, Chih-Chia Cheng)</p> | <p><i>Biomacromolecules</i><br/>24(2) 943–956</p>                        |
| 2022 | <p><i>Multi-Biofunctional Silver-Containing Metallosupramolecular Nanogels for Efficient Antibacterial Treatment and Selective Anticancer Therapy</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Sin-Yu Huang, Chih- Chia Cheng)</p>                                                                                                                               | <p><i>Acta Biomaterialia</i><br/>151 (1), 576-587</p>                    |
| 2022 | <p><i>Conductive Supramolecular Nanocomposites With Tunable Properties To Manipulate Cell Growth And Functions</i></p> <p>(Penulis: Cheng-You Wu, Ashenafi Zeleke Melaku, <b>Fasih Bintang Ilhami</b>, Chih-Wei Chiu, Chih-Chia Cheng)</p>                                                                                                                            | <p><i>International Journal of Molecular Sciences</i><br/>23(8),4332</p> |
| 2021 | <p><i>Photoreactive cytosine- functionalized self-assembled micelles with enhanced cellular uptake capability for efficient cancer chemotherapy</i></p>                                                                                                                                                                                                               | <p><i>Biomacromolecules</i><br/>22(12), 5307–5318</p>                    |

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|      | (Penulis: Abere Habtamu Manayia, <b>Fasih Bintang Ilhami</b> , Ai-Wei Lee, Chih-Chia Cheng)                                                                                                                                                                                                                    |                                                        |
| 2021 | Complementary nucleobase interactions drive self-assembly of drugs and nanocarriers for selective cancer chemotherapy<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Enyew Alemayehu Bayle, Chih-Chia Cheng)                                                                                                   | Pharmaceutics<br>13(11), 1929                          |
| 2021 | Hydrogen bond strength-mediated self-assembly of supramolecular nanogels for selective and effective cancer treatment<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Ya-Tang Yang, Ai-Wei Lee, Yu-Hsuan Chiao, Jem-Kun Chen, Duu-Jong Lee, Juin-Yih Lai, Chih-Chia Cheng)                                      | Biomacromolecules<br>22(10), 4446–4457                 |
| 2021 | Mercury-containing supramolecular micelles with highly sensitive pH-responsiveness for selective cancer therapy<br><br>(Penulis: Yihalem Abebe Alemayehu, <b>Fasih Bintang Ilhami</b> , Abere Habtamu Manayia, Chih-Chia Cheng)                                                                                | Acta Biomaterialia<br>129, 235–244                     |
| 2021 | Self-assembled nanoparticles formed via complementary nucleobase pair interactions between drugs and nanocarriers for highly efficient tumor-selective chemotherapy<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Ai Chung, Yihalem Abebe Alemayehu, Ai-Wei Lee, Jem-Kun Chen, Juin-Yih Lai, Chih-Chia Cheng) | Materials Chemistry Frontier<br>(5), 5442              |
| 2021 | Photo-responsive supramolecular micelles for controlled drug release and improved chemotherapy<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Kai-Chen Peng, Yi-Shiuan Chang, Yihalem Abebe Alemayehu, Hsieh-Chih Tsai, Juin-Yih Lai, Yu-Hsuan Chiao, Chen-Yu Kao, Chih-Chia Cheng)                            | International Journal of Molecular Sciences<br>22, 154 |
| 2021 | Adenine-functionalized supramolecular micelles for selective cancer chemotherapy<br><br>(Penulis: <b>Fasih Bintang Ilhami</b> , Yihalem Abebe Alemayehu, Wen-Lu Fan, Hsieh-Chih Tsai, Chen-Yu Kao, Chih-Chia Cheng)                                                                                            | Macromolecular Bioscience<br>5(5), 2755-2769           |

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| 2021 | <p><i>Photosensitive supramolecular micelle-mediated cellular uptake of anticancer drugs enhances the efficiency of chemotherapy</i></p> <p>(Penulis: Yihalem Abebe Alemayehu, Wen-Lu Fan, <b>Fasih Bintang Ilhami</b>, Chih-Wei Chiu, Duu-Jong Lee, Chih-Chia Cheng)</p> | <p><i>International Journal of Molecular Sciences</i><br/>21(13), 4677</p> |
| 2020 | <p><i>Multifunctional adenine-functionalized supramolecular micelles for highly selective and effective cancer chemotherapy</i></p> <p>(Penulis: <b>Fasih Bintang Ilhami</b>, Shan-You Huang, Jem-Kun Chen, Chen-Yu Kao, Chih-Chia Cheng)</p>                             | <p><i>Polymer Chemistry</i><br/>11, 849-856</p>                            |