

Preface

The 2nd Annual Applied Science and Engineering Conference (AASEC 2017) was held in Bandung, Indonesia, on 24 August 2017. AASEC 2017 is hosted by the UPI Publication Center, Universitas Pendidikan Indonesia (UPI). This conference is jointly organized with Universitas Sumatera Utara (USU), Universitas Negeri Manado (UNIMA), Universitas Negeri Surabaya (UNESA), and Universitas Muhamadiyah Purwokerto (UMP).

The conference was used as a scientific forum for accommodating discussions among young researchers that originated from Indonesia in the field of applied science and engineering. Therefore, the invited speakers in this conference were young researchers that are well-known and reputable in the world.

The participants of AASEC 2017 were from almost every part of the world with various background, including academia, industry, and even well-known enterprise. In general, more than 320 papers were participated from various topics, including mathematics, physics, computer science, material science, chemistry, biology, pharmacology, sport science and technology, management science, mechanical engineering, chemical engineering, civil engineering, electrical engineering, electronics engineering, material engineering, environmental engineering, industry engineering, information engineering, computer and communication engineering, and architecture.

We would like to thank all of those who helped and supported AASEC 2017. Each individual and institution's support was very important for the success of this conference. Specifically, we would like to acknowledge the advisory board, scientific committee, and organizing committee for their valuable advice, help, suggestion, and support in the organization and helpful peer-reviewing process of the papers. We would also extend our best gratitude to keynote speakers for their valuable contribution for sharing ideas and knowledge in the AASEC 2017.

We sincerely hope that AASEC 2017 will be a forum for excellent discussions for improving the quality of research and development relating to the applied science and engineering. We also hope that this forum will put forward new ideas and promote collaborative researches among participants. We believe that the proceedings can serve as an important research source of reference and the knowledge. Indeed, the proceedings will lead to not only scientific and engineering progress but also other new products and processes for better science and technology.

The Editors

Dr. Ade Gafar Abdullah

Dr. Eng. Asep Bayu Dani Nandiyanto

Dr. Isma Widiaty



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