

Preface

Thank God who has bestowed grace and favor so that we of the committee able to organize 4th International Seminar on Science and Technology (ISST) 2018 and complete assignment for paper submitted to Materials Science Forum.

This volume contains peer-reviewed papers prepared as the event of the International Seminar on Science and Technology (ISST) 2018” under the support of the Ministry of Research, Technology and Higher Education and Technology of Indonesia. Selected papers at this volume cover a wide range of topics regarding materials science and technology also as conversion energy and provide recent knowledge and achievement. Presented works together with scientific substantiation have an analytical justification and practical proof of received results. We believe the volume will be essential reading for those in the related areas and will provide inspiration for future studies. Therefore, the committee conveyed many thanks to all parties who have helped to this event. We also apologize if during the ISST 2018 has many shortcomings.

The Organizing Committee

Lukman Noerochim, PhD

Program Committee

Honorary Committee

Prof. Ir. Joni Hermana, M.Sc.ES., Ph.D (Rector of ITS)

International Advisory Board

Professor Hadi Susanto, Essex University, Inggris

Iswandaru Widyatmoko, B.Sc, P.hD, AECOM, United of Kingdom

Dr.Ing.Hutomo S. Wasisto, Technische Universität Braunschweig, Germany

Local Advisory Board

Dr. Agung Purniawan, M.Eng

Prof. Dr. Ir. Heru Setyawan, M.Eng

Ir. Achmad Zubaydi, M.Eng., Ph.D.

Prof. Dr. Basuki Widodo, M.Sc.

Dr. Bambang Lelono Widjiantoro, S.T., M.T.

Ir. Purwanita Setijanti, M.Sc., Ph.D.

Prof. Dr. Daniel Mohammad Rosyid

Dr. H. Agus Zainal Arifin, S.Kom., M.Kom.

Dr. Tri Arief Sardjono, S.T., M.T.

Prof. Dr. Ir. Udisubakti Ciptomulyono, M.Eng. Sc.

Prof. Ir. Muhammad Sigit Darmawan, M.Eng. Ph.D.

Prof. Dr. Ir. Eddy Yahya, M.Sc.

Dr. Mahmud Yunus, M.Si.

Dr. rer. Pol.Heri Kuswanto, S.Si., M.Si.

Prof. Mardi Santoso, Ph.D.

Dr. Enny Zulaika, M.P.

Prof. Dr. Ir. Prabowo, M.Eng.

Dr. Ir. Wirawan, DEA.

Dr. Tantular Nurtono, ST., M.Eng.

Dr. rer. nat. Ir. Aulia Muhammad T. N., M.Sc.

Dr. Eng. Erwin Widodo, ST., M.Eng.

Endah Wahyuni, ST., M.Sc., Ph.D.

Dr. Ima Defiana, ST., MT.

Dr. Ir. Ellina S. Pandebesie, MT.

Ira Mutiara Anjasmara, ST., M.Phil., Ph.D.

Dr. Ir.Wahyudi, M.Sc.

Waskitho Wibisono, S.Kom., M.Eng., Ph.D.

Dr. Apol Pribadi Subriadi, ST., MT.

Dr. Ir. V. Hari Ginardi, M.Sc.

Raja Oloan Saut Gurning, ST., M.Sc., Ph.D.

Organising Committee

Chairman

Lukman Noerochim, Ph.D

Secretary

Haniffudin Nurdiansah, ST., MT

Vania Mitha Pratiwi, ST., MT.

Event

Alvian Toto Wibisono, ST., MT.
Dian Mughni Fellicia, ST., M.Sc
Sigit Tri Wicaksono, PhD
Mas Irfan P. Hidayat, M.Sc
Dr.Widyastuti
Ir. Rochman Rochiem, M.Sc
Budi Kasianto, S.Sos
Yeny Widya R, ST

Scientific (Paper)

Amaliya Rasyida, ST., M.Sc
Sungging Pintowantoro, PhD
Prof. Dr.Ir.Sulistijono, DEA
Dr.Agung Purniawan, M.Eng
Diah Susanti, PhD
Dr. Eng. Hosta Ardyananta, M.Sc