

Table of Contents

Preface, Committees, Sponsors and Keynote Speaker

Fingertip Force Measurement of GloveMAP by Using a Flexi Force Sensor

W. Khairunizam, H.E. Nabilah, Nor Farahiya, M. Hazwan Ali, R. Suhaimi, D. Hazry, A.B. Shahrman and Z.M. Razlan

1

High Photoabsorption and Photostability of Photosensitizers for Kaolinite-Bixin Solar Cells

F. Hadary, N. Wahyuni, Syaifurrahman and A. Hiendro

7

Poly-Resistor Thin Film Formation by Excimer Laser Micromachine

A.F.M. Anuar, Y. Wahab, M.Z. Zainol, H. Fazmir, M. Najmi, M. Mazalan and M.K. Md Arshad

17

Properties of Piezoelectric Layer Deposited by Sol-Gel Method for MEMS Sensor Applications

H. Fazmir, Y. Wahab, A.F.M. Anuar, M.Z. Zainol, M. Najmi, M. Mazalan and M.K. Md Arshad

23

Etch Performance of KRF Excimer Laser Micromachining Characterization on Silicon Material

M.Z. Zainol, Y. Wahab, H. Fazmir, A.F.M. Anuar, S. Johari, M. Najmi and M. Mazalan

29

Deformation Behaviour of Glass Fibre Reinforced Concrete Containing Palm Oil Fuel Ash

A.S.M.A. Awal, M.Z.A. Majid, S.M. Shirazi and K.Y. Yuan

33

Consideration of Factors Towards Lowering the Natural Frequency of MEMS Based Cantilever Structure: Top Mass versus Back Etch Design

A.W. Khairul Adly, Y. Wahab, A.Y.M. Shakaff and M. Mazalan

39

Coupling Gap Analysis of Microring Photonic Wavelength Switch

M. Najmi, M.H.A. Wahid, Y. Wahab, A.F.M. Anuar, H. Fazmir and M. Mazalan

45

Inverse Kinematics Simulation for a Surgical Robot Using CATIA

S.G. Liu and E. Farah

49

Design of Automated Moving Stage with Adaptive Focus System to Support Microscopy Image Stitching

T.L. Bhakti, A. Susanto, P.I. Santosa and D.T. Widayati

55

Predicting the Actual Strength of Open-End Spun Yarn Using Mechanical Model

R.M. Hernawati, V.G.V. Putra and I. Fauzi

69

Optimization Position and Tilt Angle for Automatic Tracking Solar Collector in Solar Thermal Cooling System of Building MRC FTUI

N. Nasruddin, A. Suyana, Budihardjo and Arnas

75

Simulation and Optimization of Solar Thermal Cooling System in Manufacturing Research Center Building to Reduce Operational Cost Using Software EnergyPlus and GenOpt

N. Nasruddin, K. Rahadian, M.I. Alhamid and Arnas

81

An Experiment of Spike Detection Based Mental Task with Ayes Movement Stimuli

A. Turnip, G.G. Redhyka, H.S. Alam and I.R. Setiawan

87