

## C O N T E N T S

### SCHOOL OF ENGINEERING

#### Technical Papers

|   |    |
|---|----|
| Numerical Calculation of Current Distribution due to Spark Discharge on Water Surface with Surface Potential as Boundary Condition<br>..... Nur Shahida MIDI, M.K.A. MUHAMAD and Ryu-ichiro OHYAMA .....                  | 1  |
| Colors that can Enhance the Track Athletes' Motivation<br>..... Eisaku SETO and Itaru JIMBO .....   | 7  |
| Utilization of Diatoms to Collect Metallic Ions<br>..... Masanao KUNUGI, Takahiro SEKIGUCHI, Hiroaki ONIZAWA and Itaru JIMBO .....  | 13 |
| A Method for Optimizing Groundwater Management<br>..... Afzali NASEER and Shigeo HONMA .....  | 19 |
| Adsorption and Transport of Heavy Metal Ions in Saturated Soils<br>..... Abidullah ARABZAI and Shigeo HONMA .....   | 27 |
| Study on Structural Characteristics of Tubular Bridges with Steel Pipes<br>..... Turki JARWALI and Shunichi NAKAMURA .....  | 33 |
| Corrosion Resistance of Bridge Strands Galvanized with a Zinc-Aluminium Alloy<br>..... Turki JARWALI, Shunichi NAKAMURA and Keita SUZUMURA .....  | 41 |
| Syntheses and Characterization of CeO <sub>2</sub> Based Oxide Prepared by Precipitation Methods for SOFCs<br>..... Masashi YOSHINAGA, Taku MITSUMORI, Kazuya SASAKI .....  | 49 |
| Electrode Properties of Ni-YSZ Cermet Anode Using YSZ Powder Synthesized Through a Hydrothermal Process<br>..... Taku MITSUMORI, Masahiro KINOSHITA, Masashi YOSHINAGA and Kazuya SASAKI .....                            | 53 |
| Effective Plate Thickness Range in Bending Technique for Levitation Control of Flexible Steel Plate<br>..... Hiroki MARUMORI, Hikaru YONEZAWA, Takayoshi NARITA, Hideaki KATO<br>Shinya HASEGAWA and Yasuo OSHINOYA ..... | 59 |
| Steer-by-Wire System for Ultra-Compact Electric Vehicle<br>—Functional Evaluation of Vehicle Handling Preference by Cornering on the Street—<br>..... Hideaki KATO, Shinya HASEGAWA and Yasuo OSHINOYA .....              | 67 |
| Skid Control of Small Electric Vehicles (Direct Yaw Moment Control using Tire Steer Angle)<br>..... Mohamad Heerwan Bin PEEIE, Hirohiko OGINO and Yasuo OSHINOYA .....  | 73 |

Characteristics of Unsteady Flows around a Circular Cylinder with Simultaneous Multipoint Measurements of Pressure  
..... Naotaka WATANABE, Tomohiro FURUTA and Yoko TAKAKURA ..... 81

**Abstracts**  
Vol. 53, No 2, 2013 ..... 89