

## CONTENTS

1 . Automatic light for dental treatment – Automatic of multi degree of freedom automatic light using OpenCV – .....	Shingo IZUMI, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA.....	1
2 . Dental Patient Robot – Change in dental patient robot status – .....	Shota HAMAGUCHI, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Kotaro MAKI, Yoshikazu MIYAZAKI, Mutsumi MADOKORO, Takeshi TANZAWA, Yoichi TAKAMOTO, Kenichi MIYAMOTO, Yusuke ISHII, Akihisa OKINO, Atsuo TAKANISHI.....	7
3 . Research and Development of Swarm Robot .....	Yuta SHIMIZU, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Yoshinobu INADA.....	13
4 . Fundamental study on recovery of aldehyde in engine emission .....	Shoji YOKOTA, Junya TANAKA.....	19
5 . Rising Velocity of a Gas Plug in Vertical-Rectangular-Narrow Channels .....	Tohru MIYASHITA, Yasuo KOIZUMI, Hiroyasu OHTAKE.....	23
6 . Operation of Charge and Discharge Circuit for Power Leveling Method in Household Photovoltaic Generation .....	Shujiro KUBO, Junichi ARAI.....	29
7 . A Study on Operational Limitation of Islanded System Consisting of Inverter Power Sources .....	Taihei SATO, Junichi ARAI.....	33
8 . A Remote Care System Using Interlinked Homes Network : Permissible Transmission Delay for Multi-Hopping Control Signals .....	Satoshi UESUGI, Koichi YATA, Juhro TAKASE.....	39
9 . A Remote Care System Using Interlinked Homes Network : An Experimental Transmission for Real-Time Signals .....	Shota HAGIWARA, Shingo YOKOYAMA, Juhro TAKASE.....	47
10. An Analysis of Locality of Reference in Virtualized Environment .....	Hiroki SUGIMOTO, Kousuke TAKEUCHI, Kouya HINAGAWA, Saneyasu YAMAGUCHI.....	55
11. File Layout Optimization in Virtualized Environment .....	Eri MIYAJIMA, Saneyasu YAMAGUCHI.....	63
12. VM Memory Allocation using Cache Hit Ratio .....	Masaki SAKAMOTO, Saneyasu YAMAGUCHI.....	71
13. Improvement of Performance Elasticity in KVS .....	Shohei MIYOKAWA, Taiki TOKUDA, Saneyasu YAMAGUCHI.....	79
14. A Novel Bistable-LCD Providing a Functionality of Displaying the Moving Image with Gray Scale .....	Ryo EBIHARA, Taiju TAKAHASHI.....	85
15. A Study on the Education and the Research in Engineering University from the View Point of Business Continuity Plan .....	Takuro YOSHIDA, Masahiro MURAKAMI, Masamitsu MIYAMURA, Tomohiro KUBO.....	91
16. Study on Flow Characteristics downstream of Swirl Flow Generator .....	Masanori KUDO, Masayuki TAKAHASHI, Kotaro SATO, Koichi NISHIBE, Kazuhiko YOKOTA.....	99
17. A Study on Monitoring of Care Environment Using Precise Ultrasonic Positioning Installed in Sensor Network (1 <sup>st</sup> Report) .....	Mitsutaka HIKITA, Natsuki TOBITA, Tateo SATO.....	105