

CONTENTS

1 . Effect of Overloading on Fatigue Strength of Structural Bolts	Yoshiki GOTOH, Mitsuo KOBAYASHI, Kanoo ICHINOSE, Kunio KOKUBO.....	1
2 . Basic Research of Swarm Intelligence	Yuta SHIMIZU, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Yoshinobu INADA.....	9
3 . Dental Patient Robot – Reproduction of vital in the condition change –	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.....	15
4 . Study of dental patient robot – Motion of a multi-joint mechanism –	Yuta SHIMOMAKI, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Koutaro MAKI, Yoshikazu MIYAZAKI, Takeshi TANZAWA, Kenichi MIYAMOTO, Yoichi TAKAMOTO, Atsuo TAKANISHI.....	21
5 . Dental Patient Robot – Reproduction of vital signs –	Toshifumi NAKAJIMA, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Kotaro MAKI, Yoshikazu MIYAZAKI, Mutsumi MADOKORO, Takeshi TANZAWA, Kenichi MIYAMOTO, Yoichi TAKAMOTO, Yusuke ISHII, Akihisa OKINO, Atsuo TAKANISHI.....	27
6 . Research of the group action by airship robots	Satoru HOUKITA, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Yoshinobu INADA.....	33
7 . Study on robot that can grow like humans – Research of the humanoid robot that imitates human physical growth rate of change –	Takayuki MATSUZAWA, Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA.....	39
8 . Influence of Tightening force on Behavior of Axial force of Bolted Joints by Impact Load	Takuro YASUDA, Mitsuo KOBAYASHI, Hisami OISHI, Yoshiki GOTOH, Naotake NIWA.....	45
9 . Expansion for Design Guidance of Threaded End of Pressure Cylinder in High-pressure Facilities	Mitsuo KOBAYASHI, Yoshihiro HIRAKAWA, Naotake NIWA, Michihiko TANAKA, Kenji YAMAMOTO.....	53
10. Examination of Assessing Piping Structure Strengths for Sprinkler Systems by Earthquake	Masaya IKINO, Mitsuo KOBAYASHI, Yoshiki GOTOH, Kanoo ICHINOSE, Kunio KOKUBO.....	61
11. Laminar Burning Velocity of Methane-Air Mixture with EGR Gas – 1 st Report. Characteristic of Measurement Systems of Laminar Burning Velocity –	Yusuke KIKUCHI, Junya TANAKA.....	67
12. Laminar Burning Velocity of Methane-Air Mixture with EGR Gas – 2 nd Report. Effect of EGR on Laminar Burning Velocity –	Yusuke KIKUCHI, Junya TANAKA.....	73
13. Electric Capacitance Characteristics against the Applied DC Voltage in LC Cells Depending on Flexoelectric Effects by Numerical Simulation	Shusuke NAKAMURA, Yukihiro KUDOHO, Taiju TAKAHASHI.....	79
14. Alignment of Nematic LCs Located near the Polymer Microfiber Fabricated by the UV Curable LC Polymer Containing the Cellulose Spun by Electrospinning	Yusuke WATADO, Hiroki WATANABE, Yukihiro KUDOHO, Taiju TAKAHASHI.....	83
15. Decreasing KVS Node Joining Time	Shohei MIYOKAWA, Taiki TOKUDA, Saneyasu YAMAGUCHI.....	87
16. Energy Efficient Storage Management Cooperated with Data Intensive Applications in Virtual Machines	Shunsuke YAGAI, Takumi WAKAIRO, Saneyasu YAMAGUCHI.....	95
17. Saving Display Power Consumption in Android Terminals by controlling RGB	Hirokazu SAKAMOTO, Yuta NAKAMURA, Shun NOMURA, Shintaro HAMANAKA, Saneyasu YAMAGUCHI, Aki KOBAYASHI.....	103
18. Dynamic Memory Allocation in Virtual Machines based on read/write Ratio	Masaki SAKAMOTO, Saneyasu YAMAGUCHI.....	111

CONTENTS

19. Rotary Motion Generated by Electrically Synthesized Circular/Elliptic Drive with Straight-Move Ultrasonic Motors
..... Mitsutaka HIKITA, Yusuke NAGIRA, Toshiaki SAKAYACHI.....119

20. Study of Miniaturization Limits through Micro-pin Forming by EDM
..... Atsutoshi HIRAO.....125

21. The Abstracts of the Theses for Doctorates Conferred in Our University
..... Sachihiko TOMONAGA.....133