

	Meeting Room 6 (W500-1)	Meeting Room 7 (W500-2)
12:30		
13:00	<p>Opening Welcom</p>	
13:00-14:00	<p>Special Lecture # 1</p> <p>Soft Microfluidic Wearable Technologies for Healthcare Applications</p> <p>C.T. Lim (National University of Singapore)</p> <p>Chair: <i>I. Sakuma</i></p>	
14:00-15:00	<p>Special Lecture # 2</p> <p>Development of Ultra-Sensitive Optically Pumped Magnetometers towards Next Generation Brain Imaging</p> <p>T. Kobayashi (Kyoto University, IFMBE Awardee)</p> <p>Chair: <i>H. Liao</i></p>	
15:00	<p>15:15-16:45 General Session # 1: Imaging Chair: <i>K. Iramina</i></p>	<p>15:15-16:30 General Session # 2: Therapeutic Medical Engineering 1 Chairs: <i>K. Masuda, T. Siew-Lok</i></p>
	<p>AP1-6-IM-001 PID 002 Clinical Photoacoustic and Ultrasound Imaging System with Real-time Image Optimization Platform <i>Jeesu Kim, Eun-Yeong Park, Byullee Park, Wonseok Choi, Ki Jong Lee, Chulhong Kim</i></p>	<p>AP1-7-TM-001 PID 054 Numerical analysis of aortic valve stress for phantom experiments <i>Takuya Watanabe, Asuka Hatano, Satoshi Izumi, Naoki Tomii, Eriko Maeda, Haruo Yamauchi, Kan Nawata, Shu Takagi, Ichiro Sakuma, and Minoru Ono, Hiroshi Tsukihara</i></p>
	<p>AP1-6-IM-002 PID 006 Super-Resolution Label-Free Localization Photoacoustic Microscopy <i>Jongbeom Kim, Jin Young Kim, Seungwan Jeon, Jin Woo BAIK, Seong Hee Cho, Chulhong Kim</i></p>	<p>AP1-7-TM-002 PID 056 Development of a continuous circulation shear test system for assessing von Wille-brand degradation during assisted circulation <i>M. Hashimoto, Y. Shiraishi, Y. Tachizaki, Y. Inoue, A. Yamada, M. Hayakawa, M. Matsumoto, M. Kayashima, H. Horiuchi, and T. Yambe</i></p>
	<p>AP1-6-IM-003 PID 013 Background noise reduction of OCT images based on region filling <i>Yingwei Fan, Chengquan Hu, Hongxiang Kang, Hongen Liao</i></p>	<p>AP1-7-TM-003 PID 061 Development of an ultrastructural model of cardiomyocytes based on electron microscopy <i>Makoto Someya, Hiroaki Tanaka, Asuka Hatano, Satoshi Izumi, Masahiko Hoshijima, and Andrew McCulloch</i></p>
16:00	<p>AP1-6-IM-004 withdrawn</p>	<p>AP1-7-TM-004 PID 062 Fluid-structure interaction analysis of 3D human aortic valve model constructed from CT images <i>Sakurako Miyazaki, Asuka Hatano, Satoshi Izumi, Yusuke Morishita, Bowen Fan, Shu Takagi, Naoki Tomii, Hiroyuki Tsukihara, Eriko Maeda, Haruo Yamaguchi, Kan Nawata, Ichiro Sakuma, Minoru Ono</i></p>
	<p>AP1-6-IM-005 PID 028 Monte-Carlo simulation and clinical image validation for vessel size imaging with twice and single refocus spin-echo diffusion sequence <i>Kazuhiro Nakamura, Shin Minakata, Hideto Toyoshima, Toshibumi Kinoshita</i></p>	<p>AP1-7-TM-005 PID 058 Experiment on Flow Estimation of Simulated Urination in a Western Style Toilet with Built-in Image Sensor <i>Yusuke Niwa, Haruki Kawanaka, Eiichi Watanabe, and Koji Oguri</i></p>
	<p>AP1-6-IM-006 PID 007 Comparison of single or double isocenter plan for multi lesion lung SBRT <i>Wang Zhongfei, Sun Xiaohuan, Wang Wei, Xiao Feng</i></p>	<p>16:40-17:40 General Session # 3: Medical Devices 1 Chair: <i>Y. Murayama</i></p>
		<p>AP1-7-MD-001 PID 008 Surgical-tools Tracking based on Convolutional Neural Network and Long Short-Term Memory <i>Yu Yang, Zijian Zhao</i></p>
17:00		<p>AP1-7-MD-002 PID 063 Development of a Novel Laparoscopic Palpation System using a Wearable Motion-Sensing Armband <i>Kerwin Caballas, Harold Jay Bolingot, Ingrid Salud, Lawrence Ibarrientos, Lea Cristina Macaraig, Nathaniel Libatique, Gregory Tangonan</i></p>
		<p>AP1-7-MD-003 PID 065 Surface-Based Electromyography Gesture Profiling of Laparoscopic Tools using a Wearable Sensor <i>Ingrid Salud, Harold Jay Bolingot, Lea Cristina Macaraig, Nathaniel Libatique, Gregory Tangonan</i></p>
		<p>AP1-7-MD-004 PID 067 Development of Rehabilitation System with Bilateral Upper Extremity Training Robot and Virtual Reality for Stroke Patient <i>Thitikorn Kaewlee, Panrasee Ritthipravat</i></p>
18:00		

	Meeting Room 6 (W500-1)	Meeting Room 7 (W500-2)
8:30		
		8:50-9:50 General Session # 5: Diagnostic Evaluation 1 Chair: C.-C. Huang
9:00	9:00-10:45 Organized Session: Current Technology in Prosthesis, Orthosis and Rehabilitation Chair: A. Hanafusa	AP2-7-DE-001 PID 023 Preliminary Study on Recognition of Normal Breath or Wheeze by Time-frequency Analysis of AR Model <i>Chin-Yuan Lin, Ying-Pyng Lin, Bing-Yuh Lu</i>
	AP2-6-OS-001 PID 060 Title: Introduction of Prosthesis and Orthosis Evaluation System that Utilize Human Models <i>Akihiko Hanafusa, Mohd Syahmi Jamaludin, Le Van Tuan, Hayato Ikebata, Ryogo Suzuki, Taiki Kawamura, Shin-ichiro Yamamoto, Yukio Agarie, Hiroshi Otsuka, Kengo Ohnishi</i>	AP2-7-DE-002 PID 024 Analysis of representations of 3-dimensional objects in the cell populations in the temporal association area using machine learning <i>Okamura Jun-ya, Yusuke Yamamoto, Lulin Dai, Yoshihiro Uto, Yousuke Yamada, Gang Wang</i>
	AP2-6-OS-002 PID 046 Analyzing the Shear Stress on the Contacting Interface during Ambulation with Transfemoral Prosthesis Socket <i>Van-Thuc Tran, Shin-ichiro Yamamoto, Akihiko Hanafusa, Kengo Ohnishi, Hiroshi Otsuka, Yukio Agarie</i>	AP2-7-DE-003 withdrawn
	AP2-6-OS-003 PID 043 Lower Limb Muscles Activation of Endurance and Power Athletes <i>Maisarah Sulaiman, Aizreena Azaman, Noor Aimi Salleh, Azli Yahya</i>	AP2-7-DE-004 PID 066 X-ray projection and fluid analysis of contrast agent dynamics through stenosis <i>Ryotaro Kaneko, Asuka Hatano, Satoshi Izumi</i>
	AP2-6-OS-004 PID 011 Experimental Analysis of Ankle Foot Orthosis Using Pneumatic Artificial Muscle <i>Nurhanna Zulaikha Ishak, Shahrol Mohamaddan, Annisa Jamali, Shin-ichiro Yamamoto, Helmy Hazmi, Low Cheng Yee, Akihiko Hanafusa</i>	
10:00	AP2-6-OS-005 PID 033 Conceptual Design and FEM Analysis of An Exoskeleton Suit for Post-Stroke Patient: A Lower Limbs Exo Suit <i>Muhamad Fikri Abdul Hamid, M Hanif M Ramli, Noor Ayuni Che Zakaria, Zulkifli Mohamed</i>	10:00-11:00 General Session # 6: Machine Learning Chair: N. Tomii
	AP2-6-OS-006 PID 026 Preliminary Study on The Use of Kinect Camera for Observational Gait Analysis System <i>Aizreena Azaman, Husnir Nasyuha Abdul Halim, Muhammad Fariz Shafiq Abd. Aziz, Sagida M.A Bilal</i>	AP2-7-ML-001 PID 016 Initial Study of Emotion Recognition Using Brain Rhythm Sequencing Method <i>Jia Wen Li, Shovan Barma, Siu Hang Pun, Mang I Vai, Pan Ke Wang, Xin Liu, Yuan Yu Yu, Jiu Jiang Wang, Shuang Zhang, Peng Un Mak</i>
	AP2-6-OS-007 PID 059 Finger Exoskeleton for Early Acute Stroke Rehabilitation: Control Design and Performance Analysis <i>Mohd Nor Azmi Ab Patar, Muhammad Naim Abdu Salam, Muhammad Amir Hazim Jamaluddin, Noorainol Faiz Noor Haris, Hokyo Lee, Akihiko Hanafusa</i>	AP2-7-ML-002 PID 018 Fast Learning from Imperfect Labels to Segment Brain Based on Active Contour Model and 3D U-Net <i>Honglei Ji, Yi Lv, Junchen Wang</i>
		AP2-7-ML-003 PID 019 Comparison of Reconstruction Performances between Deep Learning and Iterative methods in MR Compressed <i>Shohei Ouchi, Satoshi Ito</i>
		AP2-7-ML-004 PID 039 Classification of right and left bundle branch block using cascaded two-level convolutional neural networks <i>Tsung-Han Lee, Jung-Teng Pan, LiangYu Shyu</i>
11:00		
12:00		
13:00		
14:00		
	14:10-15:30 Young Investigators' Award Chairs: T. Matsuda, R. Magjarevic	14:10-15:40 General Session # 7: Medical Devices 2 Chair: E. Kobayashi
	AP2-6-YI-001 PID 040 A Novel OCT Image-guided Laser Automatic Ablation Method Based on Non-common Optical Path Structure <i>Chengquan Hu, Wei Chang, Yangxi Li, Yingwei Fan, Xinran Zhang, Hongxiang Kang, Hongen Liao</i>	AP2-7-MD-001 PID 005 Novel Aspiration Device "SPUTA VACUUMER™" Designed to Minimize Invasion for Patients with Sputum <i>Naoyuki Ishikita, Tomohiko Kisaka, Kazumi Tanaka</i>
	AP2-6-YI-002 PID 044 Reconstruction of a vascular bed with perfusable blood vessels using a decellularized porcine small intestine for clinical application <i>Yusuke Tobe, Katsuhisa Sakaguchi, Jun Homma, Kazunori Sano, Eiji Kobayashi, Hidekazu Sekine, Kiyotaka Iwasaki, Tatsuya Shimizu, Mitsuo Umezu</i>	AP2-7-MD-002 PID 015 Development of a Durable Extracorporeal Ventricular Assist Device Consisting of a Centrifugal Pump with Hydrodynamic Bearings <i>Tomonori Tsukiya, Toshihide Mizuno, Tomohiro Nishinaka, Eisuke Tatsumi</i>
	AP2-6-YI-003 PID 021 Immunogenic cell death induced by selective intracellular vaporization in vitro <i>Ayumu Ishijima, Satoshi Yamaguchi, Takashi Azuma, Etsuko Kobayashi, Kazuhiro Kakimi, Yoshikazu Shibasaki, Teruyuki Nagamune, Ichiro SAKUMA</i>	AP2-7-MD-003 PID 053 Sliding mode Control based on nonlinear disturbance observer for Pneumatic artificial muscle <i>Thuy Nguyen Vu, Quy-Thinh Dao, Van-Thuc Tran, Shin-ichiro Yamamoto</i>
15:00	AP2-6-YI-004 PID 049 PET-laparoscope System with a Multi-layer Movable Detector: Feasibility Study with an Abdominal Phantom <i>Madhusanka Liyanaarachchi, Kenji Shimazoe, Hiroyuki Takahashi, Keiichi Nakagawa, Etsuko Kobayashi, Ichiro SAKUMA</i>	AP2-7-MD-004 PID 057 Novel Heated Humidifier prevents dew condensation without high cost disposable heater wire breathing tube. <i>Hidekazu Miura, Takashi Ohashi</i>
		AP2-7-MD-005 PID 040 A Novel OCT Image-guided Laser Automatic Ablation Method Based on Non-common Optical Path Structure <i>Chengquan Hu, Wei Chang, Yangxi Li, Yingwei Fan, Xinran Zhang, Hongxiang Kang, Hongen Liao</i>
		AP2-7-MD-006 PID 042 Power transmission efficiency evaluation of spiral coil with center tap for transcutaneous energy transmission <i>Tomoki Okinaga, Takahiko Yamamoto, Kohji Koshiji</i>
	15:40-16:20 APTF/APRN, Alumni Chair: P. Lee	
16:00	APTF/APRN Alumni	
	16:30-17:45 General Session # 4: Diagnostic Evaluation 2 Chairs: K. Kuwana, E. Iadanza	16:30-17:00 General Session # 8: Biomedical Database Chairs: S. Onogi, T. Helgason
	AP2-6-DE-001 PID 031 Effect of a Television Commercial on the Autonomic Nervous System <i>Tomoyuki Yambe, Yasuyuki Shiraiishi, Yusuke Inoue, Akihiro Yamada, Makoto Yoshizawa</i>	AP2-7-BD-001 PID 010 Analysis of Occupational Injury Reports Related to Patient Care Activities using Text Mining Technique <i>Kodai Kitagawa, Takayuki Nagasaki, Sota Nakano, Mitsumasa Hida, Shogo Okamatsu, Chikamune Wada</i>
	AP2-6-DE-002 withdrawn	AP2-7-BD-002 PID 036 Proposed Module for Establishment of National Cardiovascular Database in Low Middle Income Countries <i>Md. Ashrafuzzaman, Md. Sakib Abrar Hossain, Monjurul Ahsan, Nabil Islam</i>
17:00	AP2-6-DE-003 PID 048 Analysis of brain activity with behavioral inhibition tasks by NIRS <i>Keiko Fukuda, Yu Sugiyama, Ren Kunii</i>	AP2-7-BD-003 withdrawn
	AP2-6-DE-004 PID 045 Clustering of Infant Cry Sounds Based on Different Feature Extraction and Clustering Techniques <i>Zheng Yu Tan, Hua Nong Ting, Boon Fei Yong</i>	
	AP2-6-DE-005 PID 070 Modeling of pupillometric signals for studying children's rare diseases <i>Rachele Fabbri, Ernesto Iadanza, Monica Gherardelli, Paolo Mellillo, Francesca Simonelli, Leonardo Bocchi</i>	
18:00		
19:00	Online Social Event (18:45-20:00), at Meeting Room 1	
20:00		

	Meeting Room 6 (W500-1)	Meeting Room 7 (W500-2)
8:30		
9:00	<p>9:00-10:30 Special Session: Clinical Engineering Chairs: <i>M. Z. Diaz, T. Nagasawa</i></p> <p>AP3-6-CE-001 Activities on Clinical Engineering by Japanese Society for Medical and Biological Engineering <i>Yuji Morimoto</i></p> <p>AP3-6-CE-002 Diversity and Development of Clinical Engineers in Japan <i>Hirayama Takahiro</i></p> <p>AP3-6-CE-003 IFMBE CED COVID19 Lessons Learned with WHO <i>Yadin David and Tom Judd</i></p> <p>AP3-6-CE-004 IFMBE CED Global Credentialing and Japan Certification Strategies: Learning from each other <i>Tobey Clark and Antonio Hernandez</i></p>	<p>9:30-10:30 General Session # 10: Tissue Engineering Chair: <i>T. Yaguchi</i></p> <p>AP3-7-TE-001 PID 037 CERAMIDE: AN EXTRAVAGANT PROSPECTIVE FOR TREATMENT OF BURN PATIENTS <i>Md. Ashrafuzzaman, Faiza Ahmed, Afsana Mimi, Farahdiba Farahdiba, Sabrina Shetu</i></p> <p>AP3-7-TE-002 PID 038 Development of elemental technologies for magnetic hyperthermia in cancer treatment <i>Loi Tonthat, Fumitaka Aki, Kazutaka Mitobe, Shin Yabukami, Yoshiyuki Yamamoto</i></p> <p>AP3-7-TE-003 PID 021 Immunogenic cell death induced by selective intracellular vaporization in vitro <i>Ayumu Ishijima, Satoshi Yamaguchi, Takashi Azuma, Etsuko Kobayashi, Kazuhiro Kakimi, Yoshikazu Shibasaki, Teruyuki Nagamune, Ichiro SAKUMA</i></p> <p>AP3-7-TE-004 PID 044 Reconstruction of a vascular bed with perfusable blood vessels using a decellularized porcine small intestine for clinical application <i>Yusuke Tobe, Katsuhisa Sakaguchi, Jun Homma, Kazunori Sano, Eiji Kobayashi, Hidekazu Sekine, Kiyotaka Iwasaki, Tatsuya Shimizu, Mitsuo Umezu</i></p>
10:00		
11:00		
12:00		
	<p>12:30-14:00 General Session # 9: Therapeutic Medical Engineering 2 Chair: <i>K.P. Lin</i></p> <p>AP3-6-TM-001 PID 020 Tactile cue by touching the agonist muscle increases the muscle activity during arm curl exercise <i>KAZUSHIGE OSHITA</i></p> <p>AP3-6-TM-002 PID 029 Biomechanical evaluation of the novel dorsal double plating fixation for the distal radius fracture <i>C.L. Lin, H.Y. Liu, H.W. Wang, K.C. Chen, Y.T. Chan1 and J.S. Jiang</i></p> <p>AP3-6-TM-003 PID 030 Preliminary Effect of a Self-designed Exergaming Program on Physical Fitness in School-aged Children with Developmental Coordination Disorder. <i>PO-SEN HU KAO, Ya-Ju Ju, Rong-Ju Cherng</i></p> <p>AP3-6-TM-004 PID 050 Gait Characteristics and Pain Assessment for Symptomatic Knee Osteoarthritis <i>Husnir Nasyuha Abdul Halim, Aizreena Azaman, Azli Yahya</i></p> <p>AP3-6-TM-005 PID 051 Finite Element Analysis on Different Length of Fixators used in Anterior Cruciate Ligament Reconstruction <i>Nur Afikah Zainal Abidin, MUHAMMAD HANIF RAMLEE, Mohammed Rafiq Abdul Kadir</i></p> <p>AP3-6-TM-006 PID 052 Stainless Steel vs Titanium for Femur External Fixator <i>AISHAH UMAIRAH ABD AZIZ, MUHAMMAD HANIF RAMLEE, Mohammed Rafiq Abdul Kadir</i></p>	<p>12:30-13:45 General Session # 11: Diagnostic Devices Chair: <i>M. Higa</i></p> <p>AP3-7-DD-001 PID 069 A Multidisciplinary Healthcare-Centric Undergraduate BME Curriculum to Drive Medical Innovation <i>Xiaojuan Khoo</i></p> <p>AP3-7-DD-002 PID 049 PET-laparoscope System with a Multi-layer Movable Detector: Feasibility Study with an Abdominal Phantom <i>Madhushanka Liyanaarachchi, Kenji Shimazoe, Hiroyuki Takahashi, Keiichi Nakagawa, Etsuko Kobayashi, Ichiro SAKUMA</i></p> <p>AP3-7-DD-003 PID 034 Improvement of force sensor accuracy using redundant outputs for biomedical applications <i>Masaru Higa, Ryutarō Hayami, Masahiro Ono, Shizuki Nakamura and Shiori Matsuda</i></p> <p>AP3-7-DD-004 PID 064 Combining Surface-Based Electromyography and Motion Sensing for Detection of Human Falling <i>Lawrence Ibarrientos, Harold Jay Bolingot, Lea Cristina Macaraig, Nathaniel Libatique, Gregory Tangonan</i></p> <p>AP3-7-DD-005 PID 035 Wireless ECG Electrode to Improve Tele-cardiac Monitoring Usability <i>Norma Hermawan, Achmad Arifin, Fauzan Arrofiqi, Mohammad Nuh, Yoshifumi Saijo</i></p> <p>AP3-7-DD-006 withdrawn</p>
13:00		
14:00		
14:10-14:20	Closing Ceremony	
14:20	Closing Ceremony	