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TAP-39	Bongkuk Lee and Yonghak Shin <a href="#">Printing Robot System for Labeling on the Moving Steel Plate</a>	1484
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TP01-2	Vyacheslav Tuzlukov <a href="#">Adaptive Equalization for DS-CDMA Multi-User Communication System Using Laguerre Filters</a>	1532
TP01-3	Tippakon Somkur and Chawalit Benjangkaprasert <a href="#">Wideband Performance Comparison of Double-Element Microstrip-Fed Slot Antennas Based on Simulated Results</a>	1536
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TP02-3	<a href="#">Constant THD Class D Power Amplifier</a> Panapong Laohawarit, Jirawath Pranklang and Chaleampan Wangviwatana	1561
TP02-4	<a href="#">Positive/negative floating resistor using OTAs</a> Wandee Petchmaneelumka, Vanchai Riewruja and Prasit Julsereewong	1565
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TP02-6	<a href="#">Detection and Classification of Pills Moving at very High Speeds using Bi-IV2 Vision System</a> Quyen T.T. Bui, Thuong Cat Pham and Keum-Shik Hong	1573

## TP03 : Guidance and Navigation Fusion

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TP03-2	<a href="#">Prototype Design of Traffic Information Service-Broadcast Server using the ADS-B Test-bed</a> Jae-Hoon Song, Kyung-Ryoon Oh, Inkyu Kim, Injung Kim, Sang-Man Moon, Keun-Taek Kim and Jang-Yeon Lee	1583
TP03-3	<a href="#">Vision Based Obstacle Detection for Wheeled Robots</a> Tilman Wekel, Olaf Kroll-Peters and Sahin Albayrak	1587
TP03-4	<a href="#">A Large Gain Variable range, Wide bandwidth Analog AGC Circuitry for a CMOS GPS Receiver</a> Dianwei Zhang	1593
TP03-5	<a href="#">VTV: Real Time Obstacle Avoidance of Mobile Robots for Local Path Planning Using LMS</a> Kyung Woon Kwak	1597
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## TP04 : Sliding Mode Control

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TP04-2	<a href="#">Nonlinear Sliding Surfaces; Computing and Existence of Solution</a> Azad Ghaffari and Mohammad Javad Yazdanpanah	1610

TP04-3	<a href="#">The Ultimate Bounds of Equivalent Control Based Sliding-Mode Control Systems with Short Sampling Time</a>	1616
	Kang-Bak Park, Moonho Son and Hum Young Park	
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	Elham Amini Boroujeni and Hamidreza Momeni	
TP04-5	<a href="#">A sliding mode observer approach to chaos synchronization</a>	1626
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## TP05 : Human-Friendly Robot

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TP05-2	<a href="#">Hybrid Robotic Wheelchair with Photovoltaic Solar Cell and Fuel Cell</a>	1636
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TP05-3	<a href="#">Fabrication of Simple Robot Face Regarding Experimental Results of Human Facial Expressions</a>	1641
	Yoshihiko Takahashi and Masanori Hatakeyama	
TP05-4	<a href="#">Robot Technology Component with UPnP Communication (RTU Component)</a>	1647
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TP05-6	<a href="#">Passivity Based Bilateral Control with Motion Scaling for Robotic Forceps Teleoperation System with Time Delay</a>	1657
	Yusuke Kamei and Chiharu Ishii	

## TP06 : Process Design and Optimization

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TP06-2	<a href="#">Particle Swarm Optimization and Genetic Algorithm Optimizing Linear Quadratic Regulator Controller on DC-DC Converter</a>	1669
	Saeed Eshtehardiha, Mohammad Bayati Poudeh, Sayed Ali Emami and Mohamad reza Moradiyan	
TP06-3	<a href="#">Eigenstructure assignment for Four-Wheel Anti-lock Braking System Model</a>	1675
	Javad Mashayekhi Fard, Mohammad Ali Nekoui and Ali Khaki Sedigh	
TP06-4	<a href="#">A GA-based Comparative Study of DI Diesel Engine Emission and Performance Using a Neural Network Model</a>	1680
	Ehsan Samadani, Mohammadhassan Behroozi, Amirhossein Shamekhi and Reza Chini	
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	Ivan Silva and Antonio Ortega	

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TP07-2	<a href="#">Track Jump Scheme without Controller Switching in Optical Disc Drives</a>	1696
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TP07-3	<a href="#">Control of Unmanned Container Transporters and Management System Development</a>	1700
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TP07-4	<a href="#">Reference Compensation Technique of a Fuzzy Controlled Inverted Pendulum System for Control Education</a>	1704
	GeunHyeong Lee and Seul Jung	
TP07-5	<a href="#">Swing-up Fuzzy Control of an Inverted Pendulum System for Control Education with an Experimental Kit</a>	1709

## TP08 : OS008 Steelmaking Process : Instrumentation, Control, and Systems (I)

TP08-1	<a href="#">[Invited Paper] An Automatic Coating Weight Control for Continuous Galvanizing Line</a> Yeon Tae Kim	1715
TP08-2	<a href="#">Robust optical measurement of water vapor in steel making process</a> haesung Park, youngjean Jung, kyoungsik Kim, jinsu Bae, jonghak Lee and hyoungkuk Park	1721
TP08-3	<a href="#">Detection of Line Defects in Steel Billets using Undecimated Wavelet Transform</a> Jong Pil Yun, SungHoo Choi, Young-ju Jeon, Doo-chul Choi and Sang Woo Kim	1725
TP08-4	<a href="#">Development of Defect Detection Algorithm in Cold Rolling</a> Sung Wook Yun, Nam Woong Kong, Gyumin Lee and PooGyeon Park	1729
TP08-5	<a href="#">Temperature Monitoring System for Inductive Heater Oven</a> Won Chul Jung, Jongwoo You and Sangchul Won	1734

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TP09-2	<a href="#">The Most Attentive Person Selection Using HMM with Multiple Sources</a> Prasertsak Tiawongsombat, Mun-Ho Jeong and Bum-Jae You	1744
TP09-3	<a href="#">Method to Improve the Performance of Adaptive Boosting Algorithm by using Probabilistic Classifier Model</a> JeongHyun Kim, DongJoong Kang and JongHyun Park	1749
TP09-4	<a href="#">Retrieval of Contextual Information on Korean Road Sign</a> Jong-Eun Ha, Jin-Bum Shim and Keun-Ho Choi	1753
TP09-5	<a href="#">Product Search Framework with Categorization and Identification</a> Chaehoon Park and In So Kweon	1757

## TP10 : OS004 Modeling in Biological Systems

TP10-1	<a href="#">Simulation of Human Locomotion using a Musculoskeletal Model</a> Sungho Jo and Taesoo Kim	1761
TP10-2	<a href="#">Turning Mechanism of a Smooth Body by Amplitude and Period Control in Curvature</a> Daeyeon Kim, Hyejin Hwang, Sungsu Park and Jennifer H. Shin	1765
TP10-3	<a href="#">Biomechanical characterization with inverse FE model parameter estimation: Macro and Micro applications</a> Bummo Ahn, Youngjin Kim and Jung Kim	1769
TP10-4	<a href="#">Ornithopter Modeling for Flight Simulation</a> Jae-Hung Han, Jin-Young Lee and Dae-Kwan Kim	1773
TP10-5	<a href="#">Sensory Integration model of roll tilt perception</a> Heewon Park and Sukyung Park	1778

## TE01 : Control Applications to Communication Systems (II)

TE01-1	<a href="#">CPW-Fed Slot Antenna with Inset U-Strip Tuning Stub for Wideband</a> Noppin Anantrasirichai, Boonchana Purahong, Pornthep Jearapradikul, Tuanjai Archevapanich and Ornlarp Sangaroon	1781
TE01-2	<a href="#">Inset Dual U-Strip Slot Antenna Fed by Microstrip Line for WLAN Applications</a> Noppin Anantrasirichai, Tuanjai Archevapanich, Jintana Nakasuwan, Boonchana Purahong and Ornlarp Sangaroon	1785

TE01-3	<a href="#">Communication of System Based on CAN for Acoustic Emission Diagnostic</a> Yong-Jae Eum and Min Cheol Lee	1789
TE01-4	<a href="#">Performance Analysis of Channel Effective for Wireless LAN and Wireless Ad-Hoc Network</a> auttapon pomsathit and Jintana Nakasuwan	1793
TE01-5	<a href="#">Performance Analysis of Space diversity for OFDM transmission</a> auttapon pomsathit and Aekkarat Lorphichian	1797

## TE02 : Sensors and Instrumentation (II)

TE02-1	<a href="#">A Novel RF Symmetric Double Sided Two Way Range Finder based on Vernier Effect</a> Sang-il Ko, Jun-ya Takayama and Shinji Ohyama	1802
TE02-2	<a href="#">Analysis Of Coupling Effect In Holey Fiber.</a> Faizullah Mahar, Abdul Basit and Basit Hassan Qureshi Makhdoom	1808
TE02-3	<a href="#">Simple Square-Root Extractor Using Op Amps</a> Thawatchai Kamsri, Prasit Julsereewong and Vanchai Riewruja	1812
TE02-4	<a href="#">An Accurate CCII-Based Voltage Controlled Current Source</a> Anucha Kaewpoonsuk, Apinai Rerktratn, Thawatchai Kamsri and Vanchai Riewruja	1816
TE02-5	<a href="#">Electronically Tunable Gain Instrumentation Amplifier Using OTAs</a> Amphawan Julsereewong, Vanchai Riewruja and Nuttawat Tananchai	1820
TE02-6	<a href="#">An Optical Flow Sensor Realized by Retinal Resistive Network</a> Teruo Yamaguchi	1824

## TE03 : Haptics and VR Application

TE03-1	<a href="#">Remote Control of Excavator with Designed Haptic Device</a> Dongnam Kim, KyeongWon Oh, Daehie Hong, Jong-Hyup Park and Suk-Hie Hong	1830
TE03-2	<a href="#">An Injecting Method of Physical Damping to Haptic Interfaces Based on FPGA</a> Beibei Han and Jee-Hwan Ryu	1835
TE03-3	<a href="#">Interactively Instructing a Guide Robot through a Network</a> Yosuke Hoshi, Yoshinori Kobayashi, Tomoki Kasuya, Masato Fueki and Yoshinori Kuno	1841
TE03-4	<a href="#">Collaborative Virtual Reality Game-Based Learning for Packaging Design</a> Ratchadawan Nimnual and Surachai Suksakulchai	1846

## TE04 : Linear Matrix Inequality / PID

TE04-1	<a href="#">An LMI Approach to Exponential Stabilization of Uncertain Time-Delay Systems</a> Hyoun-Chul Choi, Hyungbo Shim and Jin Heon Seo	1850
TE04-2	<a href="#">Stabilization of Linear Time-Varying Descriptor Systems: A Linear Matrix Differential Inequality Approach</a> Masaki Inoue, Teruyo Wada, Masao Ikeda and Eiho Uezato	1855
TE04-3	<a href="#">On Position Control using GMS-Model-Based Friction Compensation and Velocity Reduced-Order Observer for Servo-Systems - LMI Approach</a> Karim Khayati	1861
TE04-4	<a href="#">Design of discrete-time multivariable PID controllers via LMI approach</a> Jae Sik Lim and Young Il Lee	1867
TE04-5	<a href="#">Design PID Controller for the Modified Quadruple-Tank Process using Root Locus</a> Arjin Numsomran	1872

## TE05 : Visual Recognition of Human

TE05-1	<a href="#">Human Detection via Unsupervised Learning on Metric Space</a>	1877
	Dhi Aurrahman and Chil-woo Lee	
TE05-2	<a href="#">3D Face Recognition Based on Feature Detection Using Active Shape Models</a>	1881
	Sang Jun Park and Dong won Shin	
TE05-3	<a href="#">Identification of a Human using Accorded Blobs on the Varied Region from Image Sequences by Multiple Cameras</a>	1887
	Hyun Uk Chae, Suk-Ju Kang and Kang-Hyun Jo	
TE05-4	<a href="#">Real -Time Face Detection Using AdaBoot Algorithm</a>	1892
	Cheolhun Han and Kwee-Bo Sim	
TE05-5	<a href="#">Human Activity Recognition: Various Paradigms</a>	1896
	Md. Atiqur Rahman Ahad, J.K. Tan, H.S. Kim and S. Ishikawa	

## TE06 : Process Automation

TE06-1	<a href="#">Prediction of porosity from petrographic data using soft computing method in Persian Gulf gas field</a>	1902
	Amin Fakhri, Mohammadhassan Behroozi, Fatemeh Alimadadi and Hossein Sadati	
TE06-2	<a href="#">Application of GD3 in Value Engineering for Plastic-Part Design</a>	1908
	Sawai Pongswatd, Surachet Sirilappanich and Prapart Ukakimaparn	
TE06-3	<a href="#">Wind Turbine Nacelle Movement Estimation Using FEM Model</a>	1913
	Yoon-Su Nam and Tai-jun Yoon	
TE06-4	<a href="#">Development of PSO-based PID Tuning Method</a>	1917
	Akihiro Oi, Tetsuro Matsui, Chikashi Nakazawa, Fujiwara Hiroe, Kouji Matsumoto, Hideyuki Nishida, Jun Ando and Masato Kawaura	
TE06-5	<a href="#">Improving the Performance of Industrial Boiler Using Artificial Neural Network Modeling and Advanced Combustion Control</a>	1921
	Abdullah Nur Aziz	

## TE07 : OS015 Biomechatronics Systems and its Application

TE07-1	<a href="#">Roles of Metal Layers and Polymer Matrix for inducing IPMC Bending</a>	1927
	Hirohisa Tamagawa, Yusuke Onouchi and Minoru Sasaki	
TE07-2	<a href="#">Feasibility of Low-Cost Microarray Printing with Inkjet Printer</a>	1932
	Kyung-Tae Kim and Young-Woo Park	
TE07-3	<a href="#">Fractional Order Impedance Control by Particle Swarm Optimization</a>	1936
	Sehoon Oh and Yoichi Hori	
TE07-4	<a href="#">Control of an Artificial-Hip-Joint Simulator to Evaluate Dislocation</a>	1942
	Kazuo Kiguchi, Akira Yamashita, Makoto Sasaki, Masaru Ueno, Tsuneyuki Kobayashi, Masaaki Mawatari and Takao Hotokebuchi	
TE07-5	<a href="#">Embedded Design of Position Based Impedance Force Control for Implementing Interaction between a Human and a ROBOKER</a>	1946
	Hyo-Won Jeon, JungSeob Kim and Seul Jung	

## TE08 : OS009 Steelmaking Process : Instrumentation, Control, and Systems (II)

TE08-1	<a href="#">Development of Standard Middleware for Software of Process Control System</a>	1951
	Hwawon Hwang and Keeyoung Shin	
TE08-2	<a href="#">Inner Defect Detection for a Thin Steel Strip</a>	1957
	Goohwa Kim, Sang-Woo Choi, Jinsu Bae and Jung-Hwan Kim	
TE08-3	<a href="#">AROMS: A Real-time Open Middleware System for Controlling Industrial Plant Systems</a>	1961
	Kee-Young Shin and Hwa-Won Hwang	
TE08-4	<a href="#">The Potential for Material Processing by Microwave Energy</a>	1966

TE08-5	<a href="#">Ultrasonic Plate Wave Properties in Thin Steel Plates</a>	1972
	Sang-Woo Choi, GooHwa Kim, Jinsu Bae and Kwan-Tae Kim	

## TE09 : OS007 Machine Vision

TE09-1	<a href="#">Morphological Segmentation of Markings for Inspection of IC Packages Under Complex Backgrounds</a>	1976
	Taek Guen Jeong, Hyo Nam Joo and Keun-Ho Rew	
TE09-2	<a href="#">A real-time eye tracking system using fast feature matching algorithm</a>	1981
	Young Shin Lim, Joon Seek Kim and Hyonam Joo	
TE09-3	<a href="#">De-blurring Algorithm for Fish Eye Image on CCTV with Nonlinear Equation</a>	1986
	In Jeong Lee	

## TE10 : OS023 Assistive Robotics

TE10-1	<a href="#">Vision Based Pointing Device with Slight Body Movement</a>	1990
	Motoki Hara, Yoshitaka Morito, Motohiro Tanaka, Shunji Moromugi, Takakazu Ishimatsu and Kazuya Miyamori	
TE10-2	<a href="#">Design of Seat Mechanism for Multi-Posture-Controllable Wheelchair</a>	1994
	Ju-hwan Bae and Inhyuk Moon	
TE10-3	<a href="#">Computer controlled training system for standing up motion</a>	1998
	Yoji Nishi, Tadasuke Matsumoto, Shunji Moromugi, Takakazu Ishimatsu, Taichi Sakamoto and Takanori Nagano	
TE10-4	<a href="#">Smart Suit: Soft Power Suit with Semi-active Assist Mechanism</a>	2002
	Takayuki Tanaka, Yuta Satoh, Shunji Kaneko, Yoshihito Suzuki, Naohisa Sakamoto and Shuji Seki	
TE10-5	<a href="#">Grip Force Modeling of a Tendon-driven Prosthetic Hand</a>	2006
	Sung-yoon Jung and Inhyuk Moon	
TE10-6	<a href="#">Treatment Apparatus Employing Air-Bag Actuation for Sleep Apnea Syndrome</a>	2010
	Daichi Sakamoto, Yusuke Tomimatsu, Shunji Moromugi, Takakazu Ishimatsu and Takao Ayuse	

## TEP : Poster Session (III)

TEP-1	<a href="#">Speech Emotion Recognition Separately from Voiced and Unvoiced Sound for Emotional Interaction Robot</a>	2014
	Eun Ho Kim, Kyung Hak Hyun, Soo Hyun Kim and Yoon Keun Kwak	
TEP-2	<a href="#">Multi-Dimensional Emotional Engine with Personality Using Intelligent Service Robot for Children</a>	2020
	Ho Seok Ahn, Young Min Baek, Jin Hee Na and Jin Young Choi	
TEP-3	<a href="#">Mechanism and Control of Biped Walking Robot with 3 DOF Waist</a>	2026
	Kensuke Tajima and Hun-ok Lim	
TEP-4	<a href="#">Development of Collision Force Suppression Mechanism</a>	2032
	Masahiko Sunagawa and Hun-ok Lim	
TEP-5	<a href="#">Implementation of Dialogue System for Intelligent Service Robots</a>	2038
	Changyoon Lee, You-Sung Cha and Tae-Yong Kuc	
TEP-6	<a href="#">An Application System of Probabilistic Sound Source Localization</a>	2043
	Seung Seob Yeom, Yoon Seob Lim, Hong Sick Kim, Jae Moon Lee, Jong Suk Choi and Mignon Park	
TEP-7	<a href="#">Evaluation of Force Delays on the Operation of Haptic Sense</a>	2049
	Manabu Ishihara	
TEP-8	<a href="#">Generation of Space Grid Map by 3D Detection of Obstacle Distribution</a>	2054
	Myoung-Jong Yoon, Gu-Young Jeong and Kee-Ho Yu	
TEP-9	<a href="#">A new robot motion authoring method using HTM</a>	2058
	Kwang-ho Seok and Yoon sang Kim	



TEP-10	<a href="#"><u>Development of Robot Mechanism for Inspection of Live-line Suspension Insulator String in 345kV Power Lines</u></a>	2062
	Joon-Young Park, Byung-Hak Cho and Jae-Kyung Lee	
TEP-11	<a href="#"><u>Establishment of Field Robot System for Observation of Power Plant Facilities</u></a>	2066
	JaeKyung Lee, JoonYoung Park, Byung-Hak Cho and ChangKi Jeong	
TEP-12	<a href="#"><u>Development of Omni-Directional Mobile Robots with Mecanum Wheels Assisting the Disabled in a Factory Environment</u></a>	2070
	Jung Won Kang, Bong Sung Kim and Myung Jin Chung	
TEP-13	<a href="#"><u>Increasing localization accuracies by hybrid maps and scan matching</u></a>	2076
	Suhyeon Gim, Hyungrae Gim and Tae-Kyu Yang	
TEP-14	<a href="#"><u>Mobile Robot Navigation Using Circular Path Planning Algorithm</u></a>	2082
	Sung Min Han and Kang Woong Lee	
TEP-15	<a href="#"><u>Development of Omnidirectional Electric Wheelchair with Zabuton sensor</u></a>	2087
	Kenichi Iida, Hisao Yoshikawa, Taichi Mori and Tosho Hira	
TEP-16	<a href="#"><u>Force Reflecting Remote Robotic Mopping System</u></a>	2091
	Kiho Kim	
TEP-17	<a href="#"><u>A Robot Platform for Children and Its Action Control</u></a>	2095
	Sangseung Kang	
TEP-18	<a href="#"><u>CCP : Container for Concurrency Processing of Robotics Component</u></a>	2099
	Sunhee Choe and Hong Seong Park	
TEP-19	<a href="#"><u>Design of Dual Arm Robot Manipulator Using Modular Actuators with CAN Communication Networks</u></a>	2103
	Chanhun Park, Dong IL Park, Jin-Ho Kyung, Kyoungtaik Park and Doohyung Kim	
TEP-20	<a href="#"><u>Robot Application for Assembly Process of Engine Part</u></a>	2107
	KyoungTaik Park	
TEP-21	<a href="#"><u>Coarse-to-Fine Vision-based Localization for Mobile Robots Using an Object and Spatial Layout-based Hybrid Map</u></a>	2111
	Soonyong Park, Soohwan Kim and Sung-Kee Park	
TEP-22	<a href="#"><u>Complete Coverage Path Planning for Multi-Robots Employing Flow Networks</u></a>	2117
	Sang Hyun Nam, Iksang Shin, Soon-Geul Lee and Jae-Jun Kim	
TEP-23	<a href="#"><u>Fusion of Multiple Gait Features for Human Identification</u></a>	2121
	Sungjun Hong, Heesung Lee, Sung Je An and Euntai Kim	
TEP-24	<a href="#"><u>Efficient Classification Scheme based on Hybrid Global and Local Properties of Feature</u></a>	2126
	Heesung Lee, Sungjun Hong, Euntai Kim and Sungje An	
TEP-25	<a href="#"><u>Intelligent Hybrid Hierarchical Architecture for Robust Object Recognition</u></a>	2130
	Jaehee Lim and Taeyong Kuc	
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