

# TABLE OF CONTENTS

Wednesday, May 16, 2007

## Session 1: Gesture & Behavior Analysis

- 1-1 Action Recognition of Insects Using Spectral Clustering ..... 1  
*Maryam Moslemi Naeini, Greg Dutton, Kristina Rothley and Greg Mori, Canada*
- 1-2 Multi Human Trajectory Estimation Using Stochastic Sampling and Its Application to Meeting Recognition · 5  
*Yosuke Matsusaka, Hideki Asoh and Futoshi Asano, Japan*
- 1-3 A Real-Time Hand Gesture Interface Implemented on a Multi-Core Processor..... 9  
*Tsukasa Ike, Nobuhisa Kishikawa and Bjorn Stenger, Japan*

## Session 2: 3D Analysis

- 2-1 Improving Accuracy of 3-D Reconstruction by Classifying Correspondences ..... 13  
*Yusuke Takanashi, Yohei Shibata and Yasushi Kanazawa, Japan*
- 2-2 Development of Ladder-type Laser Scanning System for 3-D Modeling of Vertical and Narrow Areas by Space-time Analysis..... 17  
*Shintaro Ono and Katsushi Ikeuchi, Japan*
- 2-3 Robust Semi-Dense Matching across Uncalibrated and Widely Separated Views ..... 21  
*Benjamin Albouy, Sylvie Treuillet and Yves Lucas, France*
- 2-4 An Efficient 3D Geometrical Consistency Criterion for Detection of a Set of Facial Feature Points ..... 25  
*Mayumi Yuasa, Tatsuo Kozakaya and Osamu Yamaguchi, Japan*

## Session 3: Poster Session 1

- 3-1 A Novel Approach to Eigenpalm Features Using Feature-Partitioning Framework..... 29  
*Kadappagari Vijaya Kumar and Atul Negi, India*
- 3-2 3-Phase Vehicle Tracking Using Image Alignment and Haar Transform ..... 33  
*Lap-Chi Cheung and Yiu-Sang Moon, Hong Kong*
- 3-3 Automatic Tracking, Super-Resolution and Recognition of Human Faces from Surveillance Video..... 37  
*Frank Lin, Simon Denman, Vinod Chandran and Sridha Sridharan, Australia*
- 3-4 A Case Study of Higher Order Tikhonov Regularization Terms Influence on the Convergence of Active Contours..... 41  
*Moqing Zhang and Patrice Delmas, New Zealand*
- 3-5 Paper Surface Topography Using Three-light Photometric Stereo ..... 45  
*Toni Kuparinen, Ville Kyrki, Jarno Mielikainen and Pekka Toivanen, Finland*
- 3-6 Colour Feature Selection for Face Authentication ..... 49  
*Mohammad T. Sadeghi, Samaneh Khoshrou and Josef Kittler, Iran*
- 3-7 Detecting the Degree of Anomal in Security Video ..... 53  
*Kyoko Sudo, Tatsuya Osawa, Xiaojun Wu, Kaoru Wakabayashi and Takayuki Yasuno, Japan*
- 3-8 Automatic Cobb Angle Measurement System by Using Nuclear Medicine Whole Body Bone Scan ..... 57  
*Jia-Yann Huang, Pan-Fu Kao and Yung-Sheng Chen, Taiwan*
- 3-9 A Proposal of Generalized Horizon View Camera ..... 61  
*Liwen Gong, Kazuhiko Yamamoto and Kunihito Kato, Japan*

3-10	An Efficient Method for Human Behavior Identification.....	65
	<i>Fang-Hsuan Cheng and Fu-Tai Chen, Taiwan</i>	
3-11	Image Segmentation Using Region Merging Combined with a Multi-class Spectral Method .....	69
	<i>Fernando C. Monteiro and Aurelio Campilho, Portugal</i>	
3-12	Semi-supervised Incremental Learning of Manipulative Tasks.....	73
	<i>Zhe Li, Sven Wachsmuth, Jannik Fritsch and Gerhard Sagerer, Germany</i>	
3-13	Location-Based Tracking of Moving Obstacles from a Mobile Robot.....	78
	<i>Thatsaphan Suwannathat, Jun-ichi Imai and Masahide Kaneko, Japan</i>	
3-14	A Rear Vehicle Location Algorithm for Lane Change Assist .....	82
	<i>Wei Liu, Chunyan Song, Pengyu Fu, Nan Wang and Huai Yuan, China</i>	
3-15	Self-Calibration for Metric 3D Reconstruction Using Homography.....	86
	<i>Cheng-Yuan Tang, Yi-Leh Wu, Pei-Ching Hu, Hsien-Chang Lin and Wen-Chao Chen, Taiwan</i>	
3-16	Image Contrast Enhancement by Analysis on Embedded Surfaces of Images .....	90
	<i>Li Tian and Sei-ichiro Kamata, Japan</i>	
3-17	Shift-Variant Restoration of Defocused Images Using Shift-Invariant Wavelet Transform .....	94
	<i>Hisanaga Fujiwara, Zhong Zhang, Tetsuo Miyake and Akio Miwa, Japan</i>	
3-18	Online Urdu Character Recognition System .....	98
	<i>S. Afaq Husain, Asma Sajjad and Fareeha Anwar, Pakistan</i>	
3-19	A Physics-Based Imaging Model of Scanning Electron Microscopes.....	102
	<i>Kousuke Kamada, Takayuki Okatani and Koichiro Deguchi, Japan</i>	
3-20	Investigation of Color Spaces for Face Recognition .....	106
	<i>Seunghwan Yoo, Rae-Hong Park and Dong-Gyu Sim, Korea</i>	
3-21	Relative Magnitude of Gaussian Curvature Using Neural Network and Object Rotation of Two Degrees of Freedom .....	110
	<i>Yi Ding, Yuji Iwahori, Tsuyoshi Nakamura, Lifeng He, Robert J. Woodham and Hidenori Itoh, Japan</i>	
3-22	A Comparison of New Generic Camera Calibration with the Standard Parametric Approach .....	114
	<i>Aubrey K. Dunne, John Mallon and Paul F. Whelan, Ireland</i>	
3-23	Pre-processing Algorithms on Digital Mammograms .....	118
	<i>Hengameh Mirzaalian, Mohammad Reza Ahmadzadeh, Saeed Sadri and Mehdi Jafari, Iran</i>	
3-24	License Plate Recognition from Low-Quality Videos.....	122
	<i>Chih-Chiang Chen and Jun-Wei Hsieh, Taiwan</i>	
3-25	Adaptive Modified PCA for Face Recognition .....	126
	<i>Youness Aliyari Ghassabeh, Hamid Abrishami Moghaddam and Mohammad Teshnehlab, Iran</i>	
3-26	Fingerprint Core and Delta Detection by Candidate Analysis.....	130
	<i>Tomohiko Ohtsuka, Daisuke Watanabe and Hiroyuki Aoki, Japan</i>	
3-27	Japanese Phone Recognition Using Lip Image Information.....	134
	<i>Takeshi Saitoh, Mitsugu Hisagi and Ryosuke Konishi, Japan</i>	
3-28	A SVM Based Method to Detect Color Shift Defects in IC Packages .....	138
	<i>R.M.C.B. Ratnayake, Craig Hicks and M.A. Akbari, Japan</i>	
3-29	Object Type Classification Using Structure-based Feature Representation.....	142
	<i>Tomoyuki Nagahashi, Hironobu Fujiyoshi and Takeo Kanade, Japan</i>	

3-30	A Review of Tracking Methods under Occlusions .....	146
	<i>Zui Zhang and Massimo Piccardi, Australia</i>	
3-31	Fast Graph Segmentation Based on Statistical Aggregation Phenomena .....	150
	<i>Frank Nielsen and Richard Nock, Japan</i>	
3-32	Tracking Features with Global Motion Compensation for Drone Camera Servoing.....	154
	<i>Benoît Louvat, Laurent Bonnaud, Nicolas Marchand and Gerard Bouvier, France</i>	

#### Session 4: Invited Talk 1

4-1	Computational Cameras.....	158
	<i>Prof. Shree K. Nayar, Columbia University, USA</i>	

#### Session 5: Motion and Image Sequence Analysis

5-1	A Method for Estimating Rigid Object Motion Using Regularized Scene Flow.....	167
	<i>Hiroki Mizuno and Hironobu Fujiyoshi, Japan</i>	
5-2	Probabilistic Motion Segmentation of Videos for Temporal Super Resolution.....	173
	<i>Arasanathan Thayananthan, Masahiro Iwasaki and Roberto Cipolla, UK</i>	
5-3	Robust and Efficient 3-D Reconstruction by Self-Calibration .....	178
	<i>Hanno Ackermann and Kenichi Kanatani, Japan</i>	
5-4	Linear Tracking of Pose and Facial Features .....	182
	<i>Jose Alonso Ybanez Zepeda, Franck Davoine and Maurice Charbit, France</i>	
5-5	A Video Motion Capture System for Interactive Games .....	186
	<i>Ryuzo Okada, Nobuhiro Kondoh and Bjorn Stenger, UK</i>	
5-6	Using Space-Time Interest Points for Video Sequence Synchronization .....	190
	<i>Daniel Wedge, Du Huynh and Peter Kovesi, Australia</i>	

### Thursday, May 17, 2007

#### Session 6: Image Processing & Graphics

6-1	Real-time Soft Shadows in Mixed Reality Using Shadowing Planes.....	195
	<i>Tetsuya Kakuta, Takeshi Oishi and Katsushi Ikeuchi, Japan</i>	
6-2	A High-Speed and Compact Vision System Suitable for Wearable Man-machine Interfaces .....	199
	<i>Takashi Komuro, Björn Werkmann, Takashi Komai, Masatoshi Ishikawa and Shingo Kagami, Japan</i>	
6-3	Synthesis Arbitrary Views from Two Images Based on Improved View Morphing Technique.....	203
	<i>Huagang Liang, Shogo Tokai and Hiroyuki Hase, Japan</i>	
6-4	Noisy Image Segmentation Based on a Level Set Evolution .....	207
	<i>Khaled Issa and Hiroshi Nagahashi, Japan</i>	

#### Session 7: Multimedia

7-1	Patch Based Localization of Visual Object Class Instances .....	211
	<i>Alexandra Teynor and Hans Burkhardt, Germany</i>	
7-2	Correction of Geometric and Photometric Distortion of Document Images Using a Stereo Camera System.....	215
	<i>Yusuke Suzuki, Atsushi Yamashita and Toru Kaneko, Japan</i>	

7-3	A Local Keypoint Matching Technique for Transition Detection.....	219
	<i>Chun-Rong Huang, Huai-Ping Lee and Chu-Song Chen, Taiwan</i>	
7-4	New Image Encryption Method Based on ICA.....	223
	<i>Ayman Alfalou and Ali Mansour, France</i>	

## Session 8: Poster Session 2

8-1	View-invariant Human Action Recognition Based on Factorization and HMMs.....	227
	<i>Xi Li and Kazuhiro Fukui, Japan</i>	
8-2	Gesture Recognition Using Temporal Templates with Disparity Information.....	231
	<i>Kazunori Onoguchi and Masaaki Sato, Japan</i>	
8-3	Vision-based UAV Navigation in Mountain Area.....	236
	<i>Jihwan Woo, Kilho Son, Teng Li, Gwansung Kim and In So Kweon, Korea</i>	
8-4	Identifying Hand Gesture Images by Using Genetic Algorithms.....	240
	<i>Tetsuji Kobayashi and Norifumi Machida, Japan</i>	
8-5	Enhanced Blood Vessels in Laparoscopy by Using Narrow-Band Imaging.....	244
	<i>Hamed Akbari, Yukio Kosugi, Kazuyuki Kojima, Toshiaki Ohya, Hideki Akamatsu and Naofumi Tanaka, Japan</i>	
8-6	An Iris Image Quality Assessment Method Based on Laplacian of Gaussian Operation.....	248
	<i>Jing Wan, Xiaofu He and Pengfei Shi, China</i>	
8-7	Calculation of Bedding Angles Inclination from Drill Core Digital Images.....	252
	<i>Thomas Quiniou, Nazha Selmaoui, Christine Laporte-Magoni and Michel Allenbach, New Caledonia</i>	
8-8	An Effective Watermark Embedding Algorithm for High JPEG Compression.....	256
	<i>Hui-Yu Huang, Chi-Hung Fan and Wen-Hsing Hsu, Taiwan</i>	
8-9	Proposals of Co-occurrence Frequency Image Based Filters.....	260
	<i>Takayuki Fujiwara, Kazuhiko Yamaashi and Hiroyasu Koshimizu, Japan</i>	
8-10	Wavelet-Based Multiresolution Features for Detecting Duplications in Images.....	264
	<i>M. K. Bashar, K. Noda, N. Ohnishi, H. Kudo, T. Matsomoto and Y. Takeuchi, Japan</i>	
8-11	A New B-Spline Based Active Contour Approach.....	268
	<i>Sergio Nogueira and Yassine Ruichek, France</i>	
8-12	Furniture Model Creation Based on Direct Teaching to a Mobile Robot.....	272
	<i>Kimitoshi Yamazaki, Takashi Tsubouchi and Masahiro Tomono, Japan</i>	
8-13	A Configurable Window-Based Processing Element for Image Processing on Smart Cameras.....	276
	<i>Fábio Dias, François Berry, Jocelyn Serot and François Marmoiton, France</i>	
8-14	Localization of Optic Disk Using Independent Component Analysis and Modified Structural Similarity Measure.....	281
	<i>S. Balasubramanian, Srikanth Khanna and V. Chandrasekaran, India</i>	
8-15	Detection of Fundus Lesions Using Classifier Selection.....	286
	<i>Hiroto Nagayoshi, Yoshitaka Hiramatsu, Hiroshi Sako, Mitsutoshi Himaga and Satoshi Kato, Japan</i>	
8-16	Contour Retrieval and Matching by Affine Invariant Fourier Descriptors.....	291
	<i>Fatma Chaker, M. Tarak Bannour and Faouzi Ghorbel, Tunisia</i>	
8-17	Object Recognition in Real Time via Edge Point Analysis.....	295
	<i>Nauman Iftikhar, Saba Iqbal and Naveed Sarfraz Khattak, Pakistan</i>	

8-18	Assessment of Post-Stroke Functioning Using Machine Vision .....	299
	<i>Sonya Allin and Deva Ramanan, USA</i>	
8-19	Matching Range Images of Streets with a Residential Map .....	303
	<i>Lihong Tong, Shintaro Ono, Masataka Kagesawa and Katsushi Ikeuchi, Japan</i>	
8-20	Particle Filter Based Tracking for Crossing of Targets with Similar Pattern .....	307
	<i>Yuji Iwahori, Shinya Okada, Haruki Kawanaka, Shinji Fukui and Robert J. Woodham, Japan</i>	
8-21	Land Cover Boundary Extraction in Rural Aerial Videos .....	311
	<i>Babak Majidi and Alireza Bab-Hadiashar, Australia</i>	
8-22	Skin Patch Trajectories as Scene Dynamics Descriptors .....	315
	<i>Beibei Zhan, Ndedi D. Monekosso, Paolo Remagnino, Tajin Rukhsana, Al Mansur and Yoshinori Kuno, UK</i>	
8-23	Object Based Contour Detection by Using Graph-cut on Stereo Image .....	319
	<i>Taehoon Kang, Jaeseung Yu, Jangseok Oh, Yunhwan Seol, Kwanghee Choi and Mingi Kim, Korea</i>	
8-24	Estimation of Lane State from Car-mounted Camera Using Multiple-model Particle Filter Based on Voting Result for One-dimensional Parameter Space .....	323
	<i>Eisuke Adachi, Hiroaki Inayoshi and Takio Kurita, Japan</i>	
8-25	Improving Rotation Invariance of the Volume Local Binary Pattern Operator .....	327
	<i>Guoying Zhao and Matti Pietikäinen, Finland</i>	
8-26	The Agent WiSARD Approach to Intelligent Active Video Surveillance Systems .....	331
	<i>Massimo De Gregorio, Italy</i>	
8-27	Visual Reconstruction of an Intersection by Integrating Cameras on Multiple Vehicles .....	335
	<i>Daisuke Ota, Shintaro Ono and Katsuhi Ikeuchi, Japan</i>	
8-28	Segmentation of Skin Cancer Images Based on Multistep Region Growing .....	339
	<i>Irene Fondón, Carmen Serrano and Begoña Acha, Spain</i>	
8-29	Propagation of Uncertainty in Landmark Based Self-localization of Autonomous Mobile Robots .....	343
	<i>Abdul Bais, Robert Sablatnig, Yahya M. Khawaja and Gregor Novak, Austria</i>	
8-30	Iris Tracking for Generating Novel Facial Interface Media .....	347
	<i>Takuma Funahashi, Takayuki Fujiwara and Hiroyasu Koshimizu, Japan</i>	
8-31	Various Applying of Wavelet Transform in Digital Mammograms for Detecting Masses and Microcalcifications .....	351
	<i>Hengameh Mirzaalian, Mohammad Reza Ahmadzadeh, Saeed Sadri and Mehdi Jafari, Iran</i>	
8-32	Represent Image Contents Using Curves and Chain Code .....	355
	<i>Pornchai Mongkolnam, Chakarida Nukoolkit and Thanee Dechsakulthorn, Thailand</i>	
8-33	Sign Language Recognition Using Boosted Volumetric Features .....	359
	<i>Helen Cooper and Richard Bowden, UK</i>	
8-34	A Simple Tone Mapping for High Dynamic Range Image Visualization Using a Pseudo-Hilbert Scan .....	363
	<i>Jian Zhang, Sei-ichiro Kamata and Li Tian, Japan</i>	

## Session 9: Invited Talk 2

9-1	Video Mosaicing for Non-Chronological Time Editing .....	367
	<i>Prof. Shmuel Peleg, The Hebrew University of Jerusalem, Israel</i>	

## Session 10: Feature Extraction & Pattern Recognition

10-1	Improved Wavelet Feature Extraction Methods Based on HSV Space for Vehicle Detection.....	376
	<i>Xuezhi Wen, Wei Liu, Nan Wang, Huai Yuan and Hong Zhao, China</i>	
10-2	Fisher Non-negative Matrix Factorization with Pairwise Weighting.....	380
	<i>Xi Li and Kazuhiro Fukui, Japan</i>	
10-3	Harmonic Shape Histograms for 3D Shape Classification and Retrieval.....	384
	<i>Janis Fehr and Hans Burkhardt, Germany</i>	
10-4	Selection of Object Recognition Methods According to the Task and Object Category .....	388
	<i>Al Mansur and Yoshinori Kuno, Japan</i>	
10-5	Robust Facial Feature Extraction Using Embedded Hidden Markov Model for Face Recognition under Large Pose Variation .....	392
	<i>Ping-Han Lee, Yun-Wen Wang, Jison Hsu, Ming-Hsuan Yang and Yi-Ping Hung, Taiwan</i>	
10-6	A 3D Shape Descriptor Based on Hadamard Transform and Spherical Harmonic Transform .....	396
	<i>Guyu Xin and Hongbin Zha, China</i>	

**Friday, May 18, 2007**

## Session 11: Industrial Applications

11-1	Goniometric Imaging of Paper Gloss.....	400
	<i>Tomi Kauppi, Albert Sadovnikov, Lasse Lensu, Joni-Kristian Kämäräinen, Pertti Silfsten and Heikki Kälviäinen, Finland</i>	
11-2	One Fish, Two Fish, Butterfish, Trumpeter: Recognizing Fish in Underwater Video .....	404
	<i>Andrew Rova, Greg Mori and Lawrence M. Dill, Canada</i>	
11-3	Machine Vision Based Lumber Grain Measurement.....	408
	<i>Matti Niskanen and Olli Silven, Finland</i>	
11-4	Geometrical and Statistical Visual Inspection of Imprinted Tablets.....	412
	<i>Marko Bukovec, Ziga Spiclin, Franjo Pernus and Bostjan Likar, Slovenia</i>	

## Session 12: Medical Image Analysis & Biometrics

12-1	An Unsupervised Learning Approach Based on Hopfield-like Network for Assessing Posterior Capsule Opacification.....	416
	<i>Naoufel Werghi, Rachid Sammouda and Fatma AlKirbi, UAE</i>	
12-2	Microscopic Image Segmentation with Two-dimensional Exponential Entropy Based on Hybrid Microcanonical Annealing .....	420
	<i>Amir Nakib, Hamouche Oulhadj and Patrick Siarry, France</i>	
12-3	Fingerprint Verification Using Perturbation Method.....	424
	<i>Satoshi Otaka, Yoshihisa Nishiyama, Takahiro Hatano and Toru Wakahara, Japan</i>	
12-4	Automatic Cell Image Segmentation Using a Shape-Classification Model .....	428
	<i>Shishir Shah, USA</i>	

## Session 13: Poster Session 3

13-1	Evaluation of Stereo Matching Systems for Real World Applications Using Structured Light for Ground Truth Estimation .....	433
	<i>Martin Humenberger, Daniel Hartermann and Wilfried Kubinger, Austria</i>	

13-2	Stabilizing Illumination Chromaticity Estimation Using the Illumination Line Segment .....	437
	<i>Rei Kawakami and Katsushi Ikeuchi, Japan</i>	
13-3	Probabilistically Semantic Labeling of IR Image for UAV .....	441
	<i>Teng Li, Jihwan Woo and In So Kweon, Korea</i>	
13-4	Shadow Elimination in Traffic Video Segmentation .....	445
	<i>Hong Liu, Jintao Li, Qun Liu and Yueliang Qian, China</i>	
13-5	3D Precise Inspection of Electronic Devices by Single Stereo Vision .....	449
	<i>Takashi Watanabe, Akira Kusano, Takayuki Fujiwara and Hiroyasu Koshimizu, Japan</i>	
13-6	Facial Expression Recognition by SVM-based Two-stage Classifier on Gabor Features .....	453
	<i>Fan Chen and Kazunori Kotani, Japan</i>	
13-7	Vehicle Orientation Detection Using Vehicle Color and Normalized Cut Clustering.....	457
	<i>Jui-Chen Wu, Jun-Wei Hsieh, Yung-Sheng Chen and Cheng-Min Tu, Taiwan</i>	
13-8	Human Tracking Based on Particle Filter in Outdoor Scene.....	461
	<i>Mototsugu Muroi and Heitoh Zen, Japan</i>	
13-9	Extracting Object Regions Using Locally Estimated Probability Density Functions.....	465
	<i>Hidenori Takeshima, Takashi Ida and Toshimitsu Kaneko, Japan</i>	
13-10	A Three Resolution Framework for Reliable Road Obstacle Detection Using Stereovision .....	469
	<i>Mathias Perrollaz, Raphael Labayrade, Romain Gallen and Didier Aubert, France</i>	
13-11	Human Body Region Extraction from Photos.....	473
	<i>Yi Hu, Japan</i>	
13-12	A Fast Surface-Based Visual Hull Reconstruction .....	477
	<i>Sofiane Yous and Masatsugu Kidode, Japan</i>	
13-13	Automatic Detection of Anatomical Structures in Digital Fundus Retinal Images.....	483
	<i>Anantha Vidya Sagar, S. Balasubramanian and V. Chandrasekaran, India</i>	
13-14	Illumination-robust Change Detection Using Texture Based Features.....	487
	<i>Kentaro Yokoi, Japan</i>	
13-15	Feature Extraction from Biological Motion of Human Gait Patterns for Emotion Discrimination .....	492
	<i>Hidenori Maruta and Masahiro Ishii, Japan</i>	
13-16	Robust Real Time Multi-Layer Foreground Segmentation .....	496
	<i>Simon Denman, Vinod Chandran and Sridha Sridharan, Australia</i>	
13-17	Tumor Detection Based on Spatial and Inter-Slice Analysis for MRI Breast Imaging.....	500
	<i>Guo-Shiang Lin, Sin-Kuo Daniel Chai, Wei-Cheng Yeh and Lin-Jie Cheng, Taiwan</i>	
13-18	Appearance Manifold with Embedded Covariance Matrix for Robust 3D Object Recognition.....	504
	<i>Lina, Tomokazu Takahashi, Ichiro Ide and Hiroshi Murase, Japan</i>	
13-19	A Robust Coarse-to-Fine Method for Pupil Localization in Non-ideal Eye Images.....	508
	<i>Xiaoyan Yuan and Pengfei Shi, China</i>	
13-20	Facial Caricaturing Robot COOPER Exhibited at EXPO2005 and Its Improvements .....	512
	<i>Naoya Tokuda, Takayuki Hoshino, Takashi Watanabe, Takuma Funahashi, Takayuki Fujiwara and Hiroyasu Koshimizu, Japan</i>	
13-21	Extraction of Corresponding Points from Stereo Images by Using Intersections of Segments .....	516
	<i>Hiroshi Unno, Keikichi Hayashibe and Hitoshi Saji, Japan</i>	

13-22	Rat Mammary Gland Analysis in T1 Weighted MR Images .....	520
	<i>Bin Wang, Jianhua Xuan, Matthew T. Freedman, Peter G. Shields and Yue Wang, USA</i>	
13-23	A Lawn Weed Detection in Winter Season Based on Color Information .....	524
	<i>Ukrit Watchareeruetai, Yoshinori Takeuchi, Tetsuya Matsumoto, Hiroaki Kudo and Noboru Ohnishi, Japan</i>	
13-24	A Novel Approach of 3D Face Reconstruction Using Ellipse Fitting .....	528
	<i>Charoenpong Theekapun, Hiroyuki Hase and Shogo Tokai, Japan</i>	
13-25	A Facial Sketch Animation Generator for Mobile Communication .....	532
	<i>Yuehu Liu, Yuanqi Su, Yang Yang, Fengjuan Wang, Maojun Yuan and Zhen Ren, China</i>	
13-26	Lane Detection and Tracking through Affine Rectification .....	536
	<i>Qiang He and Chee-Hung Henry Chu, USA</i>	
13-27	Statistical Background Subtraction Based on the Exact Per-pixel Distributions .....	540
	<i>Youngbae Hwang, Hanbyul Joo, Jun-Sik Kim and In-So Kweon, Korea</i>	
13-28	Periodic Pattern Inspection Using Convolution Masks .....	544
	<i>Y. S. Weng and M. H. Perng, Taiwan</i>	
13-29	Robust Small-Object Detection for Outdoor Wide-Area Surveillance .....	548
	<i>Daisuke Abe, Eigo Segawa, Osafumi Nakayama, Morito Shiohara, Shigeru Sasaki, Nobuyuki Sugano and Hajime Kanno, Japan</i>	
13-30	Benchmarking 3D Reconstructions from Next Best View Planning .....	552
	<i>Christoph Munkelt, Michael Trummer, Joachim Denzler and Stefan Wenhardt, Germany</i>	

### **Session 14: Invited Talk 3**

14-1	Development of Laparoscopic Surgery Training System Using VR Technology .....	556
	<i>Prof. Yoichi Miyake, Chiba University, Japan</i>	

### **Session 15: Intelligent Transportation Systems & Geographic Information Systems**

15-1	Free Parking Space Detection Using Optical Flow-based Euclidean 3D Reconstruction .....	563
	<i>Jae Kyu Suhr, Kwanghyuk Bae, Jaihie Kim and Ho Gi Jung, Korea</i>	
15-2	Fast Plane Parameter Estimation from Stereo Images .....	567
	<i>Shigeki Sugimoto and Masatoshi Okutomi, Japan</i>	
15-3	Improvement of Cadastral Map Assembling Based on GHT .....	571
	<i>Fei Liu, Wataru Ohyama, Tetsushi Wakabayashi and Fumitaka Kimura, Japan</i>	
15-4	Preceding Vehicle Trajectory Prediction by Multi-Cue Integration .....	575
	<i>Feng Han, Yi Tan and Jayan Eledath, USA</i>	
15-5	Overtaking Vehicle Detection Method and Its Implementation Using IMAPCAR Highly Parallel Image Processor .....	579
	<i>Kazuyuki Sakurai, Shorin Kyo and Shin'ichiro Okazaki, Japan</i>	
15-6	A New Method for Auroral Oval Detection in FUV Imagery .....	583
	<i>Chunguang Cao, Timothy S. Newman, Glynn A. Germany and Jim F. Spann, USA</i>	