Third International Conference on Image and Graphics, 2004 **December 18-20, Hong Kong**

General Conference Schedule

Saturday, December 18

8:00	Opening of Registration Desk	
9:00-9:25	Welcome Address, Opening Address from the Conference Co Chair	
9:25-10:15	Invited Talk - Nadia Thalmann	
10:15-10:40	Refreshment	
10:45-12:50	Oral Presentations (Two parallel Sessions, 5 papers each)	
12:50-14:0	LUNCH	
14:00-14:50	Invited Talk – Wolfgang Mueller-Wittig	
15:00-16:40	Oral Presentations (Two parallel Sessions, 4 papers each)	
16:40-17:40	Refreshment and Poster Session	
18:00-19:00	Welcome Reception	
Sunday, December 19		

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9:00-9:50	Invited Talk – Edwige Pissaloux
9:50-10:40	Invited Talk – Jerome Zhengrong Liang
10:40-11:10	Refreshment
11:10-12:50	Oral Presentations (Two parallel Sessions, 4 papers each)
12:50-14:0	LUNCH
14:00-14:50	Invited Talk – Guangyou Xu
15:00-16:40	Oral Presentations (Two parallel Sessions, 4 papers each)
16:40-17:40	Refreshment and Poster Session
19:00-21:00	Conference Banquet

Monday, December 20

9:00-9:50	Invited Talk – Witold Pedrycz
9:50-10:50	Refreshment and Poster Session
10:50-12:55	Oral Presentations (Two parallel Sessions, 5 papers each)
12:50-14:00	LUNCH

Detailed Conference Schedule

Saturday, December 18

8:00 Onwards; Opening of Registration Desk (Venue: Corridor TU201)

9:00 - 10:15; Opening Session S1 (Venue: TU201)

Session Chair: David Zhang, The Hong Kong Polytechnic University, Hong Kong

- 9:10 9:15; Welcome Address Prof. J. M. Ko, VP(RD), Hong Kong Polytechnic University
- 9:15 9:20; Opening Remarks Prof. Nadia Thalmann, Conference Co-Chair
- 9:20 9:25; Acknowledgement Prof. Yujin Zhang (VP, CSIG), Tsinghua University, P. R. China
- 9:25 10:15; Invited Talk Nadia Thalmann, Director of MIRALab / C.U.I., University of Geneva, Switzerland

Topic: Modelling and Animating Anatomy-Based Humans

- 10:15 10: 40 Refreshments (Venue: Corridor of TU201)
- 10:45 12: 50 Oral Presentations (Two Parallel Sessions, A & B)

10:45 - 12:50; Session A (Venue: TU201)

Session Chair: Yueting Zhuang

- Marker-Controlled Perception-Based Mesh Segmentation (10:45 11:10) C. Zhang, N. Zhang, C. Li, and G. Wang
- A Multi-Spectral Image Database and Its Application to Image Rendering across Illumination
 (11:10 11:35)
 S. Hordley, G. Finalyson, and P. Morovic
- Tissue Map Based Craniofacial Reconstruction and Facial Deformation Using RBF Network (11:35 12:00)

 Y. Pei, H. Zha, and Z. Yuan
- Adaptive Visualization Pipeline Decomposition and Mapping onto Computer Networks (12:00 12:25)
 M. Zhu, Q. Wu, N. Rao, and S. Iyengar

10:45 - 12:50; Session B (Venue: R1110)

Session Chair: Jerome Liang

- Integrating Shape and Texture for Hand Verification (10:45 11:10)

 A. Kumar and D. Zhang
- A Novel Fingerprint Map of SARS-CoV with Visualization Analysis (11:10 11:35) L. Gao, Y. Ding, H. Dai, Z. Huang, and S. Shao
- A Novel Approach of Palm-Line Extraction (11:35 12:00) X. Wu, K. Wang, D. Zhang
- Robust Face Detection from Complex Scene Using Multi-Experts (12:00 12:25) L.-L. Huang, A. Shimizu, and H. Kobatake
- Multi-View Face Alignment Guided by Several Facial Feature Points (12:25 12:50)

Y. Liu, Y. Li, L. Tao, and G. Xu

12:50 - 14:00 **LUNCH** (Venue: The High Table *Western Restaurant*, 15/F, Li Ka Shing Tower, HKPolyU)

• 14:00 – 14:50 Session S2 (Venue: N003) – Invited Talk

Session Chair: *Nadia Thalmann*, University of Geneva, Switzerland Speaker: Wolfgang Mueller-Wittig, Director, Centre for Advanced Media Technology, Nanyang Technological University, Singapore Topic: New Technologies for Cultural Heritage and Edutainment Prospects

• 15:00 - 16: 40 Oral Presentations (Two Parallel Sessions, C & D)

15:00 - 16:40; Session C (Venue: N003)
Session Chair: Yongzhao Zhan

• Impostor-Based Animation of Deformable Virtual Characters with Dynamic Shadow (15:00 - 15:25)

S. Chow and K. Chan

- A GIS-Based Forest Visual Simulation System (15:25 15:50) Q. Yu, C. Chen, Z. Pan, and J. Li
- A Survey of Multi-Projector Tiled Display Wall Construction (15:50 16:15) C. Li, H. Lin, and J. Shi
- SVR-Based Facial Texture Driving for Realistic Expression Synthesis (16:15 16:40) W. Zhu, Y. Chen, Y. Sun, B. Yin, and D. Jiang

15:00 - 16:40; Session D (Venue: R1110) Session Chair: Xiolin Wu

- Pyramid Surface Reconstruction from Normal (15:00 15:25) *Y. Chen, H. Wang, and Y. Wang*
- Multiple-Description Geometry Compression for Networked Interactive 3D Graphics (15:25 15:50)

P. Jaromersky, X. Wu, Y.-J. Chen, and N. Memon

- A Robust Hand Tracking and Gesture Recognition Method for Wearable Visual Interfaces and Its Applications (15:50 - 16:15)
 Y. Liu and Y. Jia
- Embedded Multiple Subbands Scaling Image Coding Based on Integer Wavelet Transforms (16:15 - 16:40)
 L.-B. Zhang and K. Wang

16:40 - 17:40; Refreshment; Display of Posters I & II (Venue: 11/F, R Block)

• Posters I

 Image Noise Analysis with a Fast Lifting Wavelet Algorithm for Objective Image Quality Evaluation
 G. Luo

- Color Based Grayscale-Fused Image Enhancement Algorithm for Video Surveillance J. Li, Q. Pan, T. Yang, and Y. Cheng
- Medical Diagnostic Image Fusion Based on Feature Mapping Wavelet Neural Networks Q. Zhang, M. Liang, and W. Sun
- Novel Histogram Processing for Colour Image Enhancement *J. Duan and G. Qiu*
- Distortion Analysis on Discrete Laplacian Operators by Introducing Random Images *F. Morii*
- Novel Object Recognition Based on Hypothesis Generation and Verification Z. Zhu, H. Lu, and Z. Li
- Digital Mammogram Segmentation Algorithm Using Pulse Coupled Neural Networks A. Haasanien and J. Ali
- Probabilistic Classification Based Image Regions Labeling *M. Zhang and Y. Jia*
- Color Image Adaptive Clustering Segmentation G. Li, C. An, J. Pang, M. Tan, and X. Tu
- A Fast Color Correction Method Based on Image Analysis F. Li, J. Song, and Y. Zhan
- Multiple Layer Based Background Maintenance in Complex Environment *T. Yang, Q. Pan, S. Li, and J. Li*
- Pedestrian Detection in Nighttime Driving *Q. Tian, Y. Luo, and D. Hu*
- A Multi-Stage Classifier Based Algorithm of Pedestrian Detection in Night with a Near Infrared Camera in a Moving Car

H. Sun, and C. Hua, and Y. Luo

- Robust Color-Based Tracking F. Liu, Q. Liu, and H. Lu
- Color Image Segmentation in Visual Prostheses *Y. Cao and X. Zhang*
- Image Retrieval Based on Sugeno Fuzzy Integral J. Li, Z. Chi, and G. Chen
- Spherical Harmonic Descriptor for Gray-Level Image Similarity Matching Z.-Y. Zhang, Z.-G. Pan, and M. Zhang
- Recognition of Chinese Character in Gray Image Based on Improved Radiant-Projection-Transform N. Sun and M. Cao

- Improving Image Retrieval Performance by Using Both Color and Texture Features *D. Zhang*
- A Wavelet Based Algorithm for Multi-Focus Micro-Image Fusion Z.-G. Jiang, D.-B. Han, J. Chen, and X.-K. Zhou
- A Stereo Matching Algorithm Based on Multiresolution and Epipolar Constraint W. Zhang, Q. Zhang, L. Qu, and S. Wei
- Shape Localization Based on Statistical Method Using Extended Local Binary Pattern X. Huang, S. Li, and Y. Wang
- Singular Value Decomposition Based Image Matching F. Zhao and W. Gao
- A Novel Fingerprint Matching Method Based on the Hough Transform without Quantization of the Hough Space J. Qi, Z. Shi, X. Zhao, and Y. Wang
- A Method of Target Detection and Tracking in Video Surveillance S. Fang, S.-Z. Tong, X.-H. Xu, and Z. Xei
- Recognizing and Modeling Non-Rigid Human Body Actions in Space X. Lu and S. Oe

18:00 - 19:00; Welcome Reception (Venue: 11/F, R Block, HKPolyU)

Sunday, December 19

9:00 - 10:40; Session S3 (Venue: TU201)

Session Chair: Wolfgang Muller-Wittig, Nanyang Technological University, Singapore

- 9:00 9:50; Invited Talk Edwige Pissaloux, Professor, Univ. de Rouen, France Topic: Relation between Computer and Human Vision
- 9:50 10:40; Invited Talk Jerome Zhengrong Liang, Professor, Departments of Radiology and Computer Science, State University of New York, Stony Brook, NY, U.S.A. Topic: Virtual Colonoscopy: An Information Processing in Medical Imaging
- 10:40 11: 10 Refreshments (Venue: Corridor of TU201)
- 11:10 12: 50 Oral Presentations (Two Parallel Sessions, E & F)

11:10 - 12:50; Session E (Venue: TU201)

Session Chair: Xijian Ping

- A Fast Morphological Algorithm for Color Image Multi-Scale Segmentation Using Vertex-Collapse (11:10 11:35) *Q. Peng and Y. Jia*
- Generalized Mumford-Shah Model and Fast Algorithm for Color Image Restoration and Edge Detection (11:35 - 12:00)
 L. Xiao, H. Wu, and Z. Wei
- Eddy Tracking of Unsteady Flow Field (12:00 12:25) H. Li, L. Teng, W. Chen, and I.-F. Shen

• Discrete Wavelet Descriptor for 2D Shape (12:25 - 12:50)

K. Kith and E.-H. Zahzah

11:10 - 12:50; Session F (Venue: R1110)

Session Chair: Li-Dong Cai

- Facial Expressive Image Analysis by Using Nonlinear Factorization Model (11:10 11:35) C. Zhou, Y. Du, and X. Lin
- Gabor Wavelets Transform and Extended Nearest Feature Space Classifier for Face Recognition (11:35 12:00)
 J. Zhu, M. Vai, and P. Mak
- Skin-Color Detection Based on Adaptive Thresholds (12:00 12:25) M.-J. Zhang, W.-Q. Wang, W.-F. Zheng, and W. Gao
- Facial Expression Recognition Based on Gabor Wavelet Transformation and Elastic Templates Matching (12:25 12:50)

 Y.-Z. Zhang, J.-F. Ye, D.-J. Niu, and P. Cao

12:50 - 14: 00 **LUNCH** (Venue: The High Table *Western Restaurant*, 15/F, Li Ka Shing Tower, HKPolyU)

• 14:00 - 14:50 Session S4 (Venue: TU201) - Invited talk

Session Chair: *Edwige Pissaloux*, *Univ. de Rouen*, *France*Speaker: Guangyou Xu, Chair Professor, Department of Computer, Tsinghua University, Beijing, P. R. China
Topic: HCI in "Physical-Information" Dual Space

• 15:00 - 16:40 Oral Presentations (Two Parallel Sessions, G & H)

15:00 - 16:40; Session G (Venue: TU201)

Session Chair. Bin Luo

- A Nonlinear Image Restoration Framework Using Vector Quantization (15:00 15:25) E. Lam
- Objective Assessment to Restoration of Global Motion-Blurred Images
 Using Traveling Wave Equations (15:25 15:50)
 L.-D. Cai
- Image Representation for Stereo: Stripes and Stripe Adjacency Graph (15:50 16:15) C. Wu and Z. Wang
- Intra-Class Variation, Affine Transformation and Background Clutter: Towards Robust Image Matching (16:15 16:40)

 L. Fan

15:00 - 16:40; Session H (Venue: R1110)
Session Chair. Zhiquo Jiang

• A Public Mesh Watermarking Algorithm Based on Addition Property of Fourier Transform (15:00 - 15:25)

L. Li, Z. Pan, and D. Zhang

- FEC-Based Multiple Description Coding for Heterogeneous Client Bandwidths (15:25 15:50) L. Huo, W. Gao, Q. Huang, and Y. Cai
- Reliable Detection of BPCS-Steganography in Natural Images (15:50 16:15) X. Yu, T. Tan, and Y. Wang
- Replay Detection in Broadcasting Sports (16:15 16:40) X. Tong, H. Lu, Q. Liu, and H. Jin

16:40 - 17:40; Refreshment; Display of Posters II (Venue: 11/F, R Block)

Posters II

 An Optimized Hardware Accelerator for Real Time Registration of Aerial Video Imagery and Its Applications

R. Hafiz, M. Tahir, O. Arshad, and S. Khan

 Space-Time Invariants for Recognizing 3D Motions from Arbitrary Viewpoints under Perspective Projection

Y. Piao, K. Hayakawa, and J. Sato

- Multi-Scale Analysis of Connectivity for Image Retrieval A. Sajjanhar, G. Lu, and D. Zhang
- Automatic Hybrid Registration for 2-Dimensional CT Abdominal Images *X. Wang and D. Feng*
- Data-Optimal Rectification for Fast and Accurate Stereovision M. Matoušek, R. Šara, and V. Hlaváč
- A New Full Pixel and Sub-Pixel Motion Vector Search Algorithm for Fast Block-Matching Motion Estimation in H.264
 Z. Wei, B. Jiang, X. Zhang, and Y. Chen
- Watermark Extraction by Magnifying Noise and Applying Global Minimum Decoder Z. Pan, L. Li, M. Zhang, and D. Zhang
- Real-Time Streaming and Robust Streaming H.264/AVC Video Z.-G. Li and Z.-X. Zhang
- A New Approach for Near-Lossless and Lossless Image Compression with Bayer Color Filter Arrays

X. Xie, G. Li, X. Li, Z. Wang, C. Zhang, D. Li, and L. Zhang

- Hybrid Chinese/English Text Identification in Web Images *J. He and S. Li*
- Approaches to H.264-Based Stereoscopic Video Coding S. Li, M. Yu, G. Jiang, T.-Y. Choi, and Y.-D. Kim

- A Novel Rate Control Scheme for Video Streaming over Wireless Networks X. Tong, W. Gao, and Q. Huang
- A Novel FGS Base-Layer Encoding Model and Weight-Based Rate Adaptation for Constant-Quality Streaming

J. Sun. W. Gao, and Q. Huang

 Based on HMM and SVM Multilayer Architecture Classifier for Chinese Sign Language Recognition with Large Vocabulary J. Ye, H. Yao, and F. Jiang

- Fast Recursive Mathematical Morphological Transforms J. Cui, Y. Wang, T. Tan, and Z. Sun
- Simplified and Flexible Spiral Transitions for Use in Computer Graphics and Geometric Modelling

Z. Habib and M. Sakai

 Signal Period Analysis Based on Hilbert-Huang Transform and Its Application to Texture Analysis

Z. Yang, D. Qi, and L. Yang

- A Survey of Silhouette Detection Techniques for Non-Photorealistic Rendering A.-Y. Wang, M. Tang, and J.-X. Dong
- Region-of-Interest Coding of 3D Mesh Based on Wavelet Transform *H. Zheng, B. Liu, and H. Zhang*
- Modeling Anatomical-Based Humans
 N. Magnenat-Thalmann, L. Yahia-Cherif, and H. Seo
- 3D Model Based Head Pose Tracking by Using Weighted Depth and Brightness Constraints G. Liang, H. Zha, and H. Liu
- An Interactive Molecular Visualization System for Education in Immersive Multi-Projection Virtual Environment

Y. Luo, P. Guo, S. Hasegawa, and M. Sato

- Palmprint Identification Using PalmCodes
 - A. Kumar and H. Shen
- Image Based High Realistic Visual Pattern Effect Achieving Method Y. Pan, D. Xu, C. Chen, and Y. Zhang
- Navigation in 3D Game by Markov Model Based Head Pose Estimating P. Lu, X. Zeng, X. Huang, and Y. Wang

19:00 - 21:00; Conference Banquet (Venue: Four Seas Restaurant, 14/F, Li Ka Shing Tower, HKPolyU)

Monday, December 20

9:00 - 9:50; Session S5 (Venue: TU201)

Session Chair: *Guangyou Xu*, *Tsinghua University*, *Beijing*, *P. R. China*Invited Talk – Witold Pedrycz, University of Alberta, Edmonton, Canada

Topic: From Pixels to Information Granules: Granular Computing and Logic Processing

9:50 - 10:50; Refreshment; Display of Posters III (Venue: 11/F, R Block)

Posters III

- Web Visualization of Geo-Spatial Data Using SVG and VRML/X3D *J. Ying, D. Gračanin, and C.-T. Lu*
- Mixture-Based Bone Segmentation and Its Application in Computer Aided Diagnosis and Treatment Planning

H. Lu, Z. Liang, B. Li, X. Li, J. Meng, and X. Liu

- An Efficient Image-Based Virtual Tour System Q. Zhang, K. Zhao, Z. Cao, and J. Shi
- Handwritten Chinese Trajectories Prediction with an Improved Flat Functional-Link Neural Networks and Kalman Filter
 - D.-D. Yang, L.-W. Jin, L.-X. Zhen, and J.-C. Huang
- An Algorithm to Find the Area and Area Based Feature of Image Objects and Its Application in Image Matching M. Amin, N. Afzulpurkar, and S. Akhtar
- A MAP Algorithm to Super-Resolution Image Reconstruction *H. Shen, P. Li, L. Zhang, and Y. Zhao*
- Greedy EM Algorithm for Robust T-mixture Modelling S. Chen, X. Wang, and B. Luo
- Improved Flicker Removal through Motion Vectors Compensation *T. Huang and X. Qin*
- A Novel Method of Sprite Generation Based on Pixel Similarity *Y. Shen and L. Zhang*
- Interacting Multiple Model Particle Filter to Adaptive Visual Tracking J. Wung, D. Zhao, W. Gao, and S. Shen David
- Application of Wavelet-Based POCS Superresolution for Cardiovascular MRI Image Enhancement

J. Hsu, C. Yen, C. Li, M. Sun, B. Tain, and M. Kaygusuz

- On Orbit Spatial Resolution Estimation of CBERS-1 CCD Camera K. Bensebaa, G. Banoni, and L. Fonseca
- Stereopsis Method for Visually Impaired to Identify Obstacles Based on Distance G. Balakrishnan, G. Sainarayanan, R. Nagarajan, and S. Yaacob
- Combination of Polar Edge Detection and Active Contour Model for Automated Tongue Segmentation

W. Zuo, K. Wang, D. Zhang, and H. Zhang

- Footprint Heavy Pressure Surface Pick-Up and Description W. Wang, X. Ping, and Y. Ding
- Gait Analysis for Human Identification in Frequency Domain S. Yu, L. Wang, W. Hu, and T. Tan
- Fingerprint Center Point Location Using Directional Field Y. Chan and S. Abu-Bakar
- Real-Time Facial Expression Recognition Based on Boosted Embedded Hidden Markov Model

X. Zhou, X. Huang, B. Xu, and Y. Wang

- An Approach to Dynamic Fingerprint Image Enhancement W. Liu, P.-L. Yan, D.-L. Xia, and C. Zhou
- An Improved Two-Step Approach to Hallucinating Faces *Y. Li and X. Lin*
- Face Detection Using Improved LBP under Bayesian Framework H. Jin, W. Liu, H. Lu, and X. Tong
- A Study of Aggregated 2D Gabor Features on Appearance-Based Face Recognition K.-H. Cheung, J. You, W.-K. Kong, and D. Zhang
- A New Segmentation Algorithm for Low Quality Fingerprint Image Z. Shi, Y. Wang, J. Qi, and K. Xu
- 10:50 12:55 Oral Presentations (Two Parallel Sessions, I & J)

10:50 - 12:55; Session I (Venue: TU201)

Session Chair: Hongbin Zha

 Real Time Two-Step Inspection System for Assembled Valve Keys in Automobile Cylinder Heads (10:50 - 11:15)

F. Shafai, M. Pervez, A. Qazi, J. Woelnack, and T. Trittin

• Detection of Circular Oil Tanks Based on the Fusion of SAR and Optical Images (11:15 - 11:40)

Y. Wang, M. Tang, T. Tan, and X. Tai

- Artistic Mosaic Generation (11:40 12:05) X. Li and Y. Yuan
- Automatic Thresholding for Defect Detection (12:05 12:30) *H.-F. Ng*
- Generalized Optical Flow in the Scale Space (12:30 12:55) H. Gong, Q. Yang, C. Pan, and H. Lu

10:50 - 12:55; Session J (Venue: R1110)

Session Chair: Witold Pedrycz

- Multi-View 3D Model Reconstruction: Exploitation of Color Homogeneity in Voxel Mask (10:50 11:15)
 - S. Wong and K. Chan
- Content-Based SMIL Retrieval (11:15 11:40) K. Tam, L. Yu, D. Tao, H. Liu, B. Luo, and X. Tang
- Shape-Based Adult Image Detection (11:40 12:05) O.-F. Zhong, W. Zeng, G. Weu, and W.-O. Wang
- SnapFind: Brute Force Interactive Image Retrieval (12:05 12:30)

 L. Huston, R. Sukthankar, D. Hoiem, and J. Zhang
- Facial Expression Recognition Based on Gabor Wavelet Transformation and Elastic Templates Matching (12:30 12:55)

 Y.-Z. Zhang, J.-F. Ye, D.-J. Niu, and P. Cao

12:50 - 14: 00 **LUNCH** (Venue: The High Table *Western Restaurant*, 15/F, Li Ka Shing Tower, HKPolyU)

End of ICIG 2004

- All the Conference Sessions will be held within the campus of *The Hong Kong Polytechnic University*. The Conference venue is within 5 minutes of walking distance from all the accommodation facilities offered to the participants.
- ➤ Please note that the Conference Sessions A/B, C/D, E/F, G/H, I/J will run in parallel. However the venue of both of these sessions is very near and connected by lifts. Participants can select the sessions of their choice and switch to the respective venue after S1/2/3/4/5 session.
- ➤ The Venue for The Lunch/Dinner/Reception/Banquet is few steps away from the conference venue. Please refer to the conference map available on this website.
- ➤ All the posters will be mounted on poster boards that are 4 feet wide and 6 feet high. Authors can fix their posters in the designated boards at any time before the Lunch but should remove them by 18:30 Hrs.
- ➤ Oral presentations will be a maximum 20 minutes plus 5 minutes for questions and discussion. A video projector will be available to project output from your laptop computer, as well as audio output. If you have other audio-visual requirements, please email icig2004@comp.polyu.edu.hk
- ➤ In order to have more fruitful interaction and discussion, a separate meeting room (R1106) is available for the ICIG participant in the conference venue. The meeting room is equipped with Internet connection and overhead projector. Participant can make booking for the meeting room by writing an email to <code>icig2004@comp.polyu.edu.hk</code>