

First International Workshops on Image Processing Theory, Tools and Applications

IPTA'08

November 23-26, 2008

Sousse, Tunisia

Organized by:

The National Engineering School of Sfax, Tunisia

The University of Evry Val d'Essonne, France

Supported by:

The ministry of high education, and scientific research and technology, Tunisia

Evry Val d'Essonne University, France

Academic Institute of Technology of Evry Val d'Essonne, France

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Preface

On behalf the technical program committee of the international workshops on Image Processing Theory, Tools and Applications (IPTA'08), it gives us enormous pleasure to welcome you in Sousse to this manifestation. I would like to thank all those who made many valuable contributions to our Workshops, especially people "behind the scenes", who for well over months, have devoted long hours of boundless energy and enthusiasm to make IPTA'08 happens, from the program booklet in your hands to the Workshops Proceeding.

IPTA'08 aims at assembling international researchers, and practitioners in image processing theory, applications and tools, for attending extensive educational high level materials, exchanging their knowledge and talking about their future choices.

The conference will also offer an opportunity to gather image processing researchers and people working in other application fields such as doctors, radiotherapists and industrial parts. Closer link will be focused on between image processing algorithms and the way to implement these algorithms for best performances.

Hardware implementations on embedded platforms will be our interest. In that optic IPTA'08 features five tutorial sessions and five invited speaker sessions, addressing some of today's most dynamic area of research, devised to bring you some of most relevant and latest result researches in Image Processing, Theory, Tools and Applications field.

The call for papers of IPTA'08 enticed a number of about 130 paper submissions, from all over the World. In this undertaking, we were fortunate to have the contribution from fifteen different countries.

IPTA'08 is also about the TPC members who have had the tremendously important job of reviewing and selecting the technical contributions, leading to 60 papers that will be presented in 13 regular sessions. Now that the dream IPTA'08 is becoming a reality, we hope that all of us will be to the appointment of its success, by going to the other and sharing with him a part of his research heaviness, by discussions and opening with no frontier.

DORRA SELLAMI MASMOUDI
KHALIFA DJEMAL

General Chairs

General Informations

Date and Location

On the eastern coast of Tunisia, one hour and a half from the capital Tunis lies Sousse, “the pearl of the Sahel” . The mildness of its climate, its calm and beautiful coast and the hospitality of its people have long captivated those who came to conquer. Phoenicians, Romans, Byzantines and Arabs settled in this lovely ”fertile city” each leaving their imprint and heritage. No wonder modern day visitors from all over the world find themselves at home and return again and again. The resort area of Sousse is perfectly integrated into the city and the visitor welcomed to participate in its exuberance. Proud of its heritage, museums and monuments are accessible and opened with pleasure to its guests and the Medina with its tiny colorful shops overflowing with silver jewelry, pure wool blankets, copper and carpets bustle with activity under the towering walls of the ribat.

How to get to Sousse

Sousse is about 140 km south of Tunis, 120 km north of Sfax, 60 km east of Kairouan and 20 km from Monastir airport. Railway stations are available.

For more information about Tunisia see:

- ➡ <http://www.tunisiaonline.com/>
- ➡ <http://www.tourismtunisia.com/>

For more information about Sousse see:

- ➡ <http://www.touristicguide.com/>

Transfer to Sousse:

✈ **Arrival to Tunis Carthage Airport:**

From the airport to the Railway Station: by taxi (about 10 Dinars) or by Aero-Bus.

From the airport to the Hotel (Sousse): by taxi (about 75 Dinars)

Train from Tunis to Sousse about two hours (between 10 and 15 Dinars)

From Sousse Railway Station to the hotel : by Taxi or Tourist Train (about 10 Dinars).

✈ **Arrival to Monastir Habib Bourguiba Airport:**

By Taxi (about 20 Dinars) or by the Railway (Metro) to Sousse.

Then by Taxi or Tourist Train (about 10 Dinars).



Hours of travel train from Tunis to Sousse

Departure	Arrival
06:00	07:52
09:05	11:00
12:05	14:00

Departure	Arrival
13:35	15:27
15:40	17:42
17:35	19:27

Departure	Arrival
18:45	20:47
20:50	22:40
22:20	00:10

The Host Country Tunisia

Official Language:

The official language in Tunisia is Arabic. The second language is French and is spoken by almost all people. The third language, which is taught at school until baccalaureate is English. Especially in tourism towns like Sousse, many people speak other languages, like German, Italian and Spanish.

Currency Exchange:

International currencies can be changed in every bank or post-office in Tunisia to Tunisian Dinars (TND). The exchange rates to and from Euro and US\$ are approximately:

Up to 30 % of the exchanged amount could be changed back against Receipt at leaving. By an export of more than a value of 500 TND, a currency entry statement is necessary.

Bank opening times:

Monday-Thursday:	8:00-11:00 and 13:30-15:15
Friday:	8:00-11:00

Furthermore, in most hotels, there are possibilities to change little amounts of money.

Conference Web-Site

► <http://ipta08.ibisc.univ-evry.fr/>

Conference Registration Desk

The Conference registration desk will be indicated in the hotel Diar El Andalous and will be open as follows:

Sunday, November 23	14:00-18:00
Monday, November 24	12:30-13:30
Monday, November 24	18:30-19:30
Tuesday, November 25	18:30-19:30

A payment of the registration fees during the conference will be possible also by cash, Euro-checks or Credit Card.

Accommodation in Sousse

The conference hotel is:

Mercure Diar El Andalous (★★★★★)
B.P. 48 Port El Kantaoui,
4089 Port El Kantaoui,
Sousse, Tunisia

Additional Proceedings

An additional copy of the conference proceeding costs 15 TND

An additional copy of the conference CD-ROM costs 5 TND

Author Informations

Official Language of the Conference

The official language of the conference is English and will be used for all presentations and printed material.

Oral Presentations

A 20 min time slot (incl. discussion) is allocated for each contributed oral presentation by a video projector.

Advanced Program

Monday, November 24, 2008



08h30-9h00

Tutorial Session 1 :	<u>Monday, 09h00-10h00</u>
Trends and Challenges in Mono and Multi Biometrics	
M. DERICHE (KSA)	



COFFEE BREAK

Tutorial Session 2 :	<u>Monday, 10h30-11h30</u>
Image Denoising in the Wavelet Transform Domain Based on Stein's Principle	
A. BENAZZA-BENYAHIA, J.-C. PESQUET, and C. CHAUX (Tunisia)	
presented by A. BENAZZA-BENYAHIA	

Tutorial Session 3 :	<u>Monday, 11h30-12h30</u>
Artificial Neural Networks Based Image Processing & Pattern Recognition: From Concepts to Real-World Applications	
K. MADANI (France)	



LUNCH TIME

Monday, 14h30-15h30

Tutorial Session 4 :

The Local Binary Pattern Approach and its Applications to Face Analysis

A. HADID (Finland)

Monday, 15h30-16h30

Invited Speaker 1 :

Clustering Algorithms and Applications

H. FRIGUI (USA)



COFFEE BREAK

Monday, 17h00-18h00

Tutorial Session 5:

Image Encryption and Compression for Medical Image Security

W. PUECH (France)

Tuesday, November 25, 2008

Tuesday, 8h00-9h00

Invited Speaker 2 :

Segmentation of noisy images using information theory based approaches

F. GALLAND and P. RÉFRÉGIER (France)

presented by *F. GALLAND*

Tuesday, 09h00-10h00

Invited Speaker 3:

Exploiting document feature interactions for efficient information fusion in high dimensional spaces

J. KLUDAS, E. BRUNO and S. MARCHAND-MAILLET (Switzerland)

presented by *S. MARCHAND-MAILLET*



COFFEE BREAK

Tuesday, 10h30-12h30

Session 1 : 3D Image Modelling I

Chair : WILIAM PUECH (France)

- IPTA-015 Dynamic fire modeling in Three-dimensional space
M. AKHLOUFI, L. ROSSI, L. ABDELHADI and Y. TISON (Canada)
- IPTA-101 Towards a biophysical 3D model of the DNA
M. ESSABBAH, J. HERISSON, S. OTMANE and M. MALLEM (France)
- IPTA-142 Recursive sLORETA-FOCUSS Algorithm for EEG Dipoles Localization
R. KHEMAKHEM, A. BEN HAMIDA, I. FEKI and A. TALEB-AHMED (Tunisia)
- IPTA-055 Disparities Maps Generation Employing Multi-resolution Analysis and Perceptual Grouping
G.T. LAUREANO and M.S. VELUDO DE PAIVA (Brazil)

Tuesday, 10h30-12h30

Session 3 : Content Based Image Retrieval Systems

Chair : HICHEM FRIGUI(USA)

- IPTA-106 Feature extraction and relevance evaluation for heterogeneous image database recognition
R. KACHOURI, K. DJEMAL, H. MAAREF, D. SELLAMI MASMOUDI and N. DERBEL (Tunisia)
- IPTA-156 Multivariate indexing of multichannel images based on the copula theory
S. SAKJI-NSIBI and A. BENAZZA-BENYAHIA (Tunisia)
- IPTA-162 Empirical Comparison of Automatic Image Annotation Systems
M. M. BEN ISMAIL, H. FRIGUI and J. CAUDILL(USA)
- IPTA-148 A Novel Semantic Video Classification Model
W. REN, M. SINGH and S. SINGH(United Kingdom)
- IPTA-078 Wrapping based Directional Hartley Transform and Content Based Image Retrieval
P. RAJAVEL and R. ARAVIND (India)

Tuesday, 10h30-12h30

Session 4 : Biometric authentication by face recognition

Chair : NAJOUA BENAMARA ESSOUKRI (Tunisia)

- IPTA-048 3D Anthropometric Signatures for Face Verification
S. GUERFI, J.P. GAMBOTTO and S. LELANDAIS (France)
- IPTA-088 A New Approach to Face Image Coding using Gabor Wavelet Networks
A. CHAARI, F. CABESTAING and D. SELLAMI-MASMOUDI (France)
- IPTA-173 Training of the Beta wavelet networks by the frames theory: Application to face recognition
M. ZAIED, O. JEMAI and C. BEN AMAR (Tunisia)
- IPTA-090 Robust Face Pose Estimation from Insufficient Data
M. H. JU and H. B. KANG (Korea)



LUNCH TIME

Tuesday, 14h30-16h30

Session 2 : 3D Image Modelling II

Chair : ABDENOUR HADID(Finland)

- IPTA-050 Video Scene Object Detection Using An A Contrario Approach
M. AMMAR, S. LE HÉGARAT-MASCLE, R. REYNAUD and A. ROBIN ... (France)
- IPTA-100 Hybrid Localization System for Mobile Outdoor Augmented Reality Applications
I. M. ZENDJEBIL, F. ABABSA, J. DIDIER and M. MALLEM (France)
- IPTA-103 An Altered Image Alignment Technique for 3D Motion Estimation of a Reflective Sphere
Y. BACHALANY, F. CABESTAING, C. VIEREN and S. AMBELLOUIS (France)
- IPTA-079 Open/Closed Eye Analysis for Drowsiness Detection
P.R. TABRIZI and R. A.ZOROOFI(Iran)

Tuesday, 14h30-16h30

Session 5 : Image processing and Biometric Authentication I

Chair: KAMEL HAMROUNI (Tunisia)

- IPTA-121 Wavelet Based Multifractal Analysis In Fractography
A. OUAHABI, S. JAFFARD and D. AIT AOUIT (France)
- IPTA-051 Online Quality measurement of face localization obtained by neural networks trained with Zernike moments feature vectors
H. SAAIDIA, A. LELANDAIS and M. RAMDANI (France)
- IPTA-104 A New Clustering Approach for Face Identification
A. CHAARI, S. LELANDAIS and M. BEN AHMED(France)
- IPTA-073 Haralick feature extraction from LBP images for color texture classification
A. POREBSKI, N. VANDENBROUCKE and L. MACAIRE (France)

Monday, 14h30-16h30

Session 6 : Pattern Recognition and analysis

Chair : KUROSH MADANI (France)

- IPTA-165 Automatic Gabor Features Extraction for face recognition using neural networks
Y. BEN JEMAA and S. KHANFIR (Tunisia)
- IPTA-067 Score Fusion of SVD and DCT-RLDA for Face Recognition
M. BENGHERABI, L. MEZAI, F. HARIZI, A. GUESSOUM and M. CHERIET (Canada)
- IPTA-174 Recognition of Arabic License Plates Using NNs
A. ZIDOURI and M. DERICHE(KSA)
- IPTA-020 Text Line Segmentation in Images of Handwritten Historical Documents
A. SANCHEZ, P. D. SUAREZ, C. A. MELLO, A. OLIVEIRA and V. ALVES (Spain)
- IPTA-144 Pattern classification by a Gibbsian Kohonen neural network with an application to Arabic characters recognition
N. MEZGHANI and A. MITICHE (Canada)



COFFEE BREAK

Tuesday, 17h00-18h00

Invited Speaker 4 :

Physiological and behavioural approaches for person recognition using videos

F. MATTA and *J.L. DUGELAY* (France)

Wednesday, November 26, 2008

Wednesday, 08h30-10h00

Session 7 : Hardware implementation of Embedded Systems and HW/SW Codesign

Chair : DORRA SELLAMI MASMOUDI (Tunisia)

- IPTA-094 HW/SW Interface Impact on an Adaptive Multimedia System Performance: Case study
M. HENTATI, N. BEN AMOR, K. LOUKIL, M. ABID and J. P. DIGUET . (Tunisia)
- IPTA-061 FPGA Codesign Implementation of Vector Directional Filter
A. BOUDABOUS, A. BEN ATITALLAH, P. KADIONIK, L. KHRIJI and N. MASMOUDI
..... (Tunisia)
- IPTA-041 A predictive and parametrized architecture for image analysis algorithm implementations on FPGA adapted to multispectral imaging
J. TAN, L. ZHANG, V. FRESSE, A.C. LEGRAND and D. HOUZET (France)
- IPTA-035 An Efficient Hardware Architecture design for H.264/AVC Intra 4X4 Algorithm
H. LOUKIL, B. KAA NICHE, A. BEN ATITALLAH, P. KADIONIK and N. MASMOUDI
..... (Tunisia)

Wednesday, 08h30-10h00

Session 8 : Biological and medical imaging

Chair : MOHAMED DERICHE (KSA)

- IPTA-056 Automatic regions of interest identification and classification in CT images: Application to kidney cysts
D. BOUKERROUI, W. TOUHAMI and J.P. COCQUEREZ (France)
- IPTA-070 Characterization of a capacitive imaging system for skin surface analysis
A. BEVILACQUA and A. GHERARDI (Italy)
- IPTA-115 MR Image Monomodal Registration Using Structure Similarity Index
O. BEN SASSI, T. DELLEJI, A. TALEB-AHMED, I. FEKI and A. BEN HAMIDA
..... (Tunisia)
- IPTA-077 Bayesian Networks for Edge Preserving Salt and Pepper Image Denoising
A. FARO, D. GIORDANO, , G. SCARCIOFALO and C. SPAMPINATO (Spain)
- IPTA-114 Automatic detection of chemotaxis cells in angiogenesis process
D. KOVACS, E. BRASSART and C. DROCOURT (France)

Session 9 : Medical image Analysis

Chair : KHALIFA DJEMAL (France)

- IPTA-150 New mass description in mammographies
I. CHEIKHROUHOU KACHOURI, K. DJEMAL, D. SELAMI MASMOUDI, H. MAAREF and N. DERBEL (Tunisia)
- IPTA-146 Detection and counting of in vivo cells to predict cell migratory potential
T. Q. SYED, V. VIGNERON, S. LELANDAIS, G. BARLOVATZ-MEIMON, M. MALO, C. CHARRIERE-BERTRAND and C. MONTAGNE (France)
- IPTA-040 Accelerating 3D Medical Image Segmentation with High Performance Computing
P. LENKIEWICZ, M. PEREIRA, M. FREIRE and J. FERNANDES(Portugal)
- IPTA-058 Tongue diagnosis method for extraction of effective region and classification of tongue coating
K. H. KIM, J. H. DO, H. RYU and J. Y. KIM (Korea)
- IPTA-143 Contour Detection of Labelled Cellular Structures from Serial Ultrathin Electron Microscopy Sections using GAC and Prior Analysis
H. ZHANG, P. MORROW, S. McCLEAN and K. SAETZLER(United Kingdom)



COFFEE BREAK

Session 10 : Computer aided design and diagnosis

Chair : HICHEM MAAREF (France)

- IPTA-123 Machine Vision Based Quality Monitoring in Olive Oil Conditioning
K. TAOUIL, Z. CHTOUROU and L. KAMOUN (Tunisia)
- IPTA-063 Groupware Design for Online Diagnosis Support
N. CHEAIB, S. OTMANE, K. DJEMAL and M. MALLEM (France)
- IPTA-133 Reproducibility and reliability of the DTI Fiber Tracking algorithm integrated in the Sysiphe software
F. TENSAOUTI, M. DELIONI, J. ALBERT LOTTERIE, P. CLARISSE and I. BERRY (France)
- IPTA-071 A robust approach to reconstruct experimentally the camera response function
A. BEVILACQUA, A. GHERARDI and L. CAROZZA (Italy)
- IPTA-064 Moving plane detection under translational camera motion using the c-velocity concept
S. BOUCHAFA and B. ZAVIDOVIQUE (France)

Wednesday, 10h30-12h30

Demo Session

Chair : KHALIFA DJEMAL (France)
DORRA SELLAMI MASMOUDI (Tunisia)

- DS-1 ARITI Project: Augmented Reality Interfaces for Teleoperation via the Internet
Mouna Essabbah (France)
- DS-2 Steganography software for video crypting
Imene Khanfir Kallel (Tunisia)
- DS-3 Sisyph Software for Neuroimaging
Fatima Tensaouti (France)
- DS-4 3D model reconstruction from IV2 Data
Anis Chaari (France)
- DS-5 Image retrieval system in Heterogeneous Database
Rostom Kachouri (Tunisia)

Wednesday, 10h30-12h30

Session 11 : Image processing and Biometric Authentication II

Chair : JEAN LUC DUGELAY (France)

- IPTA-031 A Novel Approach to Hand-Gesture Recognition in a Human-Robot Dialog System
P. ZIAIE, T. MULLER and A. KNOLL (Germany)
- IPTA-098 Automated Human Recognition by Gait using Neural Network
J. YOO, D. HWANG, K.MOON and M.S. NIXON (Korea)
- IPTA-105 Iris Recognition using Steerable Pyramids
N. KHIARI, K. HAMROUNI and H. MAHERSIA (Tunisia)
- IPTA-039 Palmprint Verification using SIFT features
G. S. BADRINATH and P. GUPTA (India)
- IPTA-080 Ear Localization from Side Face Images using Distance Transform and Template Matching
S. PRAKASH, U. JAYARAMAN and P. GUPTA (India)
- IPTA-074 Fingerprint identification using radon transform
Z. HADDAD, A. BEGHDADI, A. SERIR and A. MOKRAOUI (France)



LUNCH TIME

Wednesday, 14h30-16h00

Session 12 : Image segmentation and analysis

Chair : SYLVIE LELANDAIS (France)

- IPTA-096 An Efficient Framework for Brain Tumor Segmentation in Magnetic Resonance Images
S. BOUROUIS and K. HAMROUNI (Tunisia)
- IPTA-113 Variational approximation of a constraint signal by a Mumford-Shah type energy functional
J. RAKOTONDRALAMBO, G. MICHAILLE, R. BROUZET and W. PUECH (Madagascar)
- IPTA-057 Building Verification from Disparity of Contour Points
C. BEUMIER (Belgium)
- IPTA-072 Accurate eye-like segmentation in a heavily untextured contrasted scene
A. BEVILACQUA, A. GHERARDI and L. CAROZZA (Italy)
- IPTA-075 Direction Dependent Decomposition and Edge Detection
P. RAJAVEL and R. ARAVIND (India)

Wednesday, 14h30-16h00

Session 13 : Image filtering and processing

Chair : FRÉDÉRIC GALLAND (France)

- IPTA-155 Wavelet-based blotch detection in old movies
H. AMMAR-BADRI and A. BENAZZA-BENYAHIA (Tunisia)
- IPTA-038 Image Registration using Bayes Theory and Maximum Likelihood Framework with EM Algorithm
J. JONGHYUN PARK, W. CHO, S. KIM, S. PARK, M. LEE, C. JUNG, J. LIM and G. LEE (Korea)
- IPTA-029 A New Spatial Approach to Image Restoration
T. PHAM and U. EISENBLATTER (Australia)
- IPTA-092 Deblocking Algorithms with Edge Filters for DCT Compressed Images
N. AL KITBI and A. DAWOOD (United Arab Emarat)

CLOTURE



Looking forward to see you on IPTA'10

Thank you

<http://ipta10.ibisc.univ-evry.fr>