

International Conference on  
*Soft Computing and Pattern  
Recognition*

SoCPaR 2010

Cergy-Pontoise – Paris  
France

7-10 December 2010

*Preliminary Programme*

## Tuesday, December 7

- 08:30 - 09:00 *Registration*
- 09:00 - 10:00 *Opening Session*
- 10:00 - 11:00 *Invited Talk: R.R. Yager*
- 11:00 - 11:30 *Break*
- 11:30 - 01:00 *Sessions*
  - *Gesture Recognition*
  - *Fuzzy Databases*
  - *Video Processing*
- 01:00 - 02:00 *Lunch*
- 02:00 - 04:00 *Sessions*
  - *Recognition*
  - *Web Information Retrieval*
- 04:00 - 04:30 *Break*
- 04:30 - 06:30 *Plenary Industrial Session*
- 06:30 - 08:00 *Cocktail*
- 08:00 - ... *Extra Social Activity: Paris by Night*

## Wednesday, December 8

- 09:00 - 10:00 *Invited Talk*: M. Sebag
- 10:00 -10:30 Break
- 10:30 -12:30 *Sessions*
  - Particle Swarm Optimization
  - Hand Writing & Text Recognition
  - Object Tracking
- 12:30 - 02:00 Lunch
- 02:00 - 04:00 *Sessions*
  - Clustering-SVM
  - Data Mining
  - Face Recognition (1)
- 04:00 - 04:30 Break
- 04:30 - 06:30 *Sessions*
  - DNA Sequence Alignment & Bio Applications
  - Classifiers (1)
  - Optimization Techniques
- 06:30 - 08:00 Extra Social Activity: *Wine Tasting*

## Thursday, December 9

- 09:00 - 10:00 *Invited Talk*: R. Kruse
- 10:00 -10:30 Break
- 10:30 -12:30 *Sessions*
  - Time Series & Data Streams
  - Classifiers (2)
  - Special Session on *Efficient Management of Masses of Data*
- 12:30 - 02:00 Lunch
- 02:00 - ... Social Activity: *Château de Chantilly and Banquet*

## Friday, December 10

- 09:00 - 10:30 *Sessions*
  - Design & Diagnosis
  - Applications
  - Face Recognition (2)
- 10:30 -11:00 Break
- 11:00 -12:30 *Panel Session*
- 12:30 - 02:00 Lunch
- 02:00 - 04:00 *Sessions*
  - Steganography-Watermarking-Copyrighting
  - Image Processing
  - Special Session on *Integration Techniques in Computational Forensics*

# Session Contents

## Invited Talks

***R.R. Yager* – Tuesday, 10:00-11:00**

Title to be announced

***M. Sebag* – Wednesday, 09:00-10:00**

SpikeAnts: A Spiking Neuron Net Modelling the Division of Labor in an Ant Colony

***R. Kruse* – Thursday, 09:00-10:00**

Mining of Temporal Patterns

## Special Sessions

***Industrial Session* – Tuesday, 04:30-06:30**

Content to be defined later.

***Efficient Management of Masses of Data* – Thursday, 10:30-12:30**

1. *Optimization of a Fuzzy Decision Trees Forest with Artificial Ant Based Clustering*  
Nicolas Labroche and Christophe Marsala.
2. *Describing Acceptable Objects by Means of Sugeno Integrals*  
Henri Prade and Agnes Rico.
3. *Classification of Brand Names Based on N-Grams*  
Pattaraporn Warintarawej, Anne Laurent, Bénédicte Laurent and Pierre Pompidor.

***Integration Techniques in Computational Forensics* – Friday, 02:00-04:00**

1. *Iris Features Extraction Using Dual-Tree Complex Wavelet Transform*  
Waheeda Almayyan, Hala Own and Hussein Zedan.
2. *Fuzzy Methods for Forensic Data Analysis*  
Kilian Stoffel, Paul Cotofrei and Dong Han.
3. *A New Weighted Rough Set Framework for Imbalance Class Distribution*  
[SP]  
Hala Own, Nehal Abd Al Aal and Ajith Abraham.

## Regular Sessions

### ***Gesture Recognition* – Tuesday, 11:30-01:00**

1. *Multi Stereo Camera Data Fusion for Fingertip Detection in Gesture Recognition Systems*  
Jörg Appenrodt and Ayoub Al-Hamadi
2. *Recognition of Signed Expressions Using Visually-Oriented Subunits Obtained by an Immune-Based Optimization*  
Mariusz Oszust and Marian Wysocki.
3. *Integration of Gesture and Posture Recognition Systems for Interpreting Dynamic Meanings using Particle Filter [SP]*  
Omer Rashid Ahmad.

### ***Fuzzy Databases* – Tuesday, 11:30-01:00**

1. *Partial Approximative Set Theory: A Generalization of Rough Set Theory*  
Zoltàn Csajbòk.
2. *Possibilistic Contextual Skylines with Incomplete Preferences*  
Allel Hadjali, Olivier Pivert and Henri Prade.
3. *An Uncertain Database Model and a Query Algebra Based on Possibilistic Certainty*  
Patrick Bosc, Olivier Pivert and Henri Prade.

### ***Video Processing* – Tuesday, 11:30-01:00**

1. *An Efficient Method for Real-Time Activity Recognition*  
Samy Sadek, Ayoub Al-Hamadi, Bernd Michaelis and Usama Sayed.
2. *Mining Web Videos for Video Quality Assessment*  
Dubravko Culibrk, Milan Mirkovic, Predrag Lugonja and Vladimir Crnojevic.
3. *Crowd Behavior Detection by Statistical Modeling of Motion Patterns*  
Saira Saleem Pathan.

### ***Recognition* – Tuesday, 02:00-04:00**

1. *Ultra Fast Fingerprint Indexing for Embedded Systems*  
Ru Zhou, Sang W. Sin, Dong Ju Li, Tsuyoshi Isshiki and Hiroaki Kumieda.
2. *Speech recognition by indexing and sequencing*  
Simone Franzini and Jezekiel Ben-Arie.
3. *Iris Recognition Based on Multi-Block Gabor Statistical Features Encoding*  
Nadia Feddaoui.
4. *Investigating Analysis of Speech Content through Text Classification*  
Souraya Ezzat, Neamat El Gayar and Moustafa Ghanem.

**Web Information Retrieval – Tuesday, 02:00-04:00**

1. *TIGER: Querying a Relational Table through Criteria Extension*  
Yoann Pitarch, Dominique Laurent, Pascal Poncelet and Nicolas Spyrtos.
2. *Towards Ontology-Based Personalization of a Recommender System in Social Network* [SP]  
Kadima Hubert and Malek Maria.
3. *Background Subtraction for Object Detection Under Varying Environments* [SP]  
Saeed Vahabi, Behnam Hosseini and Syed Abd. Rahman Al-Attas.
4. *Peculiar Image Search by Web-extracted Appearance Descriptions*  
Shun Hattori.

**Particle Swarm Optimization – Wednesday, 10:30-12:30**

1. *A Discrete Particle Swarm Optimization with Random Selection for Shortest Path Problem*  
Marina Yusoff, Junaidah Ariffin and Azlinah Mohamed.
2. *A PSO Algorithm to Solve a Real Anaesthesiology Nurse Scheduling Problem*  
Leopoldo Altamirano, Maria-Cristina Riff and Lorraine Trilling.
3. *Mapping Loops onto Coarse-Grained Reconfigurable Architectures using Particle Swarm Optimization*  
Rani Gnanaolivu, Theodore S. Norvell and Ramachandran Venkatesan.
4. *Particle Swarm Based Fixed Order Controller Design and System Simulation* [SP]  
Faizullah Mahar and Syed Saad Azhar Ali.

**Hand Writing & Text Recognition – Wednesday, 10:30-12:30**

1. *Flexible Optimization of Text Recognition Algorithms*  
Britta Meixner, Florian Pein and Harald Kosch.
2. *Learning Spatial Relationships in Hand-Drawn Patterns Using Fuzzy Mathematical Morphology*  
Adrien Delaye and Eric Anquetil.
3. *Automatic Titling of Electronic Documents with Noun Phrase Extraction* [SP]  
Cédric Lopez, Violaine Prince and Mathieu Roche.
4. *Signature Verification Using PSO* [SP]  
Siti Hakimah Manshor, Shuzlina Abdul Rahman, May Lin Yap, Sofianita Mutalib and Azlinah Mohamed.

**Object Tracking – Wednesday, 10:30-12:30**

1. *Multi-Object Tracking Using Feed-Forward Neural Networks*  
Uwe Jaenen, Christian Paul, Michael Wittke and Joerg Haehner.
2. *A Self-Growing Bayesian Network Classifier for Online Learning of Human Motion Patterns*  
Zhuo Chen and N.H.C. Yung.
3. *Inter-Camera Color Calibration for Object Re-identification and Tracking*  
Atif Ilyas, Mihaela Scuturici and Serge Miguet.

**Clustering-SVM – Wednesday, 02:00-04:00**

1. *Spectral and Spatial Classification of Earthquake Images by Support Vector Selection and Adaptation [SP]*  
Gulsen Taskin Kaya, Okan K. Ersoy and Mustafa E. Kamasak.
2. *3D Object Recognition Based on SVM and Stereo-Vision : Application in 3D endoscopic imaging [SP]*  
Jad Ayoub, Bertrand Granado, Yasser Mhanna and Olivier Romain.
3. *Harmony Search Algorithm for Simultaneous Clustering and Feature Selection*  
Hadi Sarvari, Nima Khairdoost and Abdolvahab Fetanat.
4. *An Innovative Algorithm for Clustering Retail Items*  
Pradip Bala.

**Data Mining – Wednesday, 02:00-04:00**

1. *Rough Set and CART Approaches to Mining Incomplete Data*  
Jerzy Grzymala-Busse.
2. *Horizontal Format Data Mining with Extended Bitmaps [SP]*  
Buddhika De Alwis, Supun Malinga, Kathiravelu Pradeeban, Denis Weerasiri and Shehan Perera.
3. *Fuzzy Gradual Patterns: What Fuzzy Modality For What Result?*  
Sarrah Ayouni, Sadok Ben Yahia, Anne Laurent and Pascal Poncet.
4. *Prediction of the MSCI EURO Index Based on Fuzzy Grammar Fragments Extracted from European Central Bank Statements*  
Viorel Milea, Nurfadhline Mohd Sharef, Rui Jorge Almeida, Uzay Kaymak and Flavius Frasinca.

**Face Recognition (1) – Wednesday, 02:00-04:00**

1. *Integration of Geometric and Dynamic Features for Facial Expression Recognition in Color Image Sequences [SP]*  
Robert Niese, Ayoub Al-Hamadi and Bernd Michaelis.



2. *Single Training Sample Face Recognition Using Fusion of Gabor Responses*  
Reza Ebrahimpour, Masoom Nazari, Ali Amiri, Mehdi Azizi and Mahmoud Rahat.
3. *Improved SOM Search Algorithm for High-Dimensional Data with Application to Face Recognition across Pose and Illumination*  
Alaa Sagheer.

**Face Recognition (2) – Friday, 09:00-10:30**

1. *Two-Dimensional Robust Neighborhood Discriminant Embedding in Face Recognition*  
Jiuqiang Han, Dexing Zhong, Xinman Zhang and Yongli Liu.
2. *Automatic Blush Detection in “Concealed Information” Test Using Visual Stimuli*  
Karl Harmer, Shigang Yue, Kun Guo and Karen Adams.
3. *Low Resolution Face Recognition Using Combination of Diverse Classifiers [SP]*  
Reza Ebrahimpour, Naser Sadeghnejad, Ali Amiri and Abolfazl Moshtagh.

**DNA Sequence Alignment & Bio Applications – Wednesday, 04:30-06:30**

1. *DNA Microarray Classification by Means of Weighted Voting Based on Rough Set Classifier*  
Przemysław Górecki and Piotr Artiemjew.
2. *Classifiers Based on Rough Mereology in Analysis of DNA Microarray Data*  
Piotr Artiemjew.
3. *Parallel AlineaGA: An Island Parallel Evolutionary Algorithm for Multiple Sequence Alignment*  
Fernando Silva, Juan Sánchez Pérez, Juan Gomez and Miguel A. Vega-Rodríguez.
4. *Parallel Protein Sequence Matching on Multicore Computers*  
Fadi Sibai and Nazar Zaki.

**Classifiers (1) – Wednesday, 04:30-06:30**

1. *Similarity Learning in Nearest Neighbor, Positive Semi-Definitiveness and Relief Algorithm*  
Ali Qamar and Eric Gaussier.
2. *Classification by Means of Fuzzy Analogy-Related Proportions – A Preliminary Report*  
Henri Prade, Gilles Richard and Bing Yao.

3. *Solving Data Fusion Problems Using Robust Classifiers Combination*  
Afef Ben Brahim, Riadh Khanchel and Mohamed Limam.
4. *Using NCL, an Effective Way to Improve Combination Methods of Neural Classifiers* [SP]  
Arash Iranzad, Saeed Masoudnia, Fatemeh Cheraghchi, Abbas Nowzari and Reza Ebrahimpour.

***Classifiers (2) – Thursday, 10:30-12:30***

1. *When Classifier Selection Meets Information Theory: A Unifying View*  
Mohamed Farouk Abdel Hady, Friedhelm Schwenker and Günther Palm.
2. *Use of Neighborhood and Stratification Approaches to Speed up Instance Selection Algorithm*  
Frederic Ros, Rachid Harba and Marco Pintore.
3. *Breast Cancer Diagnostic System Using Symbiotic Adaptive Neuro-evolution (SANE)* [SP]  
R.R. Janghel, Anupam Shukla and Ritu Tiwari.
4. *Multivariate Filter and Particle Swarm Optimisation in Protein Function Classification* [SP]  
Shuzlina Abdul Rahman, Azuraliza Abu Bakar and Zeti-Azura Mohamed-Hussein.
5. *Improving the Accuracy of Intrusion Detection Systems by Using the Combination of Machine Learning Approaches* [SP]  
Hadi Sarvari and Mohamad Mehdi Keikha.

***Optimization Techniques – Wednesday, 04:30-06:30***

1. *Pheromone Trail Initialization with Local Optimal Solutions in Ant Colony Optimization*  
Hitoshi Kanoh and Yosuke Kameda.
2. *Using Ants as a Genetic Crossover Operator in GLS to Solve STSP*  
Hassan Ismkhan and Kamran Zamanifar.
3. *A Generative Solution for ATM Cash Management*  
Roberto Armenise, Cosimo Birtolo, Eugenio Sangianantoni and Luigi Troiano.
4. *Application of Learning Automata and Genetic for DAG Scheduling*  
Habib Motee Ghader.

***Times Series & Data Streams – Thursday, 10:30-12:30***

1. *High-Order Type-2 Fuzzy Time Series*  
Youdthachai Lertworaprachaya, Yingjie Yang and Robert John.

2. *Neighborhood Evaluation in Acquiring Stock Trading Strategy Using Genetic Algorithms* [SP]  
Kazuhiro Matsui and Haruo Sato.
3. *A DCT Based Approach for Detecting Novelty and Concept Drift in Data Streams*  
Morteza Zi Hayat and Mahmoud Reza Hashemi.
4. *Fuzzy Co-Transform and its Application to Time Series*  
Luigi Troiano.

***Design & Diagnosis – Friday, 09:00-10:30***

1. *Design Optimization of Analog Integrated Circuits by Using Neural Networks* [SP]  
Ali Jafari, Saeed Sadri and Maryam Zekri.
2. *FPGA Based Real Time Fuzzy Fault Detection Algorithm*  
Ilhan Aydin, Mehmet Karakose and Erhan Akin.
3. *Concentric Circular Antenna Array Synthesis with a Differential Invasive Weed Optimization Algorithm*  
Siddharth Pal, Aniruddha Basak, Swagatam Das, Ajith Abraham and Ivan Zelinka.

***Applications – Friday, 09:00-10:30***

1. *Stability Criterion of Angle Tracking Systems in Real Time under Conditions of Interference Distorting Direction Finding Characteristic*  
Evgeny Markin.
2. *Image Annotation Using Fuzzy Knowledge Representation Scheme*  
Marina Ivasic-Kos, Slobodan Ribaric and Ivo Ipsic.
3. *Profiling the Power Usage of Industrial Machinery by ANN* [SP]  
Stefano Ierace, Pasquale Marinaro, Pasquale Tatavitto and Luigi Troiano.

***Steganography-Watermarking-Copyrighting – Friday, 02:00-04:00***

1. *Intelligent Copyright Protection Framework for Irregular Large Meshes*  
Saad M. Darwish.
2. *Damageless Image Hashing Using Neural Network*  
Kensuke Naoe and Yoshiyasu Takefuji.
3. *Comparison of High Capacity Steganography Techniques*  
Rosanne English.
4. *An Optimized Fingerprinting System for Tamper Proof and Copy Control of XML Documents* [SP]  
Saad M. Darwish.

***Image Processing – Friday, 02:00-04:00***

1. *Noise-Enhanced Nonlinear PDE for Edge Restoration in Scalar Images*  
[SP]  
Aymeric Histace and David Rousseau.
2. *Automatic Image Segmentation of Greenness in Crop Fields*  
Gonzalo Pajares.
3. *Active Focus and Zoom Control Used for Scene Analysis* [SP]  
David Bailly and Philippe Gaussier.
4. *Image Fusion on the Basis of F-Transform*  
Irina Perfilieva, Martina Dankova, Petra Hodakova and Marek Vajgl.