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ADAPTIVE FILTERING AND ANALYSIS I

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Type: Special Session

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Type: Special Session

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Type: Special Session

Time & Place: 15.00 – 16.30, Hall A

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Type: Special Session

Time & Place: 15.00 – 16.30, Hall A

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SESSION T1A:

NONLINEAR AND MORPHOLOGICAL SIGNAL AND IMAGE PROCESSING I

Type: Special Session

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Type: Special Session

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Type: Special Session

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Type: Special Session

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Type: Special Session

Time & Place: 15.00 – 16.30, Hall A

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Type: Special Session

Time & Place: 15.00 – 16.30, Hall C

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Volume II

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P. GOMEZ, *Universidad Politecnica de Madrid (Spain)*

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Type: Lecture

Time & Place: 9.30 – 11.00, Hall C

Chairpersons: S. THEODORIDIS, *University of Athens (Greece)*

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Chairpersons: H. KITAJIMA, *Hokkaido University (Japan)*

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Type: Lecture

Time & Place: 11.30 – 13.00, Hall B

Chairpersons: V. CAPPELLINI, *Universita di Firenze (Italy)*

A. MECOCCI, *Universita di Siena (Italy)*

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WAVELETS IN SIGNAL AND IMAGE PROCESSING

Type: Lecture

Time & Place: 11.30 – 13.00, Hall C

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J. MOURJOPOULOS, *University of Patras (Greece)*

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SESSION W2P:

SPEECH PROCESSING I

Type: Poster

Time & Place: 11.30 – 13.00, Poster Area

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N. FAKOTAKIS, *University of Patras (Greece)*

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- W2P.2 **Automatic Demi-Syllable Extraction for Speech Synthesis Utilising Artificial Neural Networks** 579
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- W2P.3 **A Method to Extract Articulatory Parameters from the Speech Signal Using Neural Networks** 583
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- W2P.5 **LSP-Based Speech Modification for Intelligibility Enhancement** 591
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- W2P.6 **Wideband Speech Coding on the Basis of Multirate Filterbank Trees** 439
R.T. PIETSCH and A. LACROIX, *Johann Wolfgang Goethe-Universität (Germany)*
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SESSION W3B:

NOISE REDUCTION / CANCELLATION

Type: Lecture

Time & Place: 15.00 – 16.30, Hall B

Chairpersons: f harris, *San Diego State University (USA)*
G. KOKKINAKIS, *University of Patras (Greece)*

- W3B.1 **Performance and Design Considerations of Farrow Filter used for Arbitrary Resampling** 595
F HARRIS, *San Diego State University (USA)*
- W3B.2 **A Robust Method for Parameter Estimation of Signal-Dependent Noise Models in Digital Images** 601
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S. BARONTI, *Nello Carrara IROE-CNR (Italy)*
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Type: Poster

Time & Place: 15.00 – 16.30, Poster Area

Chairpersons: J. ASTOLA, *Tampere University of Technology (Finland)*
G.S. MOLLOVA, *UACG (Bulgaria)*

W3P.1	Toolbox for the Design of IIR Digital Filters H. LEICH, <i>Faculte Polytechnique de Mons (Belgium)</i>	621
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SIGNAL PROCESSING: ARCHITECTURES AND IMPLEMENTATIONS

Type: Lecture

Time & Place: 17.00 – 18.30, Hall B

Chairpersons: A. SPANIAS, *Arizona State University (USA)*
V. ANASTASSOPOULOS, *University of Patras (Greece)*

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SESSION T1B:

COMPUTER VISION

Type: Lecture

Time & Place: 9.30 – 11.00, Hall B

Chairpersons: B.G. MERTZIOS, *Democritus University of Thrace (Greece)*

N.P. PAPANIKOLOPOULOS, *University of Minnesota (USA)*

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SESSION T1C:

SIGNAL AND SYSTEM MODELING I

Type: Lecture

Time & Place: 9.30 – 11.00, Hall C

Chairpersons: G.B. GIANNAKIS, *University of Virginia (USA)*

M. SHIRAKAWA, *Electronic Navigation Research Institute (Japan)*

- T1C.1 **The Analysis and Model Design of Aircraft Vertical Profile Using Factor Analysis** 699
M. SHIRAKAWA, *Electronic Navigation Research Institute (Japan)*
- T1C.2 **Modified Extended Kalman Filtering** 703
D.S. WALL, *The University of Birmingham (UK)*; F.M.F. GASTON, *The University of California (USA)*
- T1C.3 **Properties of the Asymptotic Quasi-Likelihood Estimate of a Linear Model** 707
S. MVOI, Y.-X. LIN, R. BIONDINI, *The University of Wollongong (Australia)*
- T1C.4 **State of System Approximation for Stochastic Systems** 711
A.R. STUBBERUD, P. C. PERRYMAN, *University of California (USA)*
- T1C.5 **Study of Dynamics of a Fourth-Order Autonomous Nonlinear Electric Circuit** 715
I.N. STOUBOULOS, I.M. KYPRIANIDIS, *Aristotle University of Thessaloniki (Greece)*
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SESSION T1P:

NEURAL NETWORKS I

Type: Poster

Time & Place: 9.30 – 11.00, Poster Area

Chairpersons: N. PAPAMARKOS, *Democritus University of Thrace (Greece)*

C. PATTICHIS, *University of Cyprus (Cyprus)*

- T1P.1 **A Performance Analysis of the Multilayer Perceptron in Limited Training Data Set Conditions** 719
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- T1P.2 **Improving Neural Network Learning Through Output Vector Scaling** 723
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- T1P.3 **Off-Line Signature Verification Using Multiple Neural Network Classification Structures** 727
N. PAPAMARKOS, H. BALTZAKIS, *Democritus University of Thrace (Greece)*
- T1P.4 **Analog Implementation of the Incremental Credit Assignment ICRA Scheme for Time Series Classification** 731
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- T1P.5 **The Encoded Sequence Representation in Multilayer Networks** 735
M.H. ABDALLAH, *Princess Sumaya University (Jordan)*

SESSION T2B:

SPEECH PROCESSING II

Type: Lecture

Time & Place: 11.30 – 13.00, Hall B

Chairpersons: C.S. XYDEAS, *University of Manchester (UK)*
P. NAYLOR, *Imperial College (UK)*

- T2B.1 **On the Representation/Quantisation of Variable Size Magnitude Spectral Information in Prototype Interpolation Coders** 741
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- T2B.2 **Vocalic System Modeling: A VQ Approach** 745
F. PELLEGRINO, R. ANDRE-OBRECHT, *Institut de Recherche en Informatique de Toulouse (France)*
- T2B.3 **Stability of a Voice Activity Detector Based on Source Separation** 749
N. DOUKAS, T. STATHAKI, P. NAYLOR, *Imperial College (UK)*
- T2B.4 **A Robust Word Boundary Detection Algorithm with Application to Speech Recognition** 753
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- T2B.5 **Robust Speech/Non Speech Detection in Adverse Conditions Using an Entropy Based Estimator** 757
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- T2B.6 **Quadratic Classifier in Nonstationary Pattern Recognition Systems and its Application to Robust AR Speech Analysis** 761
M. MARCOVIC, *Institute of Applied Mathematics and Electronics (Yugoslavia)*; B. KOVACEVIC, *University of Belgrade (Yugoslavia)*; M. MILOSAVLJEVIC, *Institute of Applied Mathematics and Electronics (Yugoslavia)*
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SESSION T2C:

TRANSFORMS AND TIME-FREQUENCY REPRESENTATION

Type: Lecture

Time & Place: 11.30 – 13.00, Hall C

Chairpersons: M. PORAT, *Technion (Israel)*
C. CHAMZAS, *Democritus University of Thrace (Greece)*

- T2C.1 **Non-Stationary Signal Processing Using Time-Frequency Filter Banks** 765
A. FRANCOIS, M. PORAT, *Technion (Israel)*
- T2C.2 **A Non-Negative Approximate Wigner Distribution with Accurate Low-Order Moments** 769
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- T2C.3 **Optimal Signal Reconstruction from Spectral Amplitude** 773
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- T2C.4 **A Doppler Frequency Estimate Using the Instantaneous Frequency** 777
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T2C.6 **Sampling on Polar Coordinates** 785
N. MYRIDIS, N. PAPAMARKOS, C. CHAMZAS, *Democritus University of Thrace (Greece)*

SESSION T2P:

MOTION ESTIMATION AND CODING

Type: Poster

Time & Place: 11.30 – 13.00, Poster Area

Chairpersons: T. STOURAITIS, *University of Patras (Greece)*

V. RUIZ, *Computer Technology Institute (Greece)*

T2P.1 **Fractal Dimension Driven Bit-Rate Allocation Strategy for Video Sequence Coding** 789
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Fondazione Ugo Bordoni (Italy)

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T2P.4 **Efficient Implementation of MPEG Video Codec Using Dual Processors** 801
V. SANKAR, S. SRINIVASAN, S.R. RANGARAJAN, *Indian Institute of Technology (India)*

T2P.5 **Motion Estimation Through Approximated Densities** 805
V. RUIZ, *Computer Technology Institute (Greece)*;
A.N. SKODRAS, *University of Patras (Greece)*

T2P.6 **Motion Detection Independent of the Camera Movement with a Log-Polar Sensor** 809
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T2P.7 **Use of MRI Spin Tagging for Position Tracking and Deformation Calculation in a Stretching Phantom;** 813
C.D. CONSTANTINIDES, E. MCVEIGH, *The Johns Hopkins University School of Medicine (USA)*

SESSION T3B:

SIGNAL AND IMAGE PROCESSING I

Type: Lecture

Time & Place: 15.00 – 16.30, Hall B

Chairpersons: A. STAFYLOPATIS, *National Technical University of Athens (Greece)*

D. HATZINAKOS, *University of Toronto (Canada)*

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T3B.4	A Simple Way for a 3-D Simulation	829
	A. KARAKOS, <i>Democritus University of Thrace (Greece)</i> ; TH. PAPADIMITRIOU, <i>Aristotle University of Thessaloniki (Greece)</i>	
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SESSION T3C:

IMAGE AND VIDEO CODING

Type: Lecture

Time & Place: 15.00 – 16.30, Hall C

Chairpersons: J. CORNELIS, *Vrije Universiteit Brussel (Belgium)*

C. SCHIZAS, *University of Cyprus (Cyprus)*

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	L. ALPARONE, <i>University of Florence (Italy)</i>	
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SESSION T3P:

IMAGE PROCESSING I

Type: Poster

Time & Place: 15.00 – 16.30, Poster Area

Chairpersons: I. PITAS, *Aristotle University of Thessaloniki (Greece)*
J. G. TAYLOR, *King' s College (UK)*

- T3P.1 **Facial Feature Extraction Using Adaptive Hough Transform, Template Matching and Active Contour Models** 865
A. NIKOLAIDIS, C. KOTROPOULOS, I. PITAS, *Aristotle University of Thessaloniki (Greece)*
- T3P.2 **Compact Hough Transform and a Maximum Likelihood Approach to Cell Nuclei Detection** 869
T. MOUROUTIS, S.J. ROBERTS, A.A. BHARATH, *Imperial College (UK)*; G. ALUSI, *Nose and Throat Hospital (UK)*
- T3P.3 **A New Method for Restoration of Still Images in the Presence of Gaussian and Impulse Noise** 873
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- T3P.4 **Skeletal Lines in Gray-Tone Digital Pictures** 879
C. ARCELLI, G. RAMELLA, *Istituto di Cibernetica, CNR (Italy)*
- T3P.5 **A Method of Approximate Multidimensional Factorization via the Singular Value Decomposition** 883
N. MASTORAKIS, *Hellenic Naval Academy (Greece)*
- T3P.6 **A Continuous Putonghua Recognizer** 889
P.-K. WONG, C. CHAN, *The University of Hong Kong (Hong Kong)*
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SESSION T4C:

SIGNAL AND SYSTEM MODELING II

Type: Lecture

Time & Place: 17.00 – 18.30, Hall C

Chairpersons: A.M. KROT, *Belarusian Academy of Sciences (Belarus)*
S.D. LIKOTHANASSIS, *University of Patras (Greece)*

- T4C.1 **Algorithms and Multiplicative Complexity of the Reduction a Modulo Arbitrary Polynomial, Generalized KN-Convolution and Fast Vandermonde Transform** 893
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- T4C.2 **An Algorithm for Uniform Orthogonalization** 899
P.L.D. PERES, A. LOPES, I. S. BONATTI, *University of Campinas (Brazil)*
- T4C.3 **Two Identification Methods of Chirp Parameters Using State Space Models** 903
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T4C.6	A Real – Time ARMA Model Structure Identification Method S.D. LIKOTHANASSIS, E.N. DEMIRIS, <i>University of Patras (Greece)</i> ; D.G. KARELIS, <i>T.E.I of Patras (Greece)</i>	915

SESSION F1B:

ARRAY SIGNAL PROCESSING

Type: Lecture

Time & Place: 9.30 – 11.00, Hall B

Chairpersons: H. LEICH, *Facult_Polytechnique de Mons (Belgium)*

S.G. TZAFESTAS, *National Technical University of Athens (Greece)*

F1B.1	Performance Analysis of Time Delay Estimation in a Multi-Path Environment M. JIAN, A.C. KOT, M.H. ER, <i>Nanyang Technological University (Singapore)</i>	919
F1B.2	Neural Networks Based Sensorial Signal Fusion: An Application to Material Identification S.G. TZAFESTAS, Y. ANTHOPOULOS, <i>National Technical University of Athens (Greece)</i>	923
F1B.3	A Method for MISO Systems Identification Using Third-Order Cumulants D. KORZE, D. ZAZULA, B. POTOCNIK, <i>University of Maribor (Slovenia)</i>	927
F1B.4	An Efficient Algorithm for Detecting and Tracking Moving Targets J.A.M. MORENO, F. DE LA TORRE FRADE, E.S. PEREZ, <i>Universitat Ramon Llull (Spain)</i>	931
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SESSION F1P:

SIGNAL AND IMAGE PROCESSING II

Type: Poster

Time & Place: 9.30 – 11.00, Poster Area

Chairpersons: M. RENFORS, *Tampere University of Technology (Finland)*

G. ECONOMOU, *University of Patras (Greece)*

F1P.1	Derivative Approximations for Sampled Signals Based on Polynomial Interpolation H. RIDHA, J. VESMA, T. SARAMAKI, M. RENFORS, <i>Tampere University of Technology (Finland)</i>	939
F1P.2	Total Least Squares Filter for Robot Localization T. YANG, <i>Linkoping University (Sweden)</i>	943

F1P.3	A Vector-Correlative Method for Dynamic Object State Recognition A.A. BORISKEVICH, V.V. KHRABROV, <i>Institute of Engineering Cybernetics AS of Belarus (Belarus)</i>	949
F1P.4	Pre-Filtering Non-Stationary Signals to Improve Blind Source Separation A.K. BARROS, <i>Nagoya University (Japan)</i> ; N. OHNISHI, <i>RIKEN BMC Research Center (Japan)</i>	953
F1P.5	Some Properties of Relaxed Median Filters A.B. HAMZA, <i>University of Granada (Spain)</i>	957
F1P.6	Digital Treatment of Non-Linearities DAB Application P. DEBREUX, <i>TDF-C2R (France)</i> ; P. NUS, T. CECCHIN, <i>CRAN CNRS URA, Universite H. Poincare (France)</i>	961
F1P.7	Tone Interference Suppression in DS Spread Spectrum Systems by Estimation of the Conditional Mean V. BENGIN, <i>University of Novi Sad (Yugoslavia)</i> ; Z. DOBROSAVLJEVIC, <i>University of Belgrade (Yugoslavia)</i>	965
F1P.8	Recursive Blind Equalizer Based on Godard's Criterion for FM Broadcasting D. NUSSBAUM, P. SCOMAZZON, <i>TDF-C2R (France)</i>	969
F1P.9	Exploratory Analysis of Electrotelluric Field Data for Earthquake Prediction A. IFANTIS, G. ECONOMOU, S. DESPOTOPOULOS, A. TSELENTIS, T. DELIYANNIS, <i>University of Patras (Greece)</i>	973

SESSION F2B:

NEURAL NETWORKS II

Type: Lecture

Time & Place: 11.30 – 13.00, Hall B

Chairpersons: G. VACHTSEVANOS, *Georgia Institute of Technology (USA)*
S. FOTOPOULOS, *University of Patras (Greece)*

F2B.1	Autonomous Vehicles: From Flight Control to Mission Planning Using Fuzzy Logic Techniques G. VACHTSEVANOS, W. KIM, S. AL-HASAN, F. RUFUS, M. SIMON, D. SHRAGE, J.V.R. PRASAD, <i>Georgia Institute of Technology (USA)</i>	977
F2B.2	Stable Factorization of 2-D Polynomials Using Neural Networks G. ANTONIOU, <i>Montclair State University (USA)</i> ; S.J. PERANTONIS, N. AMPAZIS, S.J. VAROUFAKIS, <i>Institute of Informatics & Telecommunications, NRCPS "Demokritos" (Greece)</i>	983
F2B.3	Fuzzy Color Filtering Using Potential Functions A. FOTINOS, N. LASKARIS, S. FOTOPOULOS, <i>University of Patras (Greece)</i>	987
F2B.4	Dynamically Pruning Output Weights in an Expanding Multilayer Perceptron Neural Network H. AMIN, K.M. CURTIS, B.R. HAYES GILL, <i>University of Nottingham (UK)</i>	991

- F2B.5 **Fast and Efficient Land-Cover Classification of Multispectral Remote Sensing Data Using Artificial Neural Network Techniques** 995
 N. VASSILAS, E. CHAROU, S. VAROUFAKIS, *Institute of Informatics & Telecommunications, N.C.S.R. "Demokritos" (Greece)*
- F2B.6 **Document Block Identification Using a Neural Network** 999
 C. STROUTHOPOULOS, N. PAPAMARKOS, *Democritus University of Thrace (Greece)*

SESSION F2C:

SIGNAL PROCESSING: IMPLEMENTATIONS

Type: Lecture

Time & Place: 11.30 – 13.00 Hall C

Chairpersons: K.M.M. PRABHU, *Indian Institute of Technology (India)*
 E. ZIGOURIS, *University of Patras (Greece)*

- F2C.1 **In-Lab Performance Evaluation Results of Interference Canceling Equaliser (ICE)** 1003
 H. YOSHINO, *NTT Mobile Communications Network (Japan)*; H. SUZUKI, *Tokyo Institute of Technology (Japan)*
- F2C.2 **Compiling Multimedia Applications on a VLIW Architecture** 1007
 R. SAKELLARIOU, E.A. STOHR, *The University of Manchester (UK)*; M.F.P. O'BOYLE, *University of Edinburgh (UK)*
- F2C.3 **Optimal Automatic Hardware Synthesis for Signal Processing Algorithms** 1011
 N. KOZIRIS, G. ECONOMAKOS, T. ANDRONIKOS, G. PAPAKONSTANTINOY, P. TSANAKAS, *National Technical University of Athens (Greece)*
- F2C.4 **An Integrated Environment for Real-Time Implementation of DSP Algorithms** 1015
 P.D. PAPADIMITRIOU, N.-A.I. LIVANOS, E. ZIGOURIS, *University of Patras (Greece)*
- F2C.5 **Adaptive Digital Filter Implementation for Image Processing** 1019
 V.I. PONOMARYOV, *Instituto Politecnico Nacional, ESIME (Mexico)*; A.B. POGREBNIYAK, V.M. VELASCO, *Kharkov Aviation Institute (Ukraine)*

SESSION F2P:

DETECTION – ESTIMATION ARRAY PROCESSING

Type: Poster

Time & Place: 11.30 – 13.00, Poster Area

Chairpersons: K. BERBERIDIS, *Computer Technology Institute (Greece)*
 A. IFANTIS, *Technological Educational Institute of Patras (Greece)*

- F2P.1 **Sinusoidal Signal Detection Using the Minimum Description Length and the Predictive Stochastic Complexity** 1023
 S. VALAEE, *Tarbiat Modares University (Iran)*; B. CHAMPAGNE, *INRS Telecommunications (Canada)*;
 P. KABAL, *McGill University (Canada)*

F2P.2	Equalization and Detection in Nonlinear Storage Channels with Signal-Dependent Noise	1027
	N.M. ZAYED, L.R. CARLEY, <i>Carnegie Mellon University (USA)</i>	
F2P.3	Multiple-Sensor Distributed Detection Systems with Data Fusion	1031
	A.M. ASHRAF, <i>Naval Postgraduate School (USA)</i>	
F2P.4	Extended HTLS Methods for Parameter Estimation of Multiple Data Sets Modeled as Sums of Exponentials	1035
	H. CHEN, <i>Eindhoven University of Technology (The Netherlands)</i> ; S. VAN HUFFEL, <i>Katholieke Universiteit Leuven (Belgium)</i> ; A.V.D. BOOM, P.V.D. BOSCH, <i>Eindhoven University of Technology (The Netherlands)</i>	
F2P.5	Spatial Weighting in Signal Subspace Direction-of-Arrival Estimation	1039
	J.W.C. ROBINSON, <i>National Defence Research Establishment (Sweden)</i>	
F2P.6	Blind Methods for Interference Cancellation in Array Processing	1043
	J. GALY, <i>E.N.S.I.C.A (France)</i> ; C. ADNET, E. CHAUMETTE, <i>THOMSON-CSF AIRSYS (France)</i>	
F2P.7	Localisation of Multiple Sources Using Propagation Operator in the Presence of Unknown Noise Fields	1047
	S. BOURENNANE, <i>C.M.C.S. CNRS URA 2053 (France)</i>	
F2P.8	COFDM with Tone Interference	1051
	PH. MADEC, <i>CCETT, Cesson-Sevigne (France)</i>	

SESSION F3B:

SIGNAL PROCESSING

Type: Lecture

Time & Place: 15.00 – 16.30, Hall B

Chairpersons: J.J. WERNER, *Bell Laboratories (USA)*

K.W. MARTIN, *University of Toronto (Canada)*

F3B.1	Dynamical Analysis of All Digital Symbol Timing Recovery in Twisted pair Broadband Receivers	1055
	J. MARIS, P. SCHAUMONT, S. VERNALDE, M. ENGELS, I. BOLSENS, <i>IMEC (Belgium)</i>	
F3B.2	Fast Generation of Synthetic Nonuniformly Sampled Signals: From Quantized to Continuous Sampling Intervals	1059
	L. NITA, J. OKSMAN, <i>Ecole Nationale Supérieure d'Electricite (France)</i>	
F3B.3	Acceleration of the Remez Exchange Algorithm for the Design of Loo Optimum FIR Filters	1063
	E.Z. PSARAKIS, G.V. MOUSTAKIDES, <i>University of Patras (Greece)</i>	
F3B.4	Cosine-Modulated Perfect Reconstruction IIR Filter Bank With Good Time-Frequency Resolution	1067
	S. ZNIDAR, <i>University of Ljubljana (Slovenia)</i>	
F3B.5	Small Side-Lobe Channel-Banks Suitable for Multi-Tone Data-Communications	1071
	K.W. MARTIN, <i>University of Toronto (Canada)</i>	

F3B.6 **VLSI Implementation of an Eight-State Clustering Based Sequence Equalizer** 1075
K. GEORGOULAKIS, *University of Athens (Greece)*; D.G. DOUMENIS, G. AGGOURAS,
E. FRANTZESKAKIS, *Intracom (Greece)*

F3B.7 **Optimal Piecewise Linear Approximation of Digitized Curves** 1079
G. MANIS, G. PAPA KONSTANTINOY, P. TSANAKAS, *National Technical
University of Athens (Greece)*

SESSION F3P:

IMAGE PROCESSING II

Type: Poster

Time & Place: 15.00 – 16.30, Poster Area

Chairpersons: Y. XIONG, *The University of Hong Kong (Hong Kong)*
N. ALVERTOS, *University of Crete (Greece)*

F3P.1 **Slice Interpolation Using the Distance Transform and Morphing** 1083
B. LUO, E.R. HANCOCK, *York University (UK)*

F3P.2 **Robust Segmentation of Vessels from Retinal Angiography** 1087
F. ZANA, J.C. KLEIN, *Centre de Morphologie Mathematique, Ecole des Mines
de Paris (France)*

F3P.3 **An Interpolation-Filtering Method for Noise-Corrupted Images** 1091
PH. COURMONTAGNE, J.F. CAVASSILAS, *Universite de Toulon et du Var (France)*

F3P.4 **Contextual Modelling of Hand Written Chinese Character for Recognition (II) –
Discriminative Training** 1095
Y. XIONG, Q. HUO, C. CHAN, *The University of Hong Kong (Hong Kong)*

F3P.5 **Contextual Modeling of Hand Written Chinese Character for Recognition (I)
–A Comparative Study** 1099
Y. XIONG, C. CHAN, *The University of Hong Kong (Hong Kong)*

F3P.6 **An Efficient Data Mining Technique with Applications in Multivariate Image Analysis** 1103
N. LASKARIS, S. FOTOPoulos, *University of Patras (Greece)*

F3P.7 **Maximum Likelihood Texture Classification and Bayesian Texture Segmentation
using Discrete Wavelet Frames** 1107
S. LIAPIS, N. ALVERTOS, G. TZIRITAS, *University of Crete (Greece)*

F3P.8 **Binomial Linear Predictive Approach to Texture Modeling** 1111
C. BECCHETTI, *University of Rome II, La Sapienza 2 (Italy)*; P. CAMPISI,
University of Rome III (Italy)

SESSION F4B:

MOTION DETECTION AND ESTIMATION

Type: Lecture

Time & Place: 17.00 – 18.30, Hall B

Chairpersons: K. KONSTANTINIDES, *Hewlett-Packard Laboratories (USA)*
G. TZIRITAS, *University of Crete (Greece)*

- F4B.1 **Robust Estimation of Slow Changes in Natural Outdoor Scenes Through a Geometric Matching Approach** 1115
S. BARONTI, A. CASINI, F. LOTTI, *IROE “Nello Carrara” – CNR (Italy)*
- F4B.2 **Motion Detection on Video Compressed Sequences as a Tool to Correlate Objective Measure and Subjective Score** 1119
L. BOCH, *RAI (Italy)*; S. FRAGOLA, R. LANCINI, *CEFRIEL (Italy)*; P. SUNNA, *Politecnico di Torino (Italy)*; M. VISCA, *CEFRIEL (Italy)*
- F4B.3 **Motion Estimation and Region Segmentation via Functional Optimization** 1123
C. CAFFORIO, E. DI SCIASCIO, C. GUARAGNELLA, *Politecnico di Bari (Italy)*
- F4B.4 **A Computationally Efficient Gradient Search Block Matching Algorithm for the Motion Estimation of Image Sequences** 1127
G. SINEVRIOTIS, T. STOURAITIS, *University of Patras (Greece)*
- F4B.5 **A Bridge Between Block Matching and Semantic (Model Based) Motion Estimation** 1131
B. CARPENTIERI, *Universita di Salerno (Italy)*
-

SESSION F4C:

IMAGE PROCESSING III

Type: Lecture

Time & Place: 17.00 – 18.30, Hall C

Chairpersons: A. ZAKNICH, *University of Western Australia (Australia)*
O. KOUFOPAVLOU, *University of Patras, (Greece)*

- F4C.1 **A Multi Resolution Segmentation Scheme and its Application to Edge Detection in Cardiac MR Image Sequences** 1135
T. ADALI, N. GUPTA, *University of Maryland, Baltimore (USA)* ; Y. WANG, *Georgetown University Medical Center (USA)*
- F4C.2 **Neural Network Edge Detectors for Separation of Particles in 2-D Grey-Scale Images** 1141
S.U.S. SIA, A. ZAKNICH, *University of Western Australia (Australia)*
- F4C.3 **Shape from Shading Using Robust Statistics** 1145
P.L. WORTHINGTON, E.R. HANCOCK, *University of York (UK)*
- F4C.4 **X-Ray Digital Image Improvement By Maximum Entropy** 1149
R. MUTIHAC, M. CANDUSSO, A.CERDEIRA, A. CICUTTIN, F. FRATNIK, A.A.COLAVITA, *ICTP-INFN-UNU Microprocessor Laboratory (Italy)*

F4C.5 Indexing Byzantine Cypriot Coinage Using Image Analysis	1153
A. LANITIS, A. NEOPHYTOU, <i>Cyprus College (Cyprus)</i>	
F4C.6 Regularization of Image Restoration Problems Based on FWPT Filtering Properties	1157
L. CARRACCIUOLO, L. D' AMORE, A. MURLI, <i>Center for Research on Parallel Computing and Supercomputers (Italy)</i>	
F4C.7 Temporal Matched Filters for Integration of Ocular Fundus Images	1161
L. BALLERINI, <i>University of Florence (Italy)</i>	