

***FUSION 99 Conference Program***

Not Submitted in time for CD

**Tuesday July 6****Session TA1 Naval Applications**

**Chair: Michael Larkin**, Naval Undersea Warfare Center

[C-167 Information Fusion in Undersea Warfare, Presentation Only](#)

[Michael J. Larkin, Naval Undersea Warfare Center, Newport, RI](#)

[C-121 Fusion of Multi-Sensor Information from an Undersea Distributed Field of Sensors,](#)

[Mark D. Hatch, Edward R. Jahn, and Joan L. Kaina, SPAWAR Systems Center, San Diego](#)

[C-123 Target Detection Performance by Fusing Information from Tracks Generated by Independent Waveforms, Robert S. Lynch,](#)

[Naval Undersea Warfare Center, Newport, RI](#)

[C-124 Signal Estimation using Selectably Fused Sensor Data of Varying Cost,](#)

[Douglas Cochran and Dana Sinno, Arizona State University, USA](#)

[C-061 Support Systems and Techniques for Submarine Sensor Fusion, Pailon Shar and X. Rong Li, Dept. of Electrical Engineering,](#)

[University of New Orleans, USA](#)

**Session TA2 Medical Applications**

**Chair: Robert Levinson**, University of California at Santa Cruz

[C-037 Discovering and Fusing Relevant Knowledge from Databases based on an Incremental Unsupervised Learning Approach, F.](#)

[Azuaje, Univ. of Ulster, Northern Ireland Bio-Engineering Centre, W. Dubitzky, Univ. of Ulster, Faculty of Informatics, N. Black,](#)

[University of Ulster, Faculty of Informatics, K. Adamson, Univ. of Ulster, Faculty of Informatics](#)

[C-027 Three Dimensional Data Fusion for Biomedical Surface Reconstruction,](#)

[J.M. Zachary and S.S. Iyengar, Dept. of Computer Science, Louisiana State University](#)

[C-120 A Neural Network Approach to Case Retrieval, Wendy X. Wu, School of Computing Science, Middlesex University, The](#)

[Burroughs, London, Werner Dubitzky, School of Information & Software Engineering, Northern Ireland Bio-Engineering Centre,](#)

[Univ. of Ulster, Francisco J. Azuaje, Univ. of Ulster, Northern Ireland Bio-Engineering Centre, UK](#)

[C-019 Proved Segmentation from Pictures Sequence by Evidence Theory, Application IRM Pictures,](#)

[L. Gautier, Laboratoire d'Analyse des Systemes du Littoral, Universite du Littoral Cote d'Opale, France](#)

[A. Taleb-Ahmed, Laboratoire d'Analyse des Systemes du Littoral, France](#)

[M. Rombaut, LM2S Universite Technologie de Troyes, France](#)

[J.G. Postaire, I3D Universite de Lille, H. Lecler, Institut Calor de Berck, France](#)

[C-105 Aorta Detection in Ultrasound Medical Image Sequences Using Hough Transform and Data Fusion,](#)

[R. Debon, Dept. Image et Traitement de l'Information Midicale \(LATIM\), Enst de Bretagne, France,](#)

[B. Solaiman, C. Roux](#)

## Session TA3 Decentralized Detection Systems

**Chair: Jane O'Brien, Defense Evaluation & Research Agency, U.K.**

[C-065 Minimal Energy Information Fusion in Sensor Networks, George Chapline, Lawrence Livermore, National Laboratory](#)

[C-115 FUSE – Fusion Utility Sequence Estimator, Belur V. Dasarathy and Sean D. Townsend, Dynetics, Inc., Huntsville, AL](#)

[C-171 Optimal Distributed Fusion Subject to Given Sensor Decisions, Yunmin Zhu, Dept. of Mathematics, Sichuan University, X.Rong Li, Dept. of Electrical Eng., Univ. of New Orleans](#)

[C-031 A Neural-Network Learning Method for Sequential Detection with Correlated Observations, Chengan Guo and Anthony Kuh, Dept. of Electrical Eng., University of Hawaii at Manoa](#)

[C-005 Adaptive Coordination and Integration of Decentralized Decisions, Akira Namatame, Japan Defense Academy](#)

## Session TA4 Formal Methods for Information Fusion

**Chair: Mitch Kokar, Northeastern University**

[C-129 An Approach to Automation of Fusion Using Specware, Hongge Gao, M.M. Kokar, J. Weyman Northeastern University, Boston, MA](#)

[C-126 Category Theory Approach to Fusion of Wavelet-Based Features, S.A. DeLoach, Air Force Institute of Technology, OH, and M.M. Kokar, Northeastern University, Boston, MA](#)

[C-130 Incorporating Uncertainty into the Formal Development of the Fusion Operator, Jingsong Li, M.M. Kokar, and J. Weyman, University, Boston, MA](#)

[C-125 A Formal Approach to Information Fusion, M.M. Kokar, J. Weyman, Northeastern University, Boston, MA, J.A. Tomasik, Universite Blaise Pascal](#)

[C-128 Formally Derived Characterization of the Performance of alpha-beta-gamma Filters, D. Tenne, SUNY Buffalo, T. Singh, SUNY, Buffalo, NY](#)

[C-127 Toward a Goal-Driven Autonomous Fusion System, J.A. Tomasik, Universite Blaise Pascal](#)

## Session TB1 Radar and Communication Applications of Fusion

**Chair: Rick Blum, Lehigh University**

[C-081 Clarifying the Conditions for Neyman-Pearson Optimum Distributed Signal Detection, Qing Yan and Rick Blum, Lehigh University, PA](#)

[C-042 An Algorithm to Enhance Coordinate Registration by Fusing Over-the-Horizon Radar Sensors, William J. Yssel and William C. Torrez, SPAWAR SYSCEN, San Diego, CA](#)

[C-080 Field Evaluations of Dual-Band Fusion for Color Night Vision, M. Aguilar, D.A. Fay, D.B. Ireland, J.P. Racamato, W.D. Ross and A.M. Waxman, M.I.T., Lincoln Laboratory, MA](#)

[C-082 On the Maximum Number of Sensor Decision Bits Needed for Optimum Distributed Signal Detection, Jun Hu and Rick Blum, Lehigh University, PA](#)

[C-153 Data Fusion in a Multi-Sensor Mine Detection System, Wilson Sing-Hei So, Ray Kacelenga, Computing Devices, Canada](#)

## **Session TB2 Image Fusion I**

**Chair: Elisa Shahbazian, Lockheed-Martin, Canada**

[C-040 Wavelets for Image Fusion, Satyanarayan S. Rao and Padmavathi Ramanathan, Villanova Univ., PA](#)

[C-024 Remotely Sensed Images Fusion for Linear Planimetric Features Extraction, Luc Pigeon, Bassel Solaiman, Icole Nationale Supérieure des Télécommunications de Bretagne, France,](#)  
[Keith P.B. Thomson, Centre de Recherche en Géomatique,](#)  
[Thierry Toutin, Canadian Centre for Remote Sensing,](#)  
[Bernard Moulin, Centre de Recherche en Géomatique, Canada](#)

[C-021 Application of Image Fusion to Wireless Image Transmission, L.C. Ramac and P.K. Varshney, Syracuse University, NY](#)

*C-067 Matching Segments in 3D Reconstruction Using the Fuzzy Integral, A. Bigand, L. Evrard, Laboratoire ASL, Université du Littoral, France*

[C-049 Sensor Fusion of a CCD Camera and an Acceleration-Gyro Sensor for the Recovery of Three-Dimensional Shape and Scale, Toshiharu Mukai and Noboru Ohnishi, Bio-Mimetic Control Research Center, Japan](#)

## **Session TB3 Fusion for Target Tracking I**

**Chair: Mohamad Farooq, Royal Military College of Canada**

[C-116 Track Association and Track Fusion with Non-Deterministic Target Dynamics, Shozo Mori, William H. Barker, Raytheon Systems Co., San Jose, CA, Chee-Yee Chong, Booz-Allen & Hamilton, San Francisco, CA, and Kuo-Chu Chang, George Mason University, Fairfax, VA](#)

[C-134 Architectures and Algorithms for Track Association and Fusion,](#)  
[Chee-Yee Chong, Booz Allen & Hamilton, San Francisco, CA](#)  
[Shozo Mori, Raytheon System Co., San Jose, CA](#)  
[Kuo-Chu Chang, George Mason University, Fairfax, VA](#)  
[Bill Barker, Raytheon System Co., San Jose, CA](#)

[C-136 A Multiple Sensor Long Range Integrated Maritime Surveillance System, Zhen Ding and Ken Hickey, Raytheon Canada Limited, Canada](#)

[C-150 Central Neuro-Fusion of Decentralized Multiple Tracks, Carl Looney and Yaakov Varol, University of Nevada, Las Vegas, NV](#)

[C-152 Multitarget Tracking Using an IMM Estimator with Debiased E-2C Measurements for Airborne Early Warning Systems, T. Kirubarajan and Yaakov Bar-Shalom, University of Connecticut, CT](#)  
[Richard McAllister, Robert Schutz and Bruce Engelberg, Northrup Grumman Corp., USA](#)

## **Session TB4 Classification I**

**Chair: Nageswara S. V. Rao, Oak Ridge National Laboratory**

*C-018 Numerical and Implementational Studies of Conditional and Relational Event Algebra, Illustrating Use and Comparison with Other Approaches to Modeling of Information, M.J. George, Houston Assoc., I.R. Goodman, SSC-SD, San Diego, CA*

[C-088 Kernel Based Methods in a Mixture of Experts Framework, Tony Dodd and Chris Harris, University of Southampton, UK](#)

[C-169 Combining Models to Improve Classifier Accuracy and Robustness Dean Abbott, Abbott Consulting, USA](#)

[C-029 On Optimal Projective Fusers for Function Estimators, Nageswara S.V. Rao, Oak Ridge National Laboratory, TN, USA](#)

[C-089 A New Mixture of Experts Framework for Recursive Bayesian Modeling of Time Series by Neural Networks, Tony Dodd and Chris Harris, University of Southampton, UK](#)

## **Session TC1 International Collaboration in Fusion Research and Development**

**Chair: James Llinas, State University of New York at Buffalo**

[C-102 Universities in European Information Fusion R&D Programmes, Presentation Only](#)

*F.J. Jimenez, J.R. Casar, Polytechnic University of Madrid, Spain, James Llinas, SUNY Buffalo, NY, and Promad K. Varshney, Syracuse University, NY*

[C-074 The Necessity of International Collaboration in Data Fusion and a Mechanism for Easing the Process, Jane O'Brien, Mark Bedworth, DERA, UK, and James Llinas, SUNY Buffalo, NY, Panel Discussion](#)

## **Session TC2 Diagnostic Information Fusion**

**Chair: Kai Goebel, Information Technology Laboratory, General Electric**

[C-183 Chu Spaces - A New Approach to Diagnostic Information Fusion, Hung T. Nguyen, New Mexico State University, NM, USA, Berlin Wu, National Chengchi University, Taiwan, Vladik Kreinovich, University of Texas at El Paso, TX, USA](#)

[C-101 Diagnostic Information Fusion in Manufacturing Processes, Kai Goebel, Vivek Badami, GE, NY, Amitha Perera, Rensselaer Polytechnic Institute, NY](#)

[C-187 Active Fusion for Diagnosis Guided by Mutual Information Measures, John M. Agosta and Jonathan Weiss, Knowledge Industries, South San Francisco, CA](#)

[C-200 Correlation of Heterogeneous Data with Fuzzy Logic, Chris Tseng and Arkady Epshteyn, Stottler Henke Associates, San Mateo, CA](#)

[C-184 A Framework for Hypertext Based Diagnostic Information Fusion, Pierre Morizet-Mahoudeaux, Charles-Claude Paupe, University of Compiegne, France](#)

[C-189 Application of Information Fusion on Flaw Detection of Concrete Structure, Xiang Yang, Wuhan Transportation University, Wuhan, Hubei, China](#)  
*Xizhi Shi, Shanghai Jiaotong University, Shanghai, China*

[C-186 Integrating Different Conceptualizations for Heterogenous Knowledge, K. Christoph Ranze, University of Bremen, Germany](#)

[C-188 Diagnosis of Hybrid Dynamical System Based on Information Fusion, Xuan Zhicheng, Zhejiang University, Hangzhou, Zhejiang, China](#)

## **Session TC3 Fusion of Fuzzy Information**

## **Chair: Daniel McMichael, University of South Australia**

[C-070 Predictive Neural Networks and Fuzzy Data Fusion for Online and Real Time Vehicle Detection, E. Jouseau and B. Dorizzi, Int. Dept. EPH, France](#)

[C-087 Fusing Expert Knowledge and Information from Data with NEFCLASS, Detlef Nauck and Rudolf Kruse, University of Magdeburg, Germany](#)

[C-086 Maritime Avoidance Navigation, Totally Integrated System \(MANTIS\), T. Tran, C.J. Harris & P. Wilson, ISIS Research Group, University of Southampton, U.K.](#)

[C-094 A Fuzzy Scheduler for Optimal Allocation of Distributed Resources, James F. Smith III, Naval Research Laboratory, Washington, DC, USA](#)

*C-043 An Integrated Architecture in a Complex Dynamic Environment, Hong-Fei Guo, Jing-Yin Li, Jian-Chang Zhou, Northeastern University, Shengyang, Liaoning, China*

[C-053 Fuzzy Reasoning System for State Estimation and Information Fusion, P. Korpisaari and J. Saarinen, Tampere University of Technology, Finland](#)

## **Wednesday July 7**

### **Session WA1 Image Fusion II**

#### **Chair: P. Svensson, Defence Research Establishment, Sweden**

*C-132 Matching Segments in Stereoscopic 3D Reconstruction, Andre Bigand, Thierry Bouwmans, Laboratoire ASL, University du Littoral, France*

[C-156 Estimating Two-Arm Distance by Fusion of Distributed Camera-Views, Christian Scheering, Jianwei Zhang, and Alois Knoll, Universitaet Bielefeld, Germany](#)

[C-155 Uncertain Reasoning for Adaptive Object Recognition, Sung Wook Baik and Peter Pachowics, George Mason University, Fairfax, VA, USA](#)

[C-007 Resolution Enhancement with Nonlinear Gradient Filtering, Francisco Torrens, Universitat de Valencia, Spain](#)

### **Session WA2 Fusion Architecture & Management I**

#### **Chair: Alan Steinberg, Environment Research Institute of Michigan**

[C-198 Pitfalls in Data Fusion \(and How to Avoid Them\), David L. Hall, Amulya K. Garga, Penn State University, PA](#)

[C-075 The Omnibus Model: A New Architecture for Data Fusion, Mark Bedworth and Jane O'Brien, DERA, UK](#)

[C-084 Data Fusion in Support of Dynamic Human Decision Making, Stephane Paradis, Richard Breton, Jean Roy, Defence Research Establishment Valcartier, \(DREV\), Canada](#)

*C-044 Implementing Knowledge and Data Fusion in a Versatile Software Environment for Adaptive Learning and Decision-Making, David Tuck, Industrial Research Ltd, Auckland, New Zealand, Nik Kasabov and Michael Watts, University of Otago, New Zealand*

[C-190 A Hybrid Artificial Intelligence Architecture for Battlefield Information Fusion, Paul G. Gonsalves, Gerard J. Rinkus, Subrata K. Das, Nick T. Ton, Charles River Analytics, Cambridge, MA](#)

## **Session WA3 Fusion for Target Tracking II**

**Chair: S. Musick, US Air Force Research Laboratories**

[C-055 A Possibilistic Approach of High Level Tracking in a Wide Area, Oliver Wallart, Cina Motamed, Mohammed Benjelloun, Universite du Littoral Cote d'Opale, France](#)

[C-048 Searching Tracks, J.P LeCadre, IRISA/CNRS, France](#)

[C-060 Passive Sonar Fusion for Submarine C2 Systems, Pailon Shar, X. Rong Li, University of New Orleans, LA](#)

[C-068 A PDAF with a Bayesian Detector, Ruixin Niu and Peter Willett, University of Connecticut, USA](#)

[C-085 A Depth Control Pruning Mechanism for Multiple Hypothesis Tracking, Jean Roy, Defence Research Establishment Valcartier \(DREV\), Canada, Nicolas Duclos-Hindie, Dany Dessureault, Groupe Informission Inc., Canada](#)

[C-092 Efficient Multisensor-Multitarget Tracking Using Clustering Algorithms, Muhammad Riad Chummun, T. Kirubarajan, Krishna R. Pattipati and Yaakov Bar-Shalom, University of Connecticut, USA](#)

## **Session WA4 Biological and Linguistic Models for Fusion**

**Chair: George Chapline, Lawrence Livermore National Laboratory**

[C-099 Verb Sense Disambiguation through the Fusion of Two Independent Systems,](#)

[A. Fatholahzadeh, Ecole Superieure d'Electricite, France, Sylvain Delisle, Universite du Quebec a Trois-Rivieres, Quebec, Canada](#)

[C-157 Query Evaluation and Information Fusion in a Combined Retrieval/Mediator System for Multimedia Documents, Ingo Glockner and Alois Knoll University Bielefeld, Germany](#)

[C-100 Web Data Compression for Competitive Information: Navigation and Filtering with Linguistic Relationships of Inclusion, Omar Larouk, Universite de Dijon, France](#)

[C-192 Knowledge Fusion in the Large --- Taking a Cue from the Brain, Lokendra Shastri, International Computer Science Institute, Berkeley, CA](#)

## **Session WB1 Knowledge-Based Techniques for Information Fusion and Discovery**

**Chair: Ray Liuzzi and Craig Anken, US Air Force Research Laboratories**

[C-041 Domain specific document retrieval using n-word combination index terms, David Johnson, Wesley W. Chu, UCLA, CA](#)

[C-059 IMPACT: Intelligent Mining Platform for the Analysis of Counter Terrorism, Sherry E. Marcus, Darrin Taylor, 21st Century Technologies, McLean, VA](#)

[C-071 Recursive Knowledge Discovery through Data-Aware Visualizations, Terrance Goan and Laurie Spencer, Stottler Henke](#)

[Associates, USA](#)

[C-095 Semi-Automatic Integration of Knowledge Sources, Prasenjit Mitra, Gio Wiederhold, Jan Jannink, Stanford University, CA](#)

[C-104 Knowledge Discovery and Data Mining Using an Electro-Optical Data Warehouse, P. Bruce Berra, Wright State Univ., Pericles A. Mitkas, Colorado State University, Ray Liuzzi, AFRL/ITB Rome, NY, Lorraine M. Duvall, Ramsey Ridge Enterprises, Keene, NY](#)

[C-118 Knowledge Discovery and Knowledge Bases: Problems and Opportunities, Vinay Chaudhri, Marie E. des Jardins, SRI International, Menlo Park, CA](#)

[C-149 Exploring Reusability Issues in Telemetry Knowledge Bases, Mala Mehrotra, AFRL Rome, NY](#)

[C-141 Thesaurus Entry Extraction from an On-Line Dictionary, Jan Jannink, Stanford University, CA](#)

## **Session WB2 Hardware for Information Fusion**

### **Chair: Adrian Stoica, NASA Jet Propulsion Laboratory**

[C-163 Extended Logic Intelligent Processing System as a Sensor Fusion Processor Hardware, Taher Daud, Adrian Stoica, Wei-Te Li, Jet Propulsion Lab, CA, James Fabunmi, AEDAR Corp., USA](#)

[C-164 High Performance Embedded Computing with Configurable Computing Machines, - In Car accident Peter M. Athanas, Virginia Tech, Blacksburg, VA](#)

[C-191 Wavelet Neuron Filter with the Local Statistics Oriented to the Pre-processor for the Image Signals, Noiaki Suetake, Naoki Yamauchi, Takeshi Yamakawa, Kyushu Institute of Technology, Iizuka, Japan](#)

[C-165 Reconfigurable Architectures and Systems for Real-Time Low-Level Vision, Arrigo Benedetti, Pietro Perona, Caltech, Pasadena, CA](#)

[C-160 Ims Sensory-Motor Fusion System with Hierarchical Parallel Processing Architecture, Masatoshi Ishikawa, Akio Namiki, Takashi Komuro, and Idaku Ishii, University of Tokyo, Japan](#)

[C-162 Soft-Computing Integrated Circuits for Intelligent Information Processing, Tadashi Shibata, University of Tokyo, Japan](#)

[C-202 Novel Image Enhancement Method Based on Intuitive Evaluations, Keiichi Horio, Takuma Haraguchi, Takeshi Yamakawa, Kyushu Institute of Technology, Iizuka, Japan](#)

## **Session WB3 Multisensor-Multisource Fusion for Object Tracking and Recognition**

### **Chair: Shishir Shah, Wayne State University**

[C-172 Computer Assisted Multisensor System for Surveillance, Alessandro Bozzo, Ubaldo Menegotti, Paolo Pillinini, Elettronica S.P.A., Roma, Italy](#)

[C-173 Integration of Optical Intensity and Hydice Images for Building Modeling, A Huertas, D. Landgrebe and R. Nevatia, University of Southern California, Los Angeles, CA](#)

[C-174 Image Database Indexing using a Combination of Invariant Shape and Color Descriptions, Ronald Alferez and Yuan-Fang](#)

[Wang, University of California, Santa Barbara, CA](#)

[C-175 Fusion of Multiple Cues for Video Segmentation, Bikash Sabata and Moises Goldszmidt, SRI International, CA](#)

[C-176 Application of Low Discrepancy Sequences and Classical Control Strategies for Image Registration, Dinshe Nair and Lothar Wenzel, National Instruments, Austin, TX](#)

[C-177 Image Indexing for Multimedia using Color and Textual Features, N. Nandhakumar, D. Bhatt, J. Wang, LG Electronics, Princeton, NJ](#)

[C-178 Statistical Decision Integration using Fisher Criterion, Shishir Shah, Wayne State University, Detroit, MI](#)

## **Session WB4 Fusion for Target Tracking III**

**Chairs: X. Rong Li, University of New Orleans and T. Kirubarajan, University of Connecticut**

[C-008 Track Fusion Algorithms in Decentralized Tracking Systems with Feedback in a Fighter Aircraft Application, Mathias Karlsson, Anders Malmberg, Thomas Jensen, Leif Axelsson, SAAB AB, Gripen, Sweden](#)

[C-032 IPDAF in Distributed Sensor Networks for Tracking Occasionally Occulted Ground Targets in a Cluttered Urban Environment, Jean Dezert, ONERA, Chatillon, France](#)

[C-035 An Efficient Method for Uniformly Generating Poisson-Distributed No. of Measurements in a Validation Gate, Tan-Jan Ho and M. Farooq, Royal Military College of Canada](#)

[C-093 Passive Ranging of a Low Observable Ballistic Missile in a Gravitational Field Using a Single Sensor, Yueyong Wang, T. Kirubarajan and Yaakov Bar-Shalom, University of Connecticut, USA](#)

[C-051 Bayesian Networks for Target Identification and Attribute Fusion with JPDA, P. Korpisaari and J. Saarinen, Tampere University of Technology, Finland](#)

[C-023 An Adaptive IMM Algorithm for Aircraft Tracking, Emil Semerdjiev, Ludmila Mihaylova, Bulgarian Academy of Sciences, Bulgaria, X. Rong Li, University of New Orleans, LA, USA](#)

[C-030 Tracking Maneuvering Targets Using Geographically Separated Radars, Hiroshi Kameda, Shingo Tsujimichi, Yoshio Kosuge, Mitsubishi Electric Corp., Japan](#)

[C-047 Particle Methods for Multimodal Filtering, Christian Musso and Nadia Oudjane, ONERA/DTIM-MCT, Chatillon, France](#)

[C-159 Statistical Models and Inference for Land Situation Assessment, Daniel McMichael and Nickens Okello, The Cooperative Research Centre for Sensor Signal and Information Processing \(CSSIP\), South Australia](#)

[C-106 An Algorithm for Quasi-Hierarchy Fusion Estimation with Transforming Observation Values, Hongyan Sun, Kezhong He, Bo Zhang, Tsinghua University, Beijing, China](#)

## **Thursday July 8**

### **Session RA1 Image Fusion III**



## **Chair: Robert S. Lynch, Naval Undersea Warfare Center, RI, USA**

[C-091 Visible/IR Battlefield Image Registration using Local Hausdorff Distances, Yunlong Sheng, Xiangjie Yang, Daniel McReynolds, Universite Laval, Canada, Pierre Valin, Lockheed Martin Canada, Leandre Sevigny, Defence Research Establishment Valcartier, Canada](#)

[C-170 Target Imagery Classification System \(TICS\), Scott C. McGirr, SSC, San Diego, CA, Gerald Bartholomew, SPAWAR, San Diego, CA, Ronald Mahler, Lockheed Martin, St. Paul, MN, Robert Myre, SRC, Virginia Beach, VA](#)

[C-096 Fusion of Color Information for Image Segmentation Based on Dempster-Shafer's Theory, Patrick Vannoorenbergh and Olivier Colot, Laboratoire PSI, Universite INSA de Rouen, France](#)

[C-038 Testbed for Fusion of Imaging and Non-Imaging Sensor Attributes in Airborne Surveillance Missions, Alexandre Jouan, Pierre Valin, Lockheed Martin Canada, Eloi Boss, Defense Research Establishment Valcartier, Canada](#)

[C-013 Comparison of Two Integration Methods of Contextual Information in Pixel Fusion, S. \\_\\_, ONERA/DOTA, Toulouse, A. Appriou, ONERA/DTIM, Chatillon, X. Briottet, ONERA/DOTA, Toulouse, P. Marthon, ENSEEIHT/LIMA, Toulouse, France](#)

[C-158 Iterative Model Based Pose Estimation in Stereo Imagery, Piotr Jasiobedzki, Mark Abraham, Nicole Aucoin, Perry Newhook, SPAR Aerospace, Montreal, Canada](#)

## **Session RA2 Fusion Architecture and Management II**

### **Chair: Ivan Kadar, Consultant, Interlink and Northrup Grumman Corp., USA**

[C-109 A Dynamic Flexible Grouping Over CORBA Based Network Within and Across Organizations, Takashi Okuda, Aichi Prefectural University, Aichi, Japan, Seiji Adachi, Tetsuo Ideguchi, Hiroshi Yasukawa, Bxuejun Tian, Japan](#)

[C-110 Distributed Coordination of Data Fusion Tiranee Achalakul, Kyung-Suk Lhee, Stephen Taylor, Syracuse University, NY](#)

[C-050 An Information System for Object Classification and Situation Analysis using Data from Multiple Data Sources, Erland Jungert, Swedish Defence Research Establishment, Linkoping, Sweden](#)

[C-154 Fusion Architecture for Multisensor in Mobile Environment, Datong Chen, Albrecht Schmidt, Hans-Werner Gellesen, University Karlsruhe, Germany](#)

[C-003 A Distributed VIPD Architecture with Central Coordinator, Yinsheng Li, Heming Zhang, Bingshu Tong, Hongxing Huang, Tsinghua University, Beijing, China](#)

[C-006 Agent-Based Information Processing System Architecture, Zhongyan Luo, Tsinghua University, Beijing, China](#)

## **Session RA3 Information Fusion for Decision Support**

### **Chair: Galina Rogova, Calspan/CUBRC, NY, USA**

[C-111 Bayesian Belief Network for Modeling the Subjective Judgment of Experts, Mark Bedworth, Jane O'Brien, DERA, U.K.](#)

[C-112 Assembling a Distributed Fused Information-based Human-Computer Cognitive Decision Making Tool, Erik Blasch, Air Force Research Laboratory \(WPAFB\), OH](#)

[C-014 Hybrid Approach to Multiattribute Decision Making, Galina Rogova, Center for Multisource Information Fusion, CUBRC, Buffalo, NY, Paul Losiewicz, Analytical System Engineering Corp., Rome, NY](#)

[C-113 An Assessment of Alternative SAR Display Formats: Orientation and Situational Awareness, Gilbert G. Kuperman, AFRL, OH, USA Michael S. Brickner, Pamam Human Factors Engineering, Ltd., Israel, Itzhak Nadler, Israel Air Force, Israel](#)

[C-114 Human Performance and Data Fusion Based Decision Aids, Ann M. Bisantz, Richard Finger, Younho Seong, James Llinas, SUNY Buffalo, NY](#)

[C-119 Literature Survey on Computer-Based Decision Support for Command and Control Systems, Elisa Shahbazian, Marc-Alain Simard, Jean-Remi Duquet, Lockheed Martin Canada](#)

## **Session RA4 Fusion for Fault Detection and Diagnosis**

### **Chair: Mark Alford, Air Force Research Laboratory-Rome, NY, USA**

[C-064 Detection and Localization of Faults in System Dynamics by IMM Estimator, L. Mihaylova, E. Semerdjiev, and X. Rong Li, Dept. of Electrical Engineering, University of New Orleans, LA, USA](#)

[C-195 Diagnostic Information Processing for Sensor-Rich Distributed Systems, Elmer Hung, Feng Zhao, Xerox Palo Alto Research Center, Palo Alto, CA](#)

[C-002 Sensory Based Expert Monitoring and Control, Gary G. Yen, Oklahoma State University, USA](#)

[C-066 Fault Diagnosis using Multi-Parameter Fusion, Lixiang Shen, Francis Tay, National University of Singapore](#)

[C-045 Application of Neural Fusion to Accident Forecast in Hydropower Station, Lingyu Xu, Hai Zhao, Xin Xiang, Northeast University, Shenyang, China](#)

## **Session RB1 Management and Business Information Fusion**

### **Chair: Nianyi Chen, Chinese Academy of Sciences, Shanghai, P. R. China**

[C-108 Aggregate Set-Utility for Multidemand-Multisupply Functions, Erik Blasch, WPAFB, OH, USA](#)

[C-143 Knowledge Discovery Applied to Agriculture Economic Planning, Bingru Yang, Beijing University of Science and Technology, China](#)

[C-138 Fusion of Neural Classifiers for Financial Market Prediction, Trish Keaton, Caltech, Pasadena, CA](#)

[C-196 Quantifying Operational Risk using MC Simulations and Bayesian Networks, Prabhat Ojha and Vishrut Jain, National University of Singapore, Singapore](#)

[C-400 A Study on Stock Data Mining by Map Recognition, Nianyi Chen, Laboratory of Data Mining, Shanghai, P. R. China Wenhua Wang, Salomon Smith Barney, New York, NY, USA Dongping Daniel Zhu, Zaptron Systems, Inc., Mountain View, CA, USA](#)

[C-401 A Universal Method for Non-Linear Systems Equations and Non-Linear Programming Problems Kamyshnikov A. Vladimir, Department of Economy, Tomsk State Architectural University, Russia](#)

[C-107 Entity-Relation-Problem \(ERP\) Model for General MIS Yanzhang Wang, Dalian University of Technology, Dalian, China](#)

## **Session RB2 Multisensor Target Tracking and Recognition of Small-to-Medium Sized Targets**

**Chair: Oliver Drummond, Consulting Engineer, Culver City, CA, USA**

[C-131 ARTAS: An IMM-based Multisensor Tracker, R.A. Hogendoorn, C. Rekkas, W.H.L. Neven, National Aerospace Laboratory, The Netherlands](#)

[C-179 An Adaptive Bayesian Approach to Fusion of Imaging and Kinematic Data, Boris Rozovskii, Alexander Tartakovsky, George Yaralov, Univ. of Southern California, USA](#)

[C-180 Some Advances in Data Association for Multisensor and Multitarget Tracking, Aubrey B. Poore, Colorado State University, USA](#)

[C-181 On Features and Attributes in Multisensor, Multitarget Tracking, Oliver E. Drummond, Independent Consulting Engineer, Culver City, CA](#)

[C-063 Optimal Distributed Estimation Fusion in Linear Unbiased LMS Sense, Y. Zhu, Sichuan University, China, and X. Rong Li, University of New Orleans, USA](#)

[C-201 Motion Detection and Tracking for Human Activity Monitoring, Cina Motamed, Universite du Littoral Cote d'Opale, France](#)

## **Session RB3 Emerging Applications I**

**Chair: Xue-Gong Zhang, Tsinghua University, Beijing, P. R. China**

[C-004 Estimate Traffic with Combined Neural Network Approach, Edmond Chin-Ping Chang, Texas A&M University and Oak Ridge National Laboratory, USA](#)

[C-054 Combining Multiple Biometric Person Authentication Systems, Weijie Liu, NTT Data Corporation, Japan](#)

[C-117 A Study on CORBA-Based Distributed Earthquake Observation System, Xuejun Tian, Hiroshi Yasukawa, Tetsuo Ideguchi, Takashi Okuda, Seiji Adachi, Masayasu Hata, Aichi Prefectural University, Aichi, Japan](#)

[C-010 Collaborating Information from Different Sources for Petroleum Reservoir Prediction, Xuegong Zhang, Department of Automation, Tsinghua University, Beijing, China](#)

[C-011 Petroleum Reservoir Framework Prediction by Information Fusion, Wenkai Lu, Xuegong Zhang, Yanda Li, Tsinghua University, Beijing, China](#)

[C-076 Multivariate Sensor Fusion by a Temporally Coded Neural Network Model, Hans-Heinrich Bothe, Lena Biel, Orebro University, Sweden](#)

[C-026 A Novel Minimal Norm Based Learning Subspace Method, De-Shuang Huang, Beijing Institute of System Engineering, Beijing, China](#)

[C-146 Integration of Human Knowledge and Sensor Fusion for Machining, not to present, Theo van Niekerk, Z. Katz, J. Huang, Port Elizabeth Technikon, South Africa](#)

[C-058 Receptor-Effector Neural-Like Growing Network – an Efficient Tool for Building Intelligence Systems, Vitaly Yaschenko,](#)

[Institute of Mathematical Machines & Systems, Ukraine](#)

## **Session RC1 Emerging Applications II**

### **Chair: Peter Wide, Orebro University, Sweden**

[C-135 Data Analysis and Signal Processing in the Gravity Probe B Relativity Experiment, M.I. Heifetz, G.M. Keiser, Stanford University, CA](#)

[C-144 Hyperspace Data Mining with Applications to Biotech, Nianyi Chen, Laboratory of Data Mining, Shanghai, P. R. China](#)  
[Longjun Chen, CISCO Systems, Inc. San Jose, CA, USA](#)  
[Dongping Daniel Zhu, Zaptron Systems, Inc., Mountain View, CA, USA](#)

[C-028 A Multi-Spectral Data Fusion Approach to Speaker Recognition, J.E. Higgins, R.I. Damper and C.J. Harris, University of Southampton, U.K.](#)

[C-069 The Artificial Sensor Head: A New Approach in Determining of Human based Quality, Peter Wide and F. Winqvist, Orebro University, Sweden](#)

[C-012 Improving Resolution of Seismic Sections based on Method of Information Fusion with Well-log Data, Ke Zhang, Xuegong Zhang, Yanda Li, Tsinghua University, Department of Automation, Beijing, China](#)

[C-402 A New Structure of ESKD—Generalized Diagnosis Type Expert System Based on Knowledge Discovery, Bing-ru Yang and Hai-hong Sun, Beijing University of Science and Technology, Beijing, China](#)

## **Session RC2 Classification II**

### **Chair: M. Hinman, Air Force Research Laboratory, USA**

[C-166 Model-Based Sensors Validation through Bayesian Conditioning and Dempster's Rule of Combination, Aldo Franco Dragoni, Maurizio Pandolfi, University of Ancona, Italy](#)

[C-078 Merge and Split Hypothesis for Data Fusion in the Evidential Reasoning Approach, E-h. Zahzah, L. Mascarilla, Universite d'Informatique et d'Imagerie Industrielle, France](#)

[C-057 A Classification Method Based on the Dempster-Shafer's Theory and Information Criteria, E. Lefevre, O. Colot, P. Vannoorenberghe, INSA de Rouen, France](#)

[C-090 Recursive Composition Inference for Force Aggregation, Jason K. Johnson, Ronald D. Chaney, Alphatech, Burlington, MA](#)

[C-056 Using Hierarchical Classification to Exploit Context in Pattern Classification for Information Fusion, Alex Bailey and Chris Harris, University of Southampton, U.K.](#)

[C-020 Fusion of Information Multisensors Heterogeneous Using an Entropy Criterion, B. Fassinut-Mombot, M. Zribi, J.B. Choquel, Universite du Littoral Cote d'Opale, France](#)

[C-151 A Classification Scheme Using Distributed Binary Decision Trees, Qian Zhang, Pramod K. Varshney, Syracuse University, NY, USA](#)

[C-052 Dempster-Shafer Belief Propagation in Attribute Fusion, P. Korpisaari and J. Saarinen, Tampere University of Technology, Finland](#)

## **Session RC3 Sensor Fusion for Automatic Target Recognition**

### **Chair: Erik Blasch, Air Force Research Laboratory, USA**

[C-139 Fusion of HRR and SAR Information for Automatic Target Recognition and Classification, Erik Blasch, Air Force Research Laboratory \(WPAFB\), OH](#)

*C-133 A SAR-FLIR Fusion ATR System, Yang Chen and Kurt Reiser, HRL Laboratories, Malibu, CA*

[C-062 Fusion, Tracking, Command and Control, Pailon Shar and X.Rong Li, University of New Orleans, LA, USA](#)

[C-148 Target Recognition and Tracking based on Data Fusion of Radar/Infrared Image Sensors, - not to present, Jie Yang, Zheng-Gang Lu, and Ying-Kai Guo, Shanghai Jiao-Tong University, Shanghai, China](#)