

Day 1: Tuesday 24 June, 2014

9.30-10:15am Keynote speaker: Dr Andrew Pickering
"The Next Macy Conference: A New Synthesis"

10.15-11:00am Keynote speaker: Dr Mary Catherine Bateson
"Embodying the work of Norbert Wiener"

11.00-11:30am Break

11.30am-12:00pm Special Session

Ethical Reasoning in a Cybernetic World: Contributions from Norbert Wiener, Dr Lawrence Richards, Executive Vice Chancellor for Academic Affairs, Indiana University East

Memories of Norbert Wiener's close colleague Dr Amar Bose, Ken Jacob, Senior Research Engineer, Bose

12.00-1:00pm Conference Session E

Session E.1: Art and design

Chair: TBA

84: *Self-Organization and Novelty: Pre-Configurations of Emergence in Early British Cybernetics*

Peer Reviewed

Joan Soler-Adillon (Universitat Pompeu Fabra) and Simon Penny (University of California, Irvine)

138: *Wiener's Prefiguring of a Cybernetic Design Theory*

Peer Reviewed

Thomas Fischer (Xi'an Jiaotong – Liverpool University)

168: *Cybernetics and Human-Computer Interaction: Case Studies of Modern Interface Design*

Peer Reviewed

Angela Zhou (Princeton University)

Session E.2: Filter theory

Chair: TBA

13: *From Wiener Filtering to Recent Advances on Complexity-Based System Identification and State Estimation*

Peer Reviewed

Le Yi Wang, George Yin, Jin Guo, Biqiang Mu and Lijian Xu (all Wayne State University)

27: *A Modified Wiener Filter Suitable for Separation of Individual Instrumental Sounds in Monaural Music Signals*

Peer Reviewed

Yukio Fukayama (Hiroshima Institute of Technology)

157: *A HMMF Filter for Removal of Noise from Digital Images*

Peer Reviewed

Gnanambal Ilango (Government Arts College, Coimbatore) and Rayappan Marudhachalam (Kumaraguru College of Technology, Coimbatore)

Session E.3: NAFIPS S-17 Fuzziness, Linguistics and Social Networks

Chair: Victor Raskin (Purdue University)

136: *Fuzziness, Vagueness, Uncertainty, and Probability in Natural Language*

NAFIPS Peer Reviewed

Victor Raskin and Julia Taylor (both Purdue University)

89: *Modeling Words by Normal Interval Type-2 Fuzzy Sets*

NAFIPS Peer Reviewed

Minshen Hao and Jerry Mendel (both University of Southern California)

94: *Overlapping community detection model in collaborative networks*

NAFIPS Peer Reviewed

Samira Malek Mohamadi Golsefid and Mohammad Fazel Zarandi (both Amirkabir University of Technology), and Susan Bastani (Alzhebra University)

Session E.4: NAFIPS S-19 Fraud Detection, Profits, and Modeling

Chair: Mark Wierman (Creighton University)

139: *On identifying Phishing emails: uncertainty in machine and human judgment*

NAFIPS Peer Reviewed

Julia Taylor, Victor Raskin, Lauren Stuart and Gilchan Park (all Purdue University)

124: *A fuzzy logic system for evaluating financial profit ratios*

NAFIPS Peer Reviewed

Juan Figueroa-Garcia (Universidad Nacional de Colombia) and Carlos Cubaque (Universidad Distrital Francisco Jose de Caldas)

67: *Demster, Shafer, and Aggregate Uncertainty*

NAFIPS Peer Reviewed

Mark Wierman (Creighton University)

1.00-2:00pm Lunch (Eden Vale A)

2.00-3:00pm Conference Sessions F

Session F.1: Biography

Chair: Philip Hall (University of Western Australia)

40: *Toward a genealogy of a cold war communication sciences: the strange loops of Leo and Norbert Wiener*

Peer Reviewed

Benjamin Peters (University of Tulsa)

107: *Wiener's Genius Project*

Peer Reviewed

Mark Stahlman (TMT Strategies, LLC)

149: *Wiener's Influence on the Development of Human – Machine Systems*

Practitioner Track

Thomas Sheridan (Massachusetts Institute of Technology)

Session F.2: Non-linearity

Chair: TBA

29: *Non-parametric Wiener-Granger Causality in Partially Observed Systems*

Peer Reviewed

Mehrdad Jafari-Mamaghani (Stockholm University)

122: *Modeling of Nonlinear Processes using Wiener-NN Representation*

Peer Reviewed

Arto Visala (Aalto University)

117: *Uncertainty in Quantum Theories*

Practitioner Track

Michael Propp (Adaptive Networks, Inc.)

Session F.3: NAFIPS SS2 Special Session: Fuzzy Clustering

Chair: Hossein Fazel Zarandi (Amirkabir University of Technology)

45: *A Meta-heuristic Approach to General Type-II Fuzzy Clustering and Its Application in Gene Expression Data Analysis*

NAFIPS Peer Reviewed

Abolfazl Doostparast Torshizi, Mohammad Hossein Fazel Zarandi, and Masoomeh Rostam Niakan Kalhori (all Amirkabir University of Technology)

46: *Pseudo Semi-Supervised General Type-II Fuzzy Clustering*

NAFIPS Peer Reviewed

A. Doostparast Torshizi, M. H. Fazel Zarandi, H. Zakeri, F. Moghadas Nejad and A. Fahimifar (all Amirkabir University of Technology)

95: *Multi-central general type-2 fuzzy clustering model*

NAFIPS Peer Reviewed

Samira Malek Mohamadi Golsefid and Mohammad Fazel Zarandi (both Amirkabir University of Technology)

Session F.4: NAFIPS S-11 Theoretical Aspects – I

Chair: Thomas Whalen (Frontline Foundation)

142: *The Fuzzy Set of Plausible Outcomes of a System with Both Probabilistic and Possibilistic Inputs*

NAFIPS Peer Reviewed

Thomas Whalen (Frontline Foundation)

162: *On the Design of Fuzzy Cellular Automata Following a Maximum Entropy Principle*

NAFIPS Peer Reviewed

Miguel Melgarejo and Nelson Obregon (both Universidad Javeriana)

3.00-4:00pm Conference Sessions G

Session G.1: American Society for Cybernetics panel

Chair: Ranulph Glanville (President American Society for Cybernetics)

Panelists: Dr Thomas Fischer (Director Design Research Institute, Xi'an Jiaotong-Liverpool University); Dr Laurence D Richards (Executive Vice Chancellor for Academic Affairs, Indiana University East); and Stuart A Umpleby (George Washington University)

Session G.2: Control

Chair: Felipe Pait (USP)

111: *A Proof of Stability of Model Free Control*

Peer Reviewed

Emmanuel Delaleau (ISEN-Brest)

12: *Discrete Signals, Feedback and Oscillation*

Peer Reviewed

Yoshifumi Okuyama (Humanitech Laboratory)

100: *Analysis of Unbalanced Load Flows using MATLAB GUI*

Peer Reviewed

N. Visali (JNTUACE), and M.Satish Kumar Reddy and M.Surendranath Reddy (both Vaagdevi Institute of Technology & Science)

Session G.3: NAFIPS SS1-I Special Session: Type-2 Fuzzy Optimization – I

Chair: Patricia Melin (Tijuana Institute of Technology)

24: *Optimization of the Type-1 and Type-2 Fuzzy Controller design for the Water Tank using the Bee Colony Optimization*

NAFIPS Peer Reviewed

Oscar Castillo and Leticia Amador-Angulo (both Tijuana Institute of Technology)

26: *Optimization of Ensemble Neural Network with Fuzzy Integration using Particle Swarm Algorithm for the Time Series Prediction*

NAFIPS Peer Reviewed

Patricia Melin and Martha Pulido (both Tijuana Institute of Technology)

34: *Optimization of Interval Type-2 Fuzzy integrators in Ensembles of ANFIS models for Prediction of the Mackey-Glass Time Series*

NAFIPS Peer Reviewed

Patricia Melin and Jesus Soto (both Tijuana Institute of Technology)

Session G.4: NAFIPS S-12 Theoretical Aspects – II

Chair: Vladik Kreinovich (University of Texas at El Paso)

53: *Wiener's Conjecture About Transformation Groups Helps Predict Which Fuzzy Techniques Work Better*

NAFIPS Peer Reviewed

Vladik Kreinovich, Francisco Zapata and Olga Kosheleva (all University of Texas at El Paso)

54: *Interval and Symmetry Approaches to Uncertainty – Pioneered by Wiener – Helps Explain Many Seemingly Irrational Human Behaviors*

NAFIPS Peer Reviewed

Vladik Kreinovich and Joe Lorkowski (both University of Texas at El Paso)

57: *Uniformly Strongly Prime Fuzzy Ideals*

NAFIPS Peer Reviewed

Flaulles Bergamaschi (UESB) and Regivan Santiago (UFRN)

4.00-4:30pm Break

4.30-5:30pm Conference Sessions H

Session H.1: Panel on Cybernetics, art and creativity

Chair: Joan Soler-Adillon (Universitat Pompeu Fabra)

Participants: Andrew Pickering (University of Exeter), Peter Cariani (Boston University) and Paul Pangaro (General Cybernetics)

Session H.2: Threat management

Chair: Robert Burnett (National Defense University)

48: *Cyber crime: Approaches and the linkage to the socio-economic factor of the African continent.*

Student Track

Taiye Adebayo (IT Project Manager)

141: *International Cooperation in Cyber Space to combat Cyber crime and terrorism*

Peer Reviewed

Manmohan Chaturvedi and Aynur unal (both Ansal Private University), Preeti Aggarwal and Shilpa Bahl (both KIIT College of Engineering), and Sapna Dhankhar (MSIT)

92: *Wiener's fundamental ideas and analysis of modern terrorism.*

Practitioner Track

Val Kagan (Hazelett Strip-Casting Corp.)

49: *Preventing Pandemics Via Emergent Behavior*

Peer Reviewed

Marjorie Greene (CAN)

Session H.3: NAFIPS SS1-II Special Session: Type-2 Fuzzy Optimization – II

Chair: Oscar Castillo (Tijuana Institute of Technology)

35: *An interval type-2 fuzzy logic system for dynamic parameter adaptation in Particle Swarm Optimization*

NAFIPS Peer Reviewed

Oscar Castillo, Frumen Olivas and Fevrier Valdez (all Tijuana Institute of Technology)

64: *Modification of the Bat Algorithm with a fuzzy approach for dynamical adaptation of parameters in solving optimization problems*

NAFIPS Peer Reviewed

Oscar Castillo, Fevrier Valdez and Jonathan Perez (all Tijuana Institute of Technology)

66: *A Fuzzy Differential evolution method with dynamic adaptation of parameters for the optimization of fuzzy controllers*

NAFIPS Peer Reviewed

Oscar Castillo, Patricia Ochoa and Jose Soria (all Tijuana Institute of Technology)

Session H.4: NAFIPS S-13 Data Models, Information Value and Decisions

Chair: Timothy Hanratty (US Army Research Laboratory)

63: *Parameter Estimation of Dynamic Fuzzy Models from Uncertain Data Streams*

NAFIPS Peer Reviewed

Daniel Leite and Geraís Andre Lemos (both UFMG), Walmir Caminhas and Reinaldo Palhares (both Federal University of Minas), and Geraís Fernando Gomide (University of Campinas)

116: *Tuning Fuzzy Membership Functions to Improve Value of Information Calculations – Value of Information/Decision*

NAFIPS Peer Reviewed

Timothy Hanratty (US Army Research Laboratory), and Robert Hammell, Sheng Miao and Ziyang Tang (all Towson University)

165: *A Model of Efficiency-Oriented Group Decision and Consensus Reaching Support System*

NAFIPS Peer Reviewed

Janusz Kacprzyk, Dominika Golunska and Sławomir Zadrozny (all IBS PAN)

126: *Fuzzy logic with Evaluated Syntax for Sound Geometric Reasoning with Geographic Information*

NAFIPS Peer Reviewed

Gwendolin Wilke (FHNW)

5.30-6:30pm: Free time / Breakout Activities: IEEE Young Professionals (Foyer area)

6.30-9:00pm: Opening Reception, incorporating a “Memories of Norbert Wiener” reminiscence session (Eden Vale B)

Hosted by **Dr Arthur Winston**

9.00pm End of Day 1

Day 2: Wednesday 25 June 2014

9.00-9:45am Keynote speaker: Dr David Mindell

“Wiener and the Engineers: The Cybernetic Movement”

9.45-10:30am Keynote speaker: Dr Rudolph Seising

“Yellow Peril, Z-Mouse and Spray Can: From Wiener’s prediction and filtering to Zadeh’s Fuzzy Sets—An historical sketch”

10.30-11:00am Break

11.00am-12:00pm Conference Session L

Session L.1: Systems in society

Chair: Luis-Felipe Arizmendi (Universidad Norbert Wiener)

38: *Water, Energy & Food Security: applying Wiener's theories to validate a macro-economic nexus model*

Peer Reviewed

Philip Hall (University of Western Australia)

97: *Analysis of Human Health in Market Systems - Relevance of cybernetics for addressing triple bottom line*

Peer Reviewed

Hari Prasad Devarapalli (Tata Consultancy Services)

31: *Design intervention for Self Sufficiency of a welfare organization using a Cybernetic model*

Peer Reviewed

Supriya Kummamuru, Ravi Shankar Pillutla and Limi; Narayana Mandaleeka (all Tata Consultancy Services)

Session L.2: Wiener’s philosophical roots

Chair: TBA

164: *Behavior, Organization, Substance: Three Gestalts of General Systems Theory*

Peer Reviewed

Vincenzo De Florio (Universiteit Antwerpen)

36: *Norbert Wiener's legacy in the study and inference of causation*

Peer Reviewed

Donatello Materassi (MIT)

174: *Tracking the Humanizing Effect of John Dewey's Pragmatism on Norbert Wiener's Views on Peace and Education During the Cold War*

Peer Reviewed

Laura Moorhead (Stanford University)

Session L.3: NAFIPS S-9 Clustering and Classification

Chair: Mark Reformat (University of Alberta)

128: *New Ways to Calculate Centers for Interval Data in Fuzzy Clustering Algorithms*

NAFIPS Peer Reviewed

Ronildo Moura, Liliame Silva, Anne Canuto, Regivan Santiago and Benjamin Bedregal (all UFRN)

91: *A Self-Organizing System for Automatic Information Classification and Retrieval*

NAFIPS Peer Reviewed

Marjorie Greene (CAN)

129: *Application of Fuzzy Relational Interval Computing for Emotional Classification of Music*

NAFIPS Peer Reviewed

Sanchit Goyal and Eunjin Kim (both University of North Dakota)

Session L.4: NAFIPS S-5 Fuzzy and Z numbers

Chair: Terrence Fries (Indiana University of Pennsylvania)

101: *Typical Hesitant Fuzzy Negations Based on Xu-Xia-partial order*

NAFIPS Peer Reviewed

Helida Santos, Benjamin Bedregal and Regivan Santiago (all UFRN), and Humberto Bustince (UPNA)

59: *Z-Number DEA: An Informative Assessment Method*

NAFIPS Peer Reviewed

Hamidreza Izadbakhsh (Kharazmi University) and Marzieh Zarinbal (Amirkabir University of Technology)

125: *A Computationally Efficient Approach to Ranking Fuzzy Numbers*

NAFIPS Peer Reviewed

Terrence Fries (Indiana University of Pennsylvania)

12.00-1:00pm Conference Session M

Session M.1: Health, data and people

Chair: TBA

175: *A transnational study: Perceived barriers for implanting microchips in humans*

Peer Reviewed

Katina Michael (University of Wollongong)

155: *Information and Communication System Technology's Impacts on Personalized and Pervasive Health Care: A Modern Technological Survey*

Peer Reviewed

Rajeev Kanth (University of Turku)

130: *Securing the Exocortex: A Twenty-first Century Cybernetics Challenge*

Peer Reviewed

Tamara Bonaci, Jeffrey Herron, Charlie Matlack and Howard Chizeck, (all University of Washington)

Session M.2: Current philosophy

Chair: Allenna Leonard (Cwavel Isaf Institute)

23: *Was Norbert Wiener a metaphysician?*

Peer Reviewed

Sara Touiza (University Paris 8 France)

15: *Rethinking Heidegger's Framing of Cybernetics: Toward a Theory of Phenomenal Appreciation*

Peer Reviewed

Paul Nugent (Western Connecticut State University)

17: *Cybernetics and Contemporary Philosophies of Technology*

Peer Reviewed

Michael Arnold and Greg Adamson (both University of Melbourne), and Paul Siemers (Melbourne Water)

Session M.3: NAFIPS S-6 Medical Applications – I

Chair: Oscar Castillo (Tijuana Institute of Technology)

86: *Fuzziness in Healthcare-Associated Infection Monitoring and Surveillance*

NAFIPS Peer Reviewed

Klaus-Peter Adlassnig (Medical University of Vienna), Alexander Blacky (VAMED KMB), Harald Mandl (Medexter Healthcare GmbH), and Andrea Rappelsberger and Walter Koller (both Medizinische Universität Wien)

50: *A modular LVQ Neural Network with Fuzzy response Integration for arrhythmia Classification*

NAFIPS Peer Reviewed

Patricia Melin, Oscar Castillo, and Jonathan Aguiluz (all Tijuana Institute of Technology)

154 [Student paper]: *Identification of Tooth Decay in Panoramic X-ray Using Image processing*

Student Track

Mahalakshmi.B, Sabarinathan.K.M, Shoba.S, Siva.K, Vidhya.P.G and Dhanesh Kumar.G (all K.S.Rangasamy College of Technology), and Natarajan Vijayarangan (Tata Consulting Services)

Session M.4: NAFIPS S-4 Fuzzy Rules

Chair: Vladik Kreinovich (University of Texas at El Paso)

51: *Towards Efficient Algorithms for Approximating a Fuzzy Relation by Fuzzy Rules: Case When "And"- and "Or"-Operation are Distributive*

NAFIPS Peer Reviewed

Vladik Kreinovich (University of Texas at El Paso) and Christian Servin (El Paso Independent School District)

77: *Fuzzy Rule based Expert System to Diagnose Spinal Cord Disorders*

NAFIPS Peer Reviewed

Mohammad Hossein Fazel Zarandi, Saeede Rahimi Damirchi-Darasi, and Mahshid Arabzadeh (all Amirkabir University) and; I. Burhan Turksen (TOBB Economic and Technology University)

108: *Fuzzy Rule-based Expert System for Diagnosis of Multiple Sclerosis*

NAFIPS Peer Reviewed

Mahshid Arabzadeh, Mohammad Hossein Fazel Zarandi and Saeede Rahimi Damirchi-Darasi (all Amirkabir University), and Mohammad Hossein Harirchian (TUMS)

1.00-2:00pm Lunch (Eden Vale A)

2.00-3:00pm Special Panel: Norbert Wiener in the 21st Century—The Long Historical View

Chair: Debbie Douglas (MIT)

Panelists: Michael Geselowitz (IEEE History Center); Benjamin Peters (University of Tulsa); Ronald Kline (Cornell University); Mark Stahlman (Center for the Study of Digital Life, Stevens Institute of Technology); David Mindell (MIT)

3.00-4:00pm Conference Session O

Session O.1: Panel on Management Cybernetics

Chair: Narayana Mandaleeka (Vice-President & Chief Scientist, Head Business Systems & Cybernetics Center, Tata Consultancy Services)

Panelists: Stuart A Umpleby (George Washington University); Laurence D Richards (Executive Vice Chancellor for Academic Affairs, Indiana University East); Allena Leonard (The Complementary Set and the Cwavel Isaf Institute, Toronto; and Manmohan Chaturvedi (Ansal University)

Session O.2: How we communicate

Chair: TBA

118: *Reading Wiener in Rio*

Peer Reviewed

Felipe Pait (USP)

88: *It Takes a Polymath: Norbert Wiener's Influence on the Early Internet*

Peer Reviewed

Elizabeth Folan O'Connor (University College Cork)

156: *Self Organisation characteristics in Football Teams as opposing agent-based Viable Systems*

Peer Reviewed

Mark Evans and Andy Laws (both Liverpool JM University)

Session O.3: NAFIPS S-7 Medical Applications – II

Chair: Joao Paulo Carvalho (INESC-ID)

103: *Fuzzy Preprocessing of Medical Text Annotations of Intensive Care Units Patients*

NAFIPS Peer Reviewed

Joao Paulo Carvalho and Sérgio Curto (both INESC-ID)

61: *LSP Based Comparison of 3D Ear Models*

NAFIPS Peer Reviewed

Guy De Tré*, Ghent University; Joachim Nielandt, Ghent University; Antoon Bronselaer, Ghent University; Dirk Vandermeulen, KULeuven; Jeroen Hermans, KULeuven; Peter Claes, KULeuven

96: *Soft computing approach for predictive blood glucose management using a fuzzy neural Network*

NAFIPS Peer Reviewed

Nithyanandam Mathiyazhagan and Howard Schechter (both Walden University)

Session O.4: NAFIPS S-3 Fuzzy Control

Chair: Andy Zelenak (University of Texas at Austin)

11: *Gaussian-Based Adaptive Fuzzy Control*

NAFIPS Peer Reviewed

Andy Zelenak and Mitch Pryor (both University of Texas at Austin)

121: *Fuzzy Control of Spacecraft Attitude by Fuzzy Inference System Based on Boolean Relations (FIS-BBR)*

NAFIPS Peer Reviewed

Julian Gantiva, Jairo Soriano and Omar Salazar (all Universidad Distrital)

161: *Driving Style Imitation in Simulated Car Racing Using Style Evaluators and Multi-objective Evolution of a Fuzzy Logic Controller*

NAFIPS Peer Reviewed

Tsaipei Wang and Keng-Te Liaw (both National Chiao Tung University)

4.00-4:30pm Break**4.30-5:30pm Conference Session P****Session P.1: Panel on Digital Monozukuri**

Convened by: Dr Aynur Unal with Michael Feygin (President, Cubic Technologies); Christian Leborg (Westerdals School of Communication in Oslo); Mert Akbal (Academy of Fine Arts Saar in Saarbruecken, Germany); Dr. Durgesh Kumar Mishra (Professor and Head (CSE), Director, Microsoft Innovation Center, Sri Aurobindo Institute of Technology, Indore, MP, India). Participants: Sheetanshu Singh, Kapil Adhikari, Deepak Bansal, Anubhav Dhawan, and Nitish Goel (all Ansal University, Gurgaon, India)

Session P.2: Writing

Chair: TBA

62: *Modernist Feedback Loops: Norbert Wiener's Cybernetics and the Poetry of Ezra Pound*

Peer Reviewed

Heather Love (Indiana University)

170: *Wiener and Science Fiction: Close Encounters of the Asimov Kind*
Practitioner Track
Karen Faerber-Hall (Historian and Independent Researcher)

28: *Knife in hand. Vivisections and cruelty in Norbert Wiener's Autobiography and Short Fiction*
Peer Reviewed
Pierre Cassou-Noguès (University Paris)

Session P.3: NAFIPS S-8 Medical Applications – III

Chair: Mohammad Hossein Fazel Zarandi (Amirkabir University of Technology)

60: *Interval Type-2 Fuzzy Image Processing Expert System for Diagnosing Brain Tumors*
NAFIPS Peer Reviewed

Marzieh Zarinbal and Mohammad Hossein Fazel Zarandi (both Amirkabir University of Technology); I.B. Turksen (TOBB Economics and Technology University); and Mina Izadi (Sub-special Neurosurgery, Milad Hospital)

55: *FMTS: A Fuzzy Implementation of the Manchester Triage System - Medical*
NAFIPS Peer Reviewed
Matthew Cremeens and Elham S.Khorasani (both University of Illinois at Springfield)

68: *Some Coefficients Applying T-norms for Fuzzy Graphs*
NAFIPS Peer Reviewed
Hiroaki UESU (Waseda University)

Session P.4: NAFIPS S-15 Soft Computing in Education

Chair: Phantipa Thipwivatpotjana (Chulalongkorn University)

19: *Course assignment problem with interval requested workload*
NAFIPS Peer Reviewed
Phantipa Thipwivatpotjana (Chulalongkorn University)

178: *Software Implementation Metology of Intelligent Information Systems of Learning and Knowledge Control (IISIKC)*
NAFIPS Peer Reviewed
Shahnaz Shahbazova (Azerbaijan Technical University)

5.30-6:30pm: Free time / Breakout activities: NAFIPS General Meeting [Eden Vale C-2]

6.30pm for 7.00pm: Conference Dinner.

Master of Ceremonies: Greg Adamson (Conference General Chair)

Keynote speakers: **Flo Conway and Jim Siegelman, authors of *Dark Hero of the Information Age: In Search of Norbert Wiener, Father of Cybernetics: "Reintroducing Wiener: Channeling Norbert in the 21st Century"***

10.00pm End of Day 2

Day 3: Thursday 26 June 2014

9.00-9:45am Keynote speaker: Dr Bruce Schneier
"Ubiquitous Surveillance and Security"

9.45-10:30am Special Session: Driving Technology's Future
Chair: TBA

47: *CPSR's Norbert Wiener Award: A Fitting Legacy for the First Cyber-Activist*
Practitioner Track
Nathaniel Borenstein (Mimecast)

171: *Norbert Wiener and the Counter-tradition to the Dream of Mastery*
Practitioner Track
Doug Hill (Journalist & Scholar)

10.30-11:00am Break

11.00am-12:00pm Conference Session T

Session T.1: Panel on Wiener and Innovation

Chair: Primavera De Filippi (Berkman Center, Harvard University)

Panelists: John Sullivan (Director of the Free Software Foundation); Frank Levy (Professor Emeritus at MIT); Theodore Postol (Professor of Science, Technology and International Security (STS), MIT).

Session T.2: Applying cybernetic since the 1960s

Chair: TBA

20: *A framework based approach to Manage Complex Enterprises using Stafford Beer's Viable System Model and Heterarchy*

Peer Reviewed

Tirumala Vinnakota (Tata Consultancy Services)

159: *Cybernetic Modeling of Business Systems*

Peer Reviewed

Kesav Nori and Swaminathan N (both Tata Consultancy Services)

90: *From Wiener's ideas toward mechatronics and parallel kinematic machines*

Practitioner Track

Val Kagan (Hazelett Strip-Casting Corp)

Session T.3: NAFIPS S-2 Interval Type-2 Fuzziness

Chair: TBA

33: *Interval Type-2 Fuzzy Clustering Algorithm the combination of the using Fuzzy and Possibilistic C-Mean Algorithms*

NAFIPS Peer Reviewed

Oscar Castillo*, Tijuana Institute of Technology; Elid Rubio, Tijuana Institute of Technology

93: *Interval Type-2 Fuzzy Set Qualitative Comparative Analysis (IT2- fsQCA)*

NAFIPS Peer Reviewed

Mohammad Korjani and Jerry Mendel (both University of Southern California)

109: *Extension of Set Functions to Interval Type-2 Fuzzy Sets*

NAFIPS Peer Reviewed

Mohammad Reza Rajati and Jerry Mendel (both University of Southern California)

Session T.4: NAFIPS S-10 Applications

Chair: TBA

30: *A flow incremental loading algorithm to the solve fuzzy multimodal transport problem*

NAFIPS Peer Reviewed

Juliana Verga and Wesley Shirabayashi (both State University of Maringá); Ricardo Coelho (Federal University of São Palo); and Akebo Yamakami (University of Campinas)

74: *Fuzzy Information Sharing Policy Based on Tokens for Bullwhip Effect Management in Supply Chains*

NAFIPS Peer Reviewed

Mohammad Hossein Fazel Zarandi, Fereshte Shabany Moghadam, and Fatemeh Dorry (all Amir-Kabir University of Iran)

78: *A fuzzy multiobjective model for the container pre-marshalling problem*

NAFIPS Peer Reviewed

Ricardo Coelho (Federal University of São Palo)

12.00-1:00pm Conference Session U

Session U.1: Changing society

Chair: TBA

179: *Norbert Wiener on Technology and Society*

Peer Reviewed

Greg Adamson (University of Melbourne)

5: *Diversity As Supported By Professor Norbert Wiener's Vision*
Practitioner Track
Mansour Eslami (University of Illinois at Chicago)

52 [Student paper]: *Measuring Innovation - How feasible it is?*
Student Track
Gaurav Agarwal (National University of Singapore)

Session U.2: Management cybernetics and IT service

Chair: TBA

70: *A Value Proposition Framework adopting concepts from the field of Cybernetics*
Peer Reviewed
Supriya Kummamuru and Suyash Chopra (both Tata Consultancy Services)

98: *A Cybernetic Model for Managing Innovations in Organizations: A case instance for an IT Innovation*
Peer Reviewed
Padmalata Nistala, Ravi Shankar Pillutla and Limi; Narayana Mandaleeka (all Tata Consultancy Services)

99: *Deploying a systemic communication strategy for large and complex programs in IT environment: A systems and cybernetics perspective*
Peer Reviewed
Syed Hussaini (Tata Consultancy Services)

Session U.3: NAFIPS S-1 Type-2 Fuzziness – Applications

Chair: TBA

82: *A New Degree of Uncertainty for General 3D Type-II Fuzzy and Its Application in Asphalt Pavement Cracking Automatic Analysis*
NAFIPS Peer Reviewed
Hamzeh Zakeri, Fereidoon Moghadas Nejad, Ahmad Fahimifar, Abolfazl Dostparast Torshizi, and Mohammad Hossein Fazel Zarandi (all Amirkabir University of Technology)

85: *A New Automatic MF Generator (AMFG) for General 3D Type-II Fuzzy in the Polar Frame*
NAFIPS Peer Reviewed
Hamzeh Zakeri*, Fereidoon Moghadas Nejad, Ahmad Fahimifar, Mohammad Hossein Fazel Zarandi, and Abolfazl Dostparast Torshizi (all Amirkabir University of Technology)

75: *Steel making and continuous casting scheduling problem with interval type 2 fuzzy random due dates*
NAFIPS Peer Reviewed
Mohammad Hossein Fazel Zarandi*, Fatemeh Dorry and Fereshte Shabany Moghadam (all Amir-Kabir University of Iran)

Session U.4: S-16 Intervals – Optimization, Distance, and Standardization

Chair: TBA

123: *On the Computation of the Distance between Interval Type-2 Fuzzy Numbers using α -cuts*
NAFIPS Peer Reviewed
Juan Figueroa-Garcia and German Hernandez (both Universidad Nacional de Colombia)

106: *libieep1788: A C++ Implementation of the IEEE Interval Standard P1788*
NAFIPS Peer Reviewed
Marco Nehmeier (University of Würzburg)

1.00-2:00pm: Lunch (Eden Vale A)

Meet IEEE Society on Social Implications of Technology (look for the SSIT lunch table)

2.00-300pm Conference Session V

Session V.1: Medical applications

Chair: Patricia Melin (Tijuana Institute of Technology)

160: *Prototype Closed-Loop Deep Brain Stimulation Systems Inspired by Norbert Wiener*
Peer Reviewed
Jeffrey Herron and Howard Chizeck (both University of Washington)

69: *A Fuzzy Neutrosophic Soft Model in Medical Diagnosis*

Peer Reviewed

Arockiarani Stella (Nirmala College for Women)

166: *Glaucoma Detection using Cross Validation Algorithm : A comparative evaluation on Rapidminer*

Peer Reviewed

Kavita Choudhary (ITM University, Gurgaon)

Session V.2: Systems and behaviors

Chair: TBA

76: *On the Behavioral Interpretation of System-Environment Fit and Auto-Resilience*

Peer Reviewed

Vincenzo De Florio (Universiteit Antwerpen)

16: *The Laws of Informatics Are the Information Form of the Cybernetics Principles*

Peer Reviewed

Igor Gurevich (IPI RAN)

143 [Student paper]: *Load Bus Voltage Control using Fuzzy Logic*

Student Track

Farid Benhamida, Slimane Souag and Amel Graa (all Irecom Laboratory, UDL University of Sidi Bel Abbas)

Session V.3: NAFIPS S-18 Fuzzy Mathematics

Chair: TBA

127: *Fuzzy α -Ideals of Collapsed Sum Operator on Bounded Fuzzy Lattices*

NAFIPS Peer Reviewed

Ivan Mezzomo (UFERSA); Benjamin Bedregal and Regivan Santiago (both UFRN); and Renata Reiser (UFPE)

137: *QL-Implication in the Checklist Paradigm based Fuzzy Interval Logic*

NAFIPS Peer Reviewed

Eunjin Kim (University of North Dakota)

115 [Student paper]: *Utilizing Fuzzy Relations in interval type-2 Possibilistic C-Means Clustering*

Student Track

Masoumeh Niakan, Mohammad Hossein Fazel Zarandi and Abolfazl Doostparast Torshizi (all Amirkabir University of Technology)

Session V.4: NAFIPS S-14 Data Management and Ontology

Chair: TBA

105: *Inner and outer bipolarity in database querying*

NAFIPS Peer Reviewed

Mateusz Dziedzic (Cracow University of Technology); Christophe Billiet and Guy De Tré (both Ghent University); and Janusz Kacprzyk and Sławomir Zadrozny (both Polish Academy of Sciences)

80: *Semantical mapping of attribute values for data integration*

NAFIPS Peer Reviewed

Marcin Szymczak (SRI PAS); Antoon Bronselaer and Guy De Tré (both Ghent University); and Sławomir Zadrozny (Polish Academy of Sciences)

134: *Fuzzy Ontologies: State of the Art*

NAFIPS Peer Reviewed

Valerie Cross (Miami University)

3.00-4:00pm Conference Session W

Session W.1: Health data and meaning

Chair: TBA

41: *A Relevance Feedback-Based System for Biomedical Literature Search*

Peer Reviewed

Massuod Alatrash, Hao Ying, and Ming Dong (all Wayne State University); Michael Massanari (The Critical Junctures Institute); and Peter Dews (St. Mary Mercy Hospital, Michigan)

158: *Information theory's failure in neuroscience*

Peer Reviewed

Lance Nizami (Independent Research Scholar)

39: *Medical image enhancement through Intuitionistic Fuzzy Sets of Root Type*

Practitioner Track

Srinivasan Raghavendran (Islamiah College TN)

Session W.2: Being human

Chair: TBA

140: *Two Human Fates of Human Becoming – Are We Splitting into Two Species?*

Peer Reviewed

Jason Hu (Wintop Group)

173: *The Human Information Appliance in Combat, Intelligence, & Diplomacy Space - Wiener Conference*

Peer Reviewed

R.E. Burnett (National Defense University)

25: *Reproducing Our Humanity*

Peer Reviewed

Madhusudan Raman (Verizon Innovation Incubator)

Session W.3 *The Good, the Bad, and the Often Hilarious: Chasing Norbert around MIT and Beyond*

Chair: TBA

Flo Conway & Jim Siegelman, authors of *Dark Hero of the Information Age: In Search of Norbert Wiener, Father of Cybernetics*

End of Conference