

WDD Agenda

| Sunday - Jan 22, 2012 | | | |
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| 4:30 - 6:00 pm | Welcome Social | Poolside | |
| Monday - January 23, 2012 | | | |
| 07:30 am - 08:30 am | Registration <i>(Note: Breakfast is included with room rate for all conference attendees staying at venue hotel under conference room block. Breakfast is not provided as part of the registration fee. Please support our conference by staying in group block.)</i> | | |
| 08:30 am - 08:45 am | Welcome - Opening Remarks | Vinny Amuso | Jasmine Ballroom |
| 08:45 am - 9:55 am | Keynote Presentation | Nikola Subotic | Jasmine Ballroom |
| 09:55 am - 10:15 am | Break | | Jasmine Foyer |
| 10:15 am - 12:00 pm | Radar Session 1 Session Chairs: Vinny Amuso/Marshall Greenspan | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • A Distributed Object-Oriented Multi-Mission Radar Waveform Design Implementation <i>Vincent Amuso, Brent Josefiak</i> • Dual Channel Radar for Small UAVs <i>John Kirk</i> • Trading Spectral Efficiency for System Latency in True-Random Noise Radar Network Through Template-Replay Diversity <i>Peter Collins, John Priestly</i> • Sparsity-Based Space-Time Adaptive Processing Using OFDM Radar <i>Satyabrata Sen</i> • Using the Conjugate Gradient Algorithm for Reduced-Rank Adaptive Detection <i>Zhu Chen, Hongbin Li, Muralidhar Rangaswamy</i> | | |
| 12:00 pm - 01:00 pm | Lunch | | Naupaka Terrace |
| 01:00 pm - 03:00 pm | Cognitive - Software Defined Systems Session Chairs: Mike Bryant/Lorenzo LoMonte | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Target Scene Reconstruction in Indoor Environment with Cognitive OFDM Radar <i>Aaron Curtis, Dmitriy Garmatyuk, Yu T. Jade Morton, Robert Ewing</i> • Robust Non-Negative Matrix Factorization for Joint Spectrum Sensing and Primary User Localization in Cognitive Radio Networks <i>Zhen Hu, Raghuram Ranganathan, Changchun Zhang, Robert Qiu, ...</i> • Array Architectures for Wideband Transmit Nulling <i>Peter Vouras, Jean de Graaf</i> • Cognitive SAR Based on Waveform Design and Optimum <i>Kaizhi Wang, Xingzhao Liu</i> • Spectrum Sensing in Cognitive Radio with Robust Principal Component Analysis <i>Paul Browning, Shujie Hou, Robert Qiu, Michael Wicks</i> | | |
| 03:15 pm - 07:15 pm | Cognitive Radar 1 | Chris Baker | Orchid Room |
| 03:15 pm - 07:15 pm | Cognitive RF - A Universal Framework for Communication Radar, EW and Navigation | Vasu Chakravarthy, Braham Himed, Zhiqiang Wu | Ginger Room |

| Tuesday - January 24, 2012 | | | |
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| 08:15 am – 9:40 am | Spectrum Considerations Session Chairs: Shaun Frost/Mike Wicks | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Spectrum Sensing in Cognitive Radio with Subspace Matching <i>Paul Browning, Shujie Hou, Robert Qiu, Michael Wicks</i> • Experimental Validation of Sparse-Frequency Waveforms for Congested Spectrums <i>Shaun Frost, Lee Patton, Lorenzo Lomonte, Brian Rigling, Braham Him...</i> • Chirp Optimization Using Piecewise Linear Approach <i>Matthew Moldovan, Charles Baylis, Robert Marks, Michael Wicks, Josh...</i> • Spectrum Shaping Challenges in Dynamic Spectrum Access Networks with Transmission Hyperspace <i>Onur Ozdemir, Engin Masazade, Chilukuri Mohan, Pramod Varshney...</i> | | |
| 9:40 am – 10:00 am | Student Paper Competition Poster Session | | Room TBD |
| 10:00 am - 10:15 am | BREAK | | Jasmine Foyer |
| 10:15 am - 12:00 pm | Imaging Techniques Session Chairs: Vinny Amuso / Chris Baker | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Direct-Path Mitigation for Ground-Based RF Tomography <i>Lorenzo Lo Monte, Jason Parker</i> • A Holographic Reconstruction Method for Circular Multistatic Subsurface Radar <i>Daniel Flores Tapia</i> • sar Complex Image Compression Based on an Improved Cs Model <i>Wentao Lv, Junfeng Wang, Wenxian Yu</i> • Accelerated DSP Functions on the CBE for the X-Midas DSP Toolkit <i>Joseph Jezak, Charles Berdanier, Steven Levitan, Donald Chiarulli</i> • GAUSS: The GTRI Airborne Unmanned Sensor System <i>Larry Marple</i> | | |
| 12:00 pm - 01:00 pm | Lunch | | Naupaka Terrace |
| 01:00 pm - -3:00 pm | INVITED SESSION Cognitive & Machine Learning in DSA Environment - Session Chairs: Vasu Chakravarthy/Braham Himed | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Can Artificial Intelligence meet the Cognitive Networking Challenge? <i>Karen Z. Haigh</i> • Game Theory and Cognitive Radio in Adversarial and Networked Settings <i>James Neel</i> • Complex Radar Environments and Cognitive Radar <i>Joseph Guerci</i> | | |
| 03:15 pm - 07:15 pm | Cognitive Radar II - The Fully Adaptive Approach | Joe Guerci & Muralidhar Rangaswamy | Plumeria Room |
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| 03:15 pm - 07:15 pm | Bistatic Radar | Dan Thomas | Ginger Room |

Wednesday - January 25, 2012

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| 08:15 am - 10:00 am | Communications Session Chairs: Shaun Frost/Lee Patton <ul style="list-style-type: none"> • Doppler Correction for Digital Modulation in a Fading Channel with SISO <i>Gabriel Tham, Weilian Su, Tri Ha, Jeffrey Smith, Robertson Clark</i> • Multiuser Chaos Communication Through Polyphase Spreading for Overlay Cognitive Radio <i>Dan Sundersingh, Yao Ma, Vasu Chakravarthy, Zhiqiang Wu</i> • Performance Evaluation of Complex Spreading MIMO Systems in Rayleigh Fading and Interference <i>Ric Romero, Tri Ha</i> • Multiple Mode Track-Before-Detect Multiple Targets <i>Samuel Ebenezer, Antonia Papandreou-Suppappola</i> • Prototyping of a Wireless Tomography System Using Software Defined Radio <i>Jason Bonior, Zhen Hu, Shujie Hou, Steven Corum, Blake McNew, Nan G...</i> | Jasmine Ballroom |
| 10:00 am - 10:15 am | BREAK | Jasmine Foyer |
| 10:15 am - 12:00 pm | Poster Session <ul style="list-style-type: none"> • Adaptive Noise Processing of a Virtual Beam Formed Radar <i>Steven Kadlec</i> • Algebraic Construction of MIMO Radar Waveforms <i>Peter Vouras</i> • Amplitude Based Sensor Tasking for Multi-Target Search and Track <i>Kevin Schultz, Anshu Saksena, Dennis Lucarelli</i> • Arbitrary Pulsed Radar Waveform <i>Clive Alabaster, Evan Hughes</i> • Cognitive Radio Network As Sensors: Low Signal-to-Noise Ratio Spectrum Sensing <i>Feng Lin, Robert Qiu, Zhen Hu, Shujie Hou, Michael Wicks</i> • Consensus-Based Wireless Tomography <i>Gary Scalzi, Zhen Hu, Michael Wicks, Robert Qiu</i> • Doppler Tolerant Time Separated Golay Waveforms <i>Richard Chen, Thomas Higgins</i> • Frequency-Hopping Code Design for Colocated MIMO Radar Using Sparse Modeling <i>Sandeep Gogineni, Arye Nehorai</i> • Hybrid Clutter Canceller with Feedback Guided Predictive Filtering on a Heterogeneous Parallel Processing System <i>Jeff Brinkhus, Joseph Jezak, Charles Berdanier, Steven Levitan, Don...</i> • Inter-Carrier Interference Self-Cancellation for CI/MC-CDMA System <i>Xue Li, Ruolin Zhou, Jian Zhang, Vasu Chakravarthy, Zhiqiang Wu</i> • Joint MTI and ISAR Radar for Intelligent Transport System <i>Rabindranath Bera, Samarendra Nath Sur, Debasish Bhaskar, Soumyasre...</i> • Measurement Based Total Phase Noise Modeling of Wideband Multichannel Receiver <i>Terry Guo, James Pogge, Yu Song, Xia Li, Robert Qiu, Seng Hong, Ste...</i> • New Alternatives for Interference Tolerant Waveforms Hosted on a Software Programmable Multi-Mission Platform <i>Edward Beadle, Alan Michaels, Jim Schroeder</i> • Pulsed Interference Mitigation Employing Periodic Nonuniform Decimation <i>Gerald Cain, Anush Yardim</i> • STAP Radar System Using FPGA Floating Point Processing <i>Michael Parker</i> | Jasmine Ballroom |

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| | <ul style="list-style-type: none"> • Using Invariant Features with a Polarimetric Forward-Looking Ground Penetrating Radar <i>Cornell Chun, Ethan Chun</i> • Waveform Design for Multistatic Radar Imaging Using Mutual Information <i>Zachary Chance, Raghu Raj, David Love</i> • Waveform Toolbox for MIMO Radar <i>David Macpherson, Jim Gonnella</i> • Waveform-Agile Target Tracking Before Detection for Low Observable Targets <i>Ryan Piwowarski, Jun Zhang, Antonia Papandreou-Suppappola</i> |
| 12:00 pm - ??? | Optional activities - including Napali Sunset Dinner Cruise (purchase tickets in advance! -- limited capacity) - see Tour section for more information. |

| Thursday - January 26, 2012 | | |
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| 08:15 am - 10:00 am | MIMO Session Chairs: Marshall Greenspan / Muralidhar Rangaswamy | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Game Theoretic Approach for Polarimetric MIMO Radar Waveform Design <i>Sandeep Gogineni, Arye Nehorai</i> • Improved Transmitter Localization Through Incorporation of Phase Information <i>Charles Berdanier, John Wu</i> • Frequency Diverse Array Radar Receiver Architectures <i>Aaron Jones, Brian Rigling</i> • The Application of Complete Complementary Codes in MIMO Radar <i>Jun Tang, Zhikun Ma, Chenggao Han</i> • Moving Target Detection Using Distributed MIMO Radar in Non-Homogeneous Clutter: a Subspace Approach <i>Pu Wang, Hongbin Li, Braham Himed</i> | |
| 10:00 am - 10:15 am | BREAK | Jasmine Foyer |
| 10:15 am - 12:00 pm | Radar - Session 2 Session Chairs: Gerard Capraro / Joe Guerci | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Cognitive Design of the Transmitted Phase Code and Receive Filter in Reverberating Environment <i>Antonio De Maio, Augusto Aubry, Alfonso Farina, Mike Wicks</i> • Optimal Waveforms Design for Radar Imaging Based on Atomic Decomposition RCS Characteristics of Target <i>Jiliang Liu, Kaizhi Wang, Xingzhao Liu, Wenxian Yu</i> • Metacognition for Waveform Diverse Radar <i>Gerard Capraro, Michael Wicks</i> • Waveform Design for Compressive Radar Sensing <i>Emre Ertin</i> | |
| 12:00 pm - 01:00 pm | Lunch | Naupaka Terrace |
| 01:00 pm - -3:00 pm | Adaptive Waveform/Modulation Schemes Session Chairs: Antonio DeMaio / Lorenzo LoMonte | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Range Estimation of Continuous Transmission FM (CTFM) Sonar for a Fast Moving Target <i>Chunsheng Liu, Mark Trevorrow</i> • Waveform Diversity for Closed-Loop Wide-Band Cognitive Sensing System <i>Xia Li, Zhen Hu, Robert Qiu, Nan Guo, Michael Wicks</i> • Perturbation Size and Harmonic Limitations in Affine Approximation for Time Invariant Periodicity Preservation Systems <i>Josh Martin, Charles Baylis, Robert Marks, Matthew Moldovan</i> • Optimal Waveform Design for Range-Doppler Processing in Colored Noise <i>Lee Patton, Christine Bryant, Braham Himed</i> • A Test Platform for Real-Time Waveform and Impedance Optimization in Microwave Radar Systems <i>Charles Baylis, Josh Martin, Matthew Moldovan, Oby Akinbule, Robert...</i> | |
| | LUAU BANQUET | Off-site Luau Banquet - transportation provided - pickup at Venue Hotel |

| Friday - January 27, 2012 | | | |
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| 08:30 am – 9:30 am | EM/Phenomenology Session Chairs: Andy Drozd / Ed Jones | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • A Waveform Diversity Approach to Mitigating Ionosphere Scintillation Effects on Wideband Space Radars <i>Edward Jones, Beth Jones, Robert Denton, Mark Barnell</i> • An Approximation on Power Spectral Density of Frequency Hopping Signal <i>Ilderis Demirkiran, Donald Weiner, Andrew Drozd, Irina Kasperovich</i> • An Adaptive SAR Imaging Algorithm <i>Yesheng Gao, Kaizhi Wang, Xingzhao Liu</i> | | |
| 9:30 am – 9:45 am | BREAK | | Jasmine Foyer |
| 9:45 am – 11:30 am | Radar Session 3 Session Chairs: Vinny Amuso / Mike Wicks | | Jasmine Ballroom |
| | <ul style="list-style-type: none"> • Is It a Bird or Is It a Plane? <i>Clive Alabaster, Evan Hughes</i> • Range Profiles from an Experimental OFDM Passive Radar <i>Jose Gutierrez Del Arroyo, Julie Jackson</i> • Configurable Clutter Models for Radar Simulations <i>Joseph Jezak, Guy Gadola, Charles Berdanier, Steven Levitan, Donald...</i> • Application of Sparse Time-Frequency Techniques for Targets with Oscillatory Fluctuations <i>Masoud Farshchian</i> | | |
| 11:30 am – 11:45 am | Closing Remarks | Vinny Amuso | Jasmine Ballroom |