FY19

DOCTORAL DISSERTATIONS


MASTER'S THESES

ETHRIDGE, JAMES A., Computational and Experimental Development of 2D Anisotropic Photonic Crystal Metamaterials. AFIT-ENP-MS-19-M-077. Faculty Advisor: Dr. Michael A. Marciniak. Sponsor: AFOSR/RT.


SINN, YONG U., Unresolved Object Detection Using Synthetic Data Generation and Artificial Neural Networks. AFIT-ENG-MS-19-M-055. Faculty Advisor: Dr. Kenneth M. Hopkinson. Sponsor: N/A.

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LANE, CORY T., In-Scene Atmospheric Compensation of Thermal Hyperspectral Imaging with Applications to Simultaneous Shortwave Data Collection. AFIT/ENP/DS/17D-008. Faculty Advisor: Dr. Kevin C. Gross. Sponsor: NASIC.

PAULEC, MASON D., Reconstruction of the 3D Temperature and Species Concentration Spatial Distribution of a Jet Engine Exhaust Plume Using an Infrared Fourier Transform Spectrometer Hyperspectral Imager. AFIT/ENP/DS/18S-025. Faculty Advisor: Dr. Michael A. Marciniak. Sponsor: N/A.

SCHWAAB, MATTHEW J., Arrhenius Rate Chemistry Informed Inter-phase Source Terms (ARCIIST) for Macro-Scale Explosive Hydrocodes. AFIT/ENY/DS/18S-072. Faculty Advisor: Dr. Robert B. Greendyke. Sponsor: AFOSR.


MASTER'S THESES

KERST, AMY M., Investigation of Scramjet Flowfield Temperatures at the Boundary Layer with Hyperspectral Imaging. AFIT/ENP/MS/18J-011. Faculty Advisor: Dr. Kevin C. Gross. Sponsor: AFOSR.

LOIBL, ROBERT P., Target Detection using Convolutional Neural Networks. AFIT/ENG/MS/18M-043. Faculty Advisor: Dr. Kenneth M. Hopkinson. Sponsor: AFRL/RV.

MAYO-JOHNSON, JEREMY A., Validation of a Midwave Infrared Nighttime Cloud Mask. AFIT/ENP/MS/18M-089. Faculty Advisor: Lt Col Robert A. Stenger. Sponsor: N/A.


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O’KEEFE, DANIEL S., Oblique Longwave Infrared Atmospheric Compensation. AFIT/ENP/DS/17S-030. Faculty Advisor: Dr. Kevin C. Gross. Sponsor: AFRL/RY.


MASTER’S THESES

HALLADA, FRANCIS D., The Fresnel Zone Light Field Spectral Imager. AFIT/ENP/MS/17M-095. Faculty Advisor: Lt Col Anthony L. Franz. Sponsor: N/A.

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DOCTORAL DISSERTATIONS


MASTER’S THeses


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BUTLER, SAMUEL D., Experimental and Theoretical Basis for a Closed-Form Spectral BRDF Model. AFIT/ENP/DS/15S-021. Faculty Advisor: Dr. Michael A. Marciniak. Sponsor: AFRL/RY.

MASTERS’ THESIS

ERWIN, WILLIAM J., Verification and Validation of Monte Carlo N-Particle 6 for Computing Gamma Protection Factors. AFIT/ENP/MS/15M-090. Faculty Advisor: Dr. Justin A. Clinton. Sponsor: DTRA.

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GIVENS, RYAN N., Automated Synthetic Scene Generation. AFIT/ENP/DS/14S-08. Faculty Advisor: Col Karl C. Walli. Sponsor: AFRL/RY.

MASTER'S THESES

CASEBOLT, JARED D., Characterization of Construction Material Properties through Gamma Spectroscopy, X-ray Fluorescence, and Hyper-Spectral Imagery for Background Correction Applications in Nuclear Detection. AFIT/ENP/14M-45. Faculty Advisor: Dr. David J. Bunker. Sponsor: DTRA.


RAYNOR, ROBERT A., Range Finding with a Plenoptic Camera. AFIT/ENP/14M-29. Faculty Advisor: Col Karl C. Walli. Sponsor: N/A.

TERVO, RYAN L., Comparative Analysis of Reconstructed Image Quality in a Simulated Chromotomographic Imager. AFIT/ENP/14M-35. Faculty Advisor: Dr. Michael R. Hawks. Sponsor: N/A.

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BARKI, ANUM, An Inverse Kinematic Approach Using Groebner Basis Theory Applied to Gait Cycle Analysis. AFIT/ENP/13M-02. Faculty Advisor: Dr. Ronald F. Tuttle. Sponsor: NRL.

CARLSON, EVAN J., Development of a Spectropolarimetric Capability. AFIT/ENP/13M-05. Faculty Advisor: Dr. Kevin C. Gross. Sponsor: DTRA.

JACOB, MARTIN A., Passive Ranging Using a Dispersive Spectrometer and Optical Filters. AFIT/ENP/12D-02. Faculty Advisor: Dr. Michael R. Hawks. Sponsor: DTRA.

KEITH, ALANNA, Discrimination of Neutral Postures in Computer Based Work. AFIT/ENP/13M-19. Faculty Advisor: Dr. Amy L. Magnus. Sponsor: AFOSR.

KEITH, STEPHANIE R., Discrimination between Child and Adult Forms Using Radar Frequency Signature Analysis. AFIT/ENP/13M-20. Faculty Advisor: Dr. Amy L. Magnus. Sponsor: AFRL/RY.

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DOCTORAL DISSERTATIONS

STEWARD, BRYAN J., *Characterization and Discrimination of Large Caliber Gun Blast and Flash Signatures.* AFIT/DS/ENP/11-D01. Faculty Advisor: Dr. Glen P. Perram. Sponsor: NASIC.

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EKHOLM, JARED M., *3-D Scene Reconstruction from Aerial Imagery.* AFIT/APPLPHY/ENP/12-M03. Faculty Advisor: Lt Col Karl C. Walli. Sponsor: AFRL/RY.

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GORDON, JOE M., Shock Wave Dynamics of Novel Aluminized Detonations and Empirical Model for Temperature Evolution from Post-Detonation Combustion Fireballs. AFIT/DS/ENP/10-S03. Faculty Advisor: Dr. Glen P. Perram. Sponsor: DTRA.

MASTER’S THESES


MASSMAN, JENNIFER L., Understanding the Influence of Turbulence in Imaging Fourier-Transform Spectrometry of Smokestack Plumes. AFIT/GAP/ENP/11-M05. Faculty Advisor: Dr. Kevin C. Gross. Sponsor: N/A.


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Christoph C. Borel and Ronald F. Tuttle, “Recent advances in temperature emissivity separation algorithms,” IEEE Aerospace Conference, Big Sky March 5-12, (2011).