

# Ph.D. Dissertations

Updated: February 12, 2021

Year	Name	Dissertation Title	Electronic Dissertation Link	Committee (*chair, **co-chair)
August 2020	Abeer Alzahrani	Construct Local Quasi-Interpolation Operators Using Linear B-Splines	<a href="https://irl.umsl.edu/dissertation/942/">https://irl.umsl.edu/dissertation/942/</a>	Wenjie He* Haiyan Cai Qingtang Jiang Yuefeng Wu
May 2020	Jawaher Alzahrani	High-Order Adaptive Synchrosqueezing Transform	<a href="https://irl.umsl.edu/dissertation/915/">https://irl.umsl.edu/dissertation/915/</a>	Qingtang Jiang* Haiyan Cai Wenjie He Yuefeng Wu
December 2019	Abdulmtalb Hussen	Recover Data in Sparse Expansion Forms Modeled by Special Basis Functions	<a href="https://irl.umsl.edu/dissertation/896/">https://irl.umsl.edu/dissertation/896/</a>	Wenjie He* Adrian Clingher Qingtang Jiang Yuefeng Wu
August 2019	William Brummond	Kirkman Triple Systems of Order $n$ with Minimum Block Sum equal to $n$ , for Access Balancing in Distributed Storage	<a href="https://irl.umsl.edu/dissertation/870/">https://irl.umsl.edu/dissertation/870/</a>	Ravindra Girivaru* David Covert Ronald Dotzel Prabhakar Rao Yuefeng Wu
August 2019	George Gerules	Enhancing Scalability in Genetic Programming with Adaptable Constraints, Type Constraints and Automatically Defined Functions	<a href="https://irl.umsl.edu/dissertation/867/">https://irl.umsl.edu/dissertation/867/</a>	Cezary Z. Janikow* Uday Chakraborty** John Aleshunas Mark Hauschild
December 2018	Salahdeen Khalifa	Divisibility in the Stone-Cech Compactification of $\mathbb{N}$	<a href="https://irl.umsl.edu/dissertation/792/">https://irl.umsl.edu/dissertation/792/</a>	Ronald Dotzel* Adrian Clingher Ravindra Girivaru Prabhakar Rao
May 2018	Khulud Ziadi	Highly Symmetric Multiple Bi-Frames for Curve and Surface Multiresolution Processing	<a href="https://irl.umsl.edu/dissertation/750/">https://irl.umsl.edu/dissertation/750/</a>	Qingtang Jiang* Haiyan Cai Wenjie He Yuefeng Wu
May 2017	Hanan Alkhidhr	Correspondence between Multiwavelet Shrinkage/Multiple Wavelet Frame Shrinkage and Nonlinear Diffusion	<a href="http://irl.umsl.edu/dissertation/630/">http://irl.umsl.edu/dissertation/630/</a>	Qingtang Jiang* Haiyan Cai Wenjie He Yuefeng Wu
May 2017	Sumudu S. Kalubowila	Mathematical Approaches to Digital Image Inpainting	<a href="http://irl.umsl.edu/dissertation/629/">http://irl.umsl.edu/dissertation/629/</a>	Qingtang Jiang* Haiyan Cai Wenjie He Yuefeng Wu
May 2015	Maria Van der Walt	Wavelet Analysis of Non-Stationary Signals with Applications	<a href="https://irl.umsl.edu/dissertation/195/">https://irl.umsl.edu/dissertation/195/</a>	Charles Chui* Haiyan Cai** Qingtang Jiang Wenjie He Yuefeng Wu
May 2014	Lihua (Tom) Li	Basis Function Approaches for Two Dimensional Cochlear Models	<a href="https://irl.umsl.edu/dissertation/259/">https://irl.umsl.edu/dissertation/259/</a>	Charles Chui* Uday Chakraborty Wenjie He Henry Kang

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<b>December 2013</b>	Mark W. Hauschild	Using Prior Knowledge and Learning from Experience in Estimation of Distribution Algorithms	<a href="https://irl.umsl.edu/dissertation/263/">https://irl.umsl.edu/dissertation/263/</a>	Cezary Janikow* Sanjiv Bhatia Uday Chakraborty Henry Kang
<b>May 2013</b>	John J. Aleshunas	GP Representation Space Reduction Using a Tiered Search Scheme	<a href="https://irl.umsl.edu/dissertation/311/">https://irl.umsl.edu/dissertation/311/</a>	Cezary Janikow* Sanjiv Bhatia Uday Chakraborty Wenjie He
<b>May 2012</b>	Rosalie Wheeler	Function estimation of irregularly spaced data with long memory dependence	<a href="https://irl.umsl.edu/dissertation/369/">https://irl.umsl.edu/dissertation/369/</a>	Haiyan Cai* Ron Dotzel Wenjie He Qingtang Jiang
<b>December 2011</b>	Robert Murphy	Partial Connectivity in Wireless Sensor Networks	<a href="https://irl.umsl.edu/dissertation/402/">https://irl.umsl.edu/dissertation/402/</a>	Haiyan Cai* Adrian Clinger Wenjie He Nevena Maric
<b>December 2011</b>	James J. Smith	Geometric Structures on Matrix-valued Subdivision Schemes	<a href="https://irl.umsl.edu/dissertation/408/">https://irl.umsl.edu/dissertation/408/</a>	Qingtang Jiang* Charles Chui Wenjie He Henry Kang
<b>August 2009</b>	Weiwei Zhu	The Multilevel Structures of NURBs and NURBlets	<a href="https://irl.umsl.edu/dissertation/509/">https://irl.umsl.edu/dissertation/509/</a>	Wenjie He* Charles Chui Haiyan Cai Qingtang Jiang
<b>August 2006</b>	David Stamps	Markov Chain Monte Carlo Methods for Regression Splines with a Penalized Acceptance Ratio	<a href="https://irl.umsl.edu/dissertation/600/">https://irl.umsl.edu/dissertation/600/</a>	Haiyan Cai* Charles Chui Ron Dotzel Qingtang Jiang
<b>August 2006</b>	Eric Mason	Image Segmentation by Energy and Related Functional Minimization Methods	<a href="https://irl.umsl.edu/dissertation/601/">https://irl.umsl.edu/dissertation/601/</a>	Charles Chui* Haiyan Cai Wenjie He Henry Kang
<b>May 2006</b>	Rokhaya Daba Ndao	Subdivision Schemes for the Design and Rendering of 3-D Surfaces		Charles Chui* Sheilah Clarke Ekong Wenjie He Qingtang Jiang**
<b>December 2005</b>	Karen Wurdack	Hierarchical Kalman Filtering		Charles Chui* Haiyan Cai** Qingtang Jiang Ta-Pei Cheng