

David O. McLaurin

Curriculum vitae

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Mississippi State University

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Address: HPC², 2 Research Blvd, Starkville, MS 39759

Education

- | | |
|------|---------------------------------------------------------------------------------------------------|
| 2010 | Ph.D. Department of Aerospace Engineering , Mississippi State University.
CFD/Meshing/Geometry |
| 2007 | B.S. Department of Aerospace Engineering, Mississippi State University. |
| 2007 | Minor, Department of Mathematics and Statistics, Mississippi State University. |

Appointments

- | | |
|----------------|-----------------------------------------------------------------------------------|
| 2010 - Present | Assistant Research Professor, HPC ² /CAVS Mississippi State University |
| 2010 | Research Associate II, HPC ² /CAVS Mississippi State University |

Publications

Books

- | | |
|------|-----|
| 2015 | [1] |
|------|-----|

Refereed Journal Articles

- | | |
|------|-----|
| 2012 | [1] |
|------|-----|

Refereed Conference Proceedings

- | | |
|------|-----|
| 2013 | [1] |
| | [2] |
| 2012 | [3] |
| | [4] |

Manuscripts in Submission

- | | |
|------|-----|
| 2012 | [1] |
|------|-----|

Manuscripts in Preparation

- | | |
|------|-----|
| 2013 | [1] |
| | [2] |

[3]

[4]

[5]

Web-Based Publications

2012 - Present

2010 - Present

2008 - Present

Thesis

2010

Funding

Total:\$ 1,710,658, **Principal:**\$ 122,524, **Co-PI:** \$1,588,134

2013 [1]

[2]

2012 [3]

[4]

[5]

[6]

2011 [7]

[8]

2010 [9]

[10]

Awards and Honors

2008-2010 Bagley College of Engineering Fellow

Invited Talks

2011 [1] “Algorithms for Mesh Repair”, US Army Engineering Research and Development Center.

[2] “SolidMesh/AFLR3 Training”, United States Air Force Base, 2011.

[3] “SolidMesh/AFLR3 Training”, Eglin Air Force Base, 2011.

Conference Activity/Participation

2014	[1]
2013	[2]
	[3]
	[4]
	[5]
	[6]
2012	[7]
	[8]
	[9]

Teaching

2013	Convective Heat Transfer
	Computational Geometry
2012	Engineering Analysis
	Intermediate Fluid Mechanics
	Thermodynamics
2011	Heat Transfer
	Thermodynamics

Research/Interests

Computational Fluids, Fluid Mechanics, Turbulence Modeling, Numerical Methods, Fluid-Structure Interaction

Discrete/Differential Geometry, Mesh Generation/Repair, Computational Geometry, Optimal Mesh Generation, Mesh Adaptation/Deformation

Parallel Computing (Multi-core, Shared/Distributed Memory, GPU-Acceleration), High-Performance Computing

Software Development

2013 - Present	Developer, Code Maintenance, UniformCore: Uniform Core mesh generation for large-scale mesh applications, 12,853 lines of C++.
2010 - Present	Developer, Code Maintenance, SolidMesh: is an unstructured grid generation system that is being developed by the ERC Computational Simulation and Design Center (SimCenter) at Mississippi State University (Current Version, 5.10.1), 232,434 lines of C,C++.
2007 - Present	Developer, Code Maintenance, GRX: Grid Topology Repair and Feature Removal Toolkit and Library (Current Version, 1.3), 18,401 lines of C,C++.

Service To Profession

2012-Present Peer Review (7 total articles): International Meshing Roundtable, MSU-UAB
Differential Equations, International Journal of Computational Methods & Com-
putational Simulations Conference

Department/University Service

Masters Students

2012

Graduate Faculty

2011-Present Department of Computational Engineering, Level I appointment

2011-Present Department of Mechanical Engineering, Level II appointment

2011-Present Department of Aerospace Engineering, Level II appointment

Extracurricular

2012-Present Faculty Advisor, Women's Club Soccer

2011-Present Faculty Advisor, Men's Club Soccer

2010-Present Faculty Advisor, Lambda Chi Alpha Fraternity

Professional Memberships/Affiliations

2010 American Institute of Aeronautics and Astronautics (AIAA)

2011 Institute of Electrical and Electronics Engineers (IEEE)