

## **SUMMARY VITA- Chad Eric Burdyslaw, Ph.D.**

*Adjunct Faculty of Electrical Engineering*

### **Education**

University of Tennessee at Chattanooga	Computational Engineering	Ph.D 2006
Mississippi State University	Computational Engineering	M.S.2001
Washington University	Physics Central	B.S. 1999
Washington University	Computer Science	B.S. 1999

### **Academic Experience**

#### **Adjunct Faculty**

*University of Tennessee at Chattanooga, Chattanooga TN Fall 2013*

- Teaching Engineering Programming ENEE 2250.

#### **Associate Research Professor**

*University of Tennessee at Chattanooga, Chattanooga TN 2011-Present,*

- Research and development of methods related to computational design.

#### **Assistant Research Professor**

*University of Tennessee at Chattanooga, Chattanooga TN 2006-2011*

- Research and development of methods related to computational design.

#### **Research Associate**

*University of Tennessee at Chattanooga, Chattanooga TN 2002-2006*

- Research and development of methods related to computational design.

#### **Research Associate**

*Mississippi State University, Starkville MS 2001-2002*

- Research and development of methods related to computational design.

#### **Graduate Research Assistant**

*Mississippi State University, Starkville MS 1999-2001*

- Research and development of methods related to computational design.

### **Non-Academic Experience**

#### **Software Engineer**

*Accelerations Software, Poulsbo WA 1999 (May-Sept)*

- Software testing and development.

#### **Undergraduate Research Assistant**

*Pacific Northwest National Laboratory, Richland WA 1997 (May-Aug)*

- Research in non-destructive sensing and material identification.

### **Honors and Awards**

- *Magna Cum Laude* graduate in Physics and Computer Science
- First “Outstanding Computer Science Graduate” awarded by CWU
- Associated Western Universities Research Fellowship
- Member *Sigma Pi Sigma* Physics Honor Society
- Society for Physics Students Chapter Officer
- MSU External Research Advisory Committee Presenter
- NSF Engineering Research Center Advisory Committee Presenter
- MSU Engineering Research Center Graduate Student Council Officer

## Reports and Publications

1. Brock, W., Burdyslaw, C., Karman, S., Betro, V., Hilbert, B., Anderson, K., Haimes, R., "Adjoint-Based Design Optimization Using CAD Parameterization Through CAPRI", AIAA-2012-968, 50th AIAA Aerospace Sciences Meeting, Nashville, TN, January 2012.
2. Kapadia, S., Anderson, W.K., and Burdyslaw, C., "Channel shape optimization of solid oxide fuel cells using advanced numerical techniques," *Computers & Fluids*, Vol. 41, 2011, 41-50.
3. Kapadia, S., Anderson, W. K., and Burdyslaw, C., "Channel Shape Design of Solid Oxide Fuel Cells," UTC-CECS-SimCenter-2009-01, June 2009.
4. Anderson, W.K., Karman, S.L., and Burdyslaw, C., "Geometry Parameterization Method for Multidisciplinary Applications," *AIAA Journal*, Vol. 47, No. 6, June 2009.
5. Kapadia, S., Anderson, W. K., Elliott, L., and Burdyslaw, C., "Adjoint based Sensitivity Analysis and Error Correction Methods applied to Solid Oxide Fuel Cells," *ASME Journal of Fuel Cell Science and Technology*, Vol. 6, No. 2, 2009.
6. Anderson, W. Kyle, Karman, Jr., S.L., and Burdyslaw, Chad, "Geometry Parameterization Using Control Grids," AIAA 2008-Presented at the 12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Victoria, BC, September 10-12, 2008.
7. W.K. Anderson, Steve L. Karman, C. Burdyslaw," Geometry Parameterization Using Control Grids", AIAA Paper 2008-6028.
8. Burdyslaw, C.E.; Anderson, W.K., "Advances in Discrete Sensitivity Methods Applied to Uncertainty Analysis", Proceedings of NATO RTO-AVT-147 meeting on Computational Uncertainty in Vehicle Design. Athens, Greece. December 2007.
9. S. Kapadia , W.K. Anderson, L. Elliott, C. Burdyslaw, "Adjoint method for solid-oxide fuel cell simulations", *Journal of Power Sources*, Vol. 166, 2007, pp. 376-385.
10. S. Kapadia, W. K. Anderson, L. Elliott and C. Burdyslaw, "Adjoint Based Sensitivity Analysis And Error Correction Methods Applied To Solid Oxide Fuel Cells", Presented at ASME 5th International Fuel Cell Science, Engineering & Technology Conference, June 18 - 20, 2007, New York, FuelCell 2007-25157.
11. C. Burdyslaw, "Achieving Automatic Concurrency Between Computational Field Solvers and Adjoint Sensitivity Codes". Ph.D. Thesis, University of Tennessee at Chattanooga, 2006

## Research Activities

1. 1999-present, Investigation into design methods applied to computational field simulations.
2. 1999-present, Analysis of stochastic and deterministic optimization methods, and sensitivity analysis techniques.

1999-present, Mathematical methods for the solution of nonlinear partial differential equations and systems of linear equations, numerical integration, and domain discretization