Office:
Dept. of Electrical Engineering
Anderson Hall, Box 7
University, MS 38677
Phone (662) 915-7231

Home:
323 Country Club Rd.
Oxford, MS 38655
Home Phone (662) 234-4912
E-mail eeweh@olemiss.edu

Elliott Hutchcraft

Education

Aug. 1991 – May 1996 Univ. of Mississippi Dept. of Elec. Engineering

- Graduated summa cum laude with B.S.E.E. (GPA 3.96).

Aug. 1996 – Dec. 1998 Univ. of Mississippi Dept. of Elec. Engineering

- Master's of Science in Engineering Science (GPA 4.0).
- Thesis – "On the Development of Some Wavelet Techniques in Computational Electromagnetics"

Dec. 1998 – Aug. 2003 Univ. of Mississippi Dept. of Elec. Engineering

- Ph. D. in Engineering Science – Electrical Engineering (GPA 4.0).
- Dissertation – "The Use of Wavelet-Like Basis Functions in Finite Element Algorithms"

Professional experience

As a graduate student and an instructor at the University of Mississippi, I have been responsible for teaching 10 different lecture courses and 6 different laboratories. The courses, laboratories, and the time periods in which they were taught are listed in more detail below.

Aug. 2003 – present Assistant Professor at the Univ. of Mississippi

- Aug. 2003 – Dec. 2003. Course instructor for Models and Circuits I (El. E. 351).

Aug. 2001 – July 2003 Instructor at the Univ. of Mississippi

- Aug. 2001 – Dec. 2001. Course instructor for Theory of Control Systems (El. E. 431). Course instructor for Computer Aided Design I (El. E. 367). Course instructor for Models and Circuits I (El. E. 351).
- Jan. 2002 – May 2002. Course instructor for Network Analysis and Synthesis (El. E. 443). Course instructor for Models and Circuits II (El. E. 352). Course instructor for Electronics lab (El. E. 353).
- June 2002 – July 2002. Course instructor for Models and Circuits I (El. E. 351). Course instructor for Digital Systems (El. E. 335). Lecturer for Digital Systems lab (El. E. 336).
- Aug. 2002 – Dec. 2002. Course instructor for Programming for Scientists and Engineers (CSCI 251). Course instructor for Computer Aided Design I (El. E. 367). Course instructor for Models and Circuits I (El. E. 351).
- Jan. 2003 – May 2003. Course instructor for Programming for Scientists and Engineers (CSCI 251). Course instructor for Models and Circuits II (El. E. 352). Course instructor for Electronics lab (El. E. 353).

Aug. 1999 – Aug. 2001 Graduate Instructor at the Univ. of Mississippi

- Aug. 1999 – Dec. 1999. Course instructor for Theory of Control Systems (El. E. 431). Course instructor for Advanced Digital Systems (El. E. 385). Lab assistant for Microprocessors lab (El. E. 486).
- Jan. 2000 – May 2000. Course co-instructor for Engineering Analysis II (Engr. 410). Course instructor for Network Analysis and Synthesis (El. E. 443). Lab assistant for Microwave and High Frequency lab (El. E. 433).
- June 2000 – July 2000. Course instructor for Electromagnetic Theory I

(El. E. 441). Course instructor for Computer Aided Design in Electrical Engineering I (El. E. 367). Lecturer for Electronics lab (El. E. 353). Lab assistant for Electronics lab (El. E. 353).

- Aug. 2000 – Dec. 2000. Course instructor for Theory of Control Systems (El. E. 431). Course instructor for Advanced Digital Systems (El. E. 385). Course instructor for Models and Circuits I (El. E. 351).
- Jan. 2001 – May 2001. Course instructor for Network Analysis and Synthesis (El. E. 443). Course instructor for Models and Circuits II (El. E. 352).
- June 2001 – July 2001. Course instructor for Models and Circuits I (El. E. 351). Course instructor for Digital Systems (El. E. 335). Lecturer for Digital Systems lab (El. E. 336).

Aug. 1996 – July 1999 Graduate Student at the Univ. of Mississippi

- Aug. 1996 – Dec. 1996. Lecturer for Microprocessor lab (El. E. 486). Lab assistant for Microprocessor lab (El. E. 486).
- Jan. 1997 – May 1997. Lab assistant for Electronics lab (El. E. 353). Lab assistant for Microwave and High Frequency lab (El. E. 433).
- July 1997 – Aug. 1997. Lab assistant for Electric Circuits lab (Engr. 361).
- Aug. 1997 – Dec. 1997. Course instructor for Theory of Control Systems (El. E. 431).
- Jan. 1998 – May 1998. Course instructor for Network Analysis and Synthesis (El. E. 443).
- Aug. 1998 – Dec. 1998. Course instructor for Theory of Control Systems (El. E. 431).
- Jan. 1999 – May 1999. Course co-instructor for Engineering Analysis II (Engr. 410). Course instructor for Network Analysis and Synthesis (El. E. 443). Lab assistant for Microwave and High Frequency lab (El. E. 433).
- June 1999 – July 1999. Course instructor for Electromagnetic Theory I (El. E. 441). Lab assistant for Electric Circuits lab (ENGR 361). Lab assistant for Electronics lab (El. E. 353).

May 1995 – July 1996 Student Employee at the Univ. of Mississippi

- May 1995 – July 1997. Student teacher at the Univ. of Mississippi's Faculty Technology Development Center. Work included the teaching of multimedia technology to faculty at the University of Mississippi and to elementary and secondary schoolteachers. Programs taught included Persuasion™, PowerPoint™, Hyperstudio™, and Authorware™. Video, image, and sound editing were also taught.
- May 1995 – Aug. 1995. Grader for Electrical Properties of Materials (El. E. 533).
- Jan. 1996 – May 1996. Grader for Engineering Analysis II (Engr. 410).
- Jan. 1996 – May 1996. Lab assistant for Digital Systems lab (El. E. 336).
- June 1996 – July 1996. Lecturer for Digital Systems lab (El. E. 336). Lab assistant for Digital Systems lab (El. E. 336).

Aug. 1994 – Dec. 1994 Co-op at SkyTel in Jackson, MS

- Worked for Mtel Technologies in the Advanced Technology Center. Primary work included development for the fax subsystem of their two-way paging service. Other work included testing and maintenance of the fax and messaging subsystems of their paging service.

May 1993 – Aug. 1993 Employee of Central Manufacturing in Paris, KY

- Primary work included operating a lathe in the machine shop to refinish the

spot weld tips used in the wheel making process.

Journal Publications

W. Elliott Hutchcraft and Richard K. Gordon, "On the Construction and Use of Two-Dimensional Wavelet-Like Basis Functions", to be published in the Applied Computational Electromagnetics Journal.

W. Elliott Hutchcraft and Richard K. Gordon, "A Novel Time Domain Technique Using Wavelet-Like Basis Functions", to be published in the November issue of Microwave and Optical Technology Letters.

Conference Publications

W. Elliott Hutchcraft and Richard K. Gordon, "On the use of Richardson extrapolation in the finite element analysis of two-dimensional electrostatics problems", Proceedings of The 12th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, pp. 443-447, March, 1996.

W. Elliott Hutchcraft and Richard K. Gordon, "The use of Richardson extrapolation to reduce the truncation error in the finite difference solution of one and two dimensional electrostatics problems", Proceedings of The 28th Southeastern Symposium on System Theory, Vol. 1, pp. 438-441, March 31-April 2, 1996.

W. Elliott Hutchcraft and Richard K. Gordon, "Investigation of the properties of wavelet-like basis functions in the finite element analysis of elliptic problems", Proceedings of IEEE Southeastcon '96, Vol. 1, pp. 140-143, April 11-14, 1996.

W. Elliott Hutchcraft, Lee A. Harrison, and Richard K. Gordon, "On the use of compactly supported wavelets in the finite element solution of elliptic problems", Journal of the Mississippi Academy of Sciences Program and Abstracts Issue, pg. 67, January 1998.

Lee A. Harrison, W. Elliott Hutchcraft, Richard K. Gordon, and J.-F. Lee, "The use of Richardson extrapolation in the finite element solution of partial differential equations using wavelet-like basis functions", Proceedings of The 30th Southeastern Symposium on System Theory, pp. 98-101, March 8-10, 1998.

W. Elliott Hutchcraft, Lee A. Harrison, Richard K. Gordon, and J.-F. Lee, "The numerical solution of elliptic problems using compactly supported wavelets", Proceedings of The 30th Southeastern Symposium on System Theory, pp. 102-106, March 8-10, 1998.

W. Elliott Hutchcraft, Lee A. Harrison, Richard K. Gordon, and J.-F. Lee, "Error Reduction Using Richardson Extrapolation in the Finite Element Solution of Partial Differential Equations Using Wavelet-Like Basis Functions", USNC/URSI National Radio Science Meeting 1998 Digest, pg. 202, June 21-26 1998.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, "A Finite Element Time Domain Method Using Wavelet-Like Basis Functions", Proceedings of The Thirty-First Southeastern Symposium on System Theory, pp. 310-314, Vol. 1, March 21-23, 1999.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, "On the Use of Wavelet-Like Basis Functions in a Finite Element Time Domain (FETD) Algorithm", Journal of the Mississippi Academy of Sciences, p. 89, Vol. 44, Number 1, January, 1999.

Richard K. Gordon, W. Elliott Hutchcraft, and Jin-Fa Lee, "An Efficient Finite Element Algorithm Employing Wavelet-like Basis Functions", Digest of the

USNC/URSI National Radio Science Meeting 1999, p. 11, Vol. 1, July 11-16, 1999.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, “On the Use of Wavelet-like Basis Functions in a Finite Element Time Domain Algorithm”, Digest of the USNC/URSI National Radio Science Meeting 1999, p. 102, Vol. 1, July 11-16, 1999.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, “Wavelet-Like Basis Functions in the Finite Element Solution of Electrostatics Problems”, Proceedings of the Memphis Area Engineering and Sciences Conference 2000, p. 30, Vol. 1, May 11, 2000.

W. Elliott Hutchcraft and Richard K. Gordon, “Higher Order Wavelet-like Basis Functions in a Finite Element Algorithm”, Journal of the Mississippi Academy of Sciences (Program and Abstracts Issue), p. 71, Vol. 46, Number 1, January 2001.

W. Elliott Hutchcraft and Richard K. Gordon, “On the Generation of Two-dimensional Wavelet-Like Basis Functions”, Proceedings of The Thirty-Third Southeastern Symposium on System Theory, pp. 387-390, March 18-20, 2001.

Richard K. Gordon and W. Elliott Hutchcraft, “Higher Order Wavelet-like Basis Functions in the Numerical Solution of Partial Differential Equations using the Finite Element Method”, Proceedings of The Thirty-Third Southeastern Symposium on System Theory, pp. 391-394, March 18-20, 2001.

W. Elliott Hutchcraft and Richard K. Gordon, “Two-Dimensional Higher-Order Wavelet-Like Basis Functions in the Finite Element Method”, Proceedings of The Thirty-Fourth Southeastern Symposium on System Theory, pp. 147-151, March 18-19, 2002.

W. Elliott Hutchcraft and Richard K. Gordon, “Error Analysis of Higher Order Wavelet-Like Basis Functions in the Finite Element Method”, Proceedings of The Thirty-Fourth Southeastern Symposium on System Theory pp. 138-141, March 18-19, 2002.

Richard K. Gordon, W. Elliott Hutchcraft, Suppakiat Tuksinvarajan, “Increasing the Efficiency of the Use of Wavelet-Like Finite Element Basis Functions”, Proceedings of The Thirty-Fourth Southeastern Symposium on System Theory pp. 142-146, March, 2002.

W. Elliott Hutchcraft, and Richard K. Gordon, “Higher-Order Wavelet-Like Basis Functions for the Finite Element Solution of Partial Differential Equations over Two Dimensional Regions”, published online in the Proceedings of the Memphis Area Engineering and Sciences Conference 2002.

Richard K. Gordon, and W. Elliott Hutchcraft, “An Investigation of the Error Associated with the Use of Higher-Order Wavelet-Like Basis Functions in the Finite Element Method”, published online in the Proceedings of the Memphis Area Engineering and Sciences Conference 2002.

Suppakiat Tuksinvarajan, W. Elliott Hutchcraft, and Richard K. Gordon, “Efficiency Considerations for the Use of Wavelet-like Finite Element Basis Functions”, published online in the Proceedings of the Memphis Area Engineering and Sciences Conference 2002.

W. Elliott Hutchcraft and Richard K. Gordon, “The Generation and Use of Two-

Dimensional Wavelet-Like Basis Functions", accepted for publication in the proceedings of the 19th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 24-28, 2003.

W. Elliott Hutchcraft and Richard K. Gordon, "On the Application of Wavelet-Like Basis Functions in Finite Element Algorithms", to be published in the USNC/URSI National Radio Science Meeting 2003 Digest.

Suppakiat Tuksinvarajan, W. Elliott Hutchcraft, and Richard K. Gordon, "On Improving the Efficiency of the Use of Wavelet-Like Basis Functions in Finite Element Algorithms", to be published in the USNC/URSI National Radio Science Meeting 2003 Digest.

Presentations (presenter is underlined)

W. Elliott Hutchcraft and Richard K. Gordon, "On the use of Richardson extrapolation in conjunction with a higher order finite difference technique for the analysis of one-dimensional electrostatics problems", presented at The 60th Annual Meeting of the Mississippi Academy of Sciences, Jackson, MS, February, 1996.

W. Elliott Hutchcraft and Richard K. Gordon, "On the use of Richardson extrapolation in the finite element analysis of two-dimensional electrostatics problems", presented at The 12th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March, 1996.

W. Elliott Hutchcraft and Richard K. Gordon, "The use of Richardson extrapolation to reduce the truncation error in the finite difference solution of one and two dimensional electrostatics problems", presented at The 28th Southeastern Symposium on System Theory, Baton Rouge, LA, March 31-April 2, 1996.

W. Elliott Hutchcraft and Richard K. Gordon, "Investigation of the properties of wavelet-like basis functions in the finite element analysis of elliptic problems", presented at IEEE Southeastcon '96, Tampa, FL, April 11-14, 1996.

Lee A. Harrison, W. Elliott Hutchcraft, Richard K. Gordon, and J.-F. Lee, "The use of Richardson extrapolation in the finite element solution of partial differential equations using wavelet-like basis functions", presented at The 30th Southeastern Symposium on System Theory, Morgantown, WV, March 8-10, 1998.

W. Elliott Hutchcraft, Lee A. Harrison, Richard K. Gordon, and J.-F. Lee, "The numerical solution of elliptic problems using compactly supported wavelets", presented at The 30th Southeastern Symposium on System Theory, Morgantown, WV, March 8-10, 1998.

W. Elliott Hutchcraft, Lee A. Harrison, and Richard K. Gordon, "On the use of compactly supported wavelets in the finite element solution of elliptic problems", presented at The 62nd Annual Meeting of the Mississippi Academy of Sciences, Biloxi, MS, February, 1998.

W. Elliott Hutchcraft, Lee A. Harrison, Richard K. Gordon, and J.-F. Lee, "Error Reduction Using Richardson Extrapolation in the Finite Element Solution of Partial Differential Equations Using Wavelet-Like Basis Functions", presented at the 1998 USNC/URSI National Radio Science Meeting, Atlanta, GA, June 21-26 1998.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, "A Finite Element Time Domain Method Using Wavelet-Like Basis Functions", presented at The Thirty-First Southeastern Symposium on System Theory, Auburn, Alabama, March 23, 1999.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, "On the Use of Wavelet-Like Basis Functions in a Finite Element Time Domain (FETD) Algorithm", presented at The Sixty-Third Annual Meeting of the Mississippi Academy of Sciences, Tupelo, Mississippi, February 25, 1999.

W. Elliott Hutchcraft, Richard K. Gordon, and Jin-Fa Lee, "Wavelet-Like Basis Functions in the Finite Element Solution of Electrostatics Problems", presented at The MAESC 2000 Conference, Memphis, TN, May 11, 2000.

W. Elliott Hutchcraft and Richard K. Gordon, "On the Generation of Two-dimensional Wavelet-Like Basis Functions", presented at The Thirty-Third Southeastern Symposium on System Theory, Athens, OH, March 18-20, 2001.

Richard K. Gordon and W. Elliott Hutchcraft, "Higher Order Wavelet-like Basis Functions in the Numerical Solution of Partial Differential Equations using the Finite Element Method", presented at The Thirty-Third Southeastern Symposium on System Theory, Athens, OH, March 18-20, 2001.

W. Elliott Hutchcraft and Richard K. Gordon, "Higher Order Wavelet-like Basis Functions in a Finite Element Algorithm", presented at The Sixty-Fifth Annual Meeting of the Mississippi Academy of Sciences, Tupelo, MS, February 8-9, 2001.

W. Elliott Hutchcraft, "New Features in Fortran 90/95", presented at University of Mississippi's Electromagnetics Seminar. September, 2001.

W. Elliott Hutchcraft and Richard K. Gordon, "Two-Dimensional Higher-Order Wavelet-Like Basis Functions in the Finite Element Method", presented at the Thirty-Fourth Southeastern Symposium on System Theory.

W. Elliott Hutchcraft and Richard K. Gordon, "Error Analysis of Higher Order Wavelet-Like Basis Functions in the Finite Element Method", presented at the Thirty-Fourth Southeastern Symposium on System Theory.

Richard K. Gordon, W. Elliott Hutchcraft, and Suppakiat Tuksinvarajan, "Increasing the Efficiency of the Use of Wavelet-Like Finite Element Basis Functions", presented at the Thirty-Fourth Southeastern Symposium on System Theory.

W. Elliott Hutchcraft and Richard K. Gordon, "Higher-Order Wavelet-Like Basis Functions for the Finite Element Solution of Partial Differential Equations over Two Dimensional Regions", presented at the Memphis Area Engineering and Sciences Conference 2002.

Richard K. Gordon and W. Elliott Hutchcraft, "An Investigation of the Error Associated with the Use of Higher-Order Wavelet-Like Basis Functions in the Finite Element Method", presented at the Memphis Area Engineering and Sciences Conference 2002.

Suppakiat Tuksinvarajan, W. Elliott Hutchcraft, and Richard K. Gordon, "Efficiency Considerations for the Use of Wavelet-like Finite Element Basis Functions", presented at the Memphis Area Engineering and Sciences Conference 2002.

W. Elliott Hutchcraft and Richard K. Gordon, "The Generation and Use of Two-Dimensional Wavelet-Like Basis Functions", presented at the 19th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 24-28, 2003.

W. Elliott Hutchcraft and Richard K. Gordon, "On the Application of Wavelet-Like Basis Functions in Finite Element Algorithms", presented at the 2003 USNC/URSI National Radio Science Meeting.

Suppakiat Tuksinvarajan, W. Elliott Hutchcraft, and Richard K. Gordon, "On Improving the Efficiency of the Use of Wavelet-Like Basis Functions in Finite Element Algorithms", presented at the 2003 USNC/URSI National Radio Science Meeting.

Additional professional activities

Assistant to the Technical Chair for the 12th Annual Review of Progress in Applied Computational Electromagnetics -- Primary duty was the development of an author database using Access™. The database was used to send acceptance letters, forms, etc. to the authors.

President of Univ. of Mississippi chapter of IEEE, 1995-1996

President of Epsilon Omega chapter of Eta Kappa Nu, 1994-1995

Treasurer of Univ. of Mississippi chapter of IEEE, 1993-1994, 1998-1999

Vice President of Univ. of Mississippi chapter of IEEE, 1994-1995

Bridge Correspondent of Epsilon Omega chapter of Eta Kappa Nu, 1995-1996

Secretary of Mississippi Beta chapter of Tau Beta Pi, 1994-1995

Professional memberships

Institute of Electrical and Electronic Engineers

IEEE – Antennas and Propagation Society

IEEE – Microwave Theory and Techniques Society

IEEE – Computer Society

National Society of Professional Engineers

Eta Kappa Nu Electrical Engineering Honor Society

Tau Beta Pi Engineering Honor Society

Phi Kappa Phi Honor Society

Awards received

Most Outstanding Senior Engineer Award from the state of Mississippi (eligible candidates included seniors in engineering from all the universities in Mississippi)

Taylor Medal (The 2000 undergraduate catalog states that "the Taylor Medal, presented at the annual Honors Day ceremony in early April, and the Phi Kappa Phi Commencement Award represent the highest scholastic achievement.")

Class Marshall for the School of Engineering in the Spring 1996 Graduation Ceremony

Graduate Fellowship for both Master's and Ph. D.

Eta Kappa Nu Honor Society

Tau Beta Pi Honor Society

Phi Kappa Phi Honor Society

National Collegiate Engineering Award

All-American Scholar

Alpha Lambda Delta Honor Society

Who's Who Among Students in American Universities and Colleges Member

Academic Excellence Scholarship from the University of Mississippi

Chancellor's Honor Roll – Nine Semesters

References: Available on request