HONG ZHOU, Ph.D.

Professor of Statistics
Arkansas State University

Department of Mathematics and Statistics
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State University, AR 72467

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EDUCATION

University of Memphis, Memphis, Tennessee

Ph. D.	Applied Statistics	2006
M.S.	Applied Statistics	2005

HuaZhong University of Science and Technology, China

M.S.	Electric and Electronic Engineering	1988
B.S.	Electric and Electronic Engineering	1985

PROFFSSIONAL EXPERIENCE

Department of Mathematics and Statistics, Arkansas State University

Professor	2020-present
Associate Professor	2014-2019
Assistant Professor	2008-2013
Visiting Assistant Professor	2006-2007

Department of Biostatistics, St. Jude Children's Research Hospital, Memphis, TN

Biostatistician	2002-2004

Department of Mathematical Sciences, University of Memphis, Tennessee

Graduate Assistant	2001-2002, 2004-2006

CERTIFICATION&AWARDS

Department of Mathematical Sciences, University of Memphis

Teaching Certificate, Graduate School of University of Memphis	2006
Graduate Assistant Scholarship	2001-2002, 2004-2006

RESEARCH GRANT

External Grants:

1. Arkansas Science & Technology Authority Fund (NO. 15-B-09), PI, $42,372 09/19/2014-11/30/2015
   Research project: "Biologically supported new stochastic models of skin cancer"
2. Arkansas Student Undergraduate Research Fellowship (SURF), PI, $2,7500 1/01/2013-05/31/2013
   Research project: "Projection properties of generalized minimum aberration designs of 40 and 44 runs"
3. Arkansas Student Undergraduate Research Fellowship (SURF), PI, $4,000 01/01/2012-12/31/2012
   Research project: "Projection properties of generalized minimum aberration designs of 32 and 36 runs"
4. Arkansas NSF EPSCoR fellowship, PI, $3,900 01/01/2009-12/31/2009

Research project: "Computer simulation study of confidence intervals for intraclass correlation coefficients for three-way mixed models"

Internal Grants:

1. Undergraduate Research Award, Arkansas State University, $1,000 2022 spring
2. Burns Summer Undergraduate Research Award, College of Sciences and Mathematics, $2,500 2021 summer
   Project titled "Development of Shiny App to Construct Multiple Testing Procedures"
3. GRADE-SE, College of Sciences and Mathematics, PI, 5,000 2016 Summer
   Prepare for resubmission of grant proposal "Collaborative research: biologically supported new stochastic models of carcinogenesis" to NIH R15
4. GRADE-SE, College of Sciences and Mathematics, PI, $5,000 2013 Summer
   Prepare for a NSF grant proposal "Collaborative research: biologically supported new stochastic models of carcinogenesis"
5. ASU Faculty Senate Development Awards for conference travel, $472, 2013
   Lane/Deutsch Faculty Development Endowment Funds, $520 2013
6. ASU Faculty Research Fund, PI, $3,680 2010
   Research project: "Acceleration of generalized minimum aberration designs of Hadamard matrices on graphics processing units (GPU)",

Note: Grant Development Support STEM Research (GRADE-SE)

PUBLICATIONS (* Students)

1. **H. Zhou** & H.J. Li (2021) Applications of covering principle to clinical trials with multiple objectives, Communications in Statistics - Simulation and Computation, DOI: 10.1080/03610918.2021.1915334
2. J. Wolf * and **H. Zhou** (2021). "A simple data-driven fallback procedure for multiple comparisons", *Communications in Statistics - Theory and Methods*, 50:13, 3179-3197, DOI: 10.1080/03610926.2019.1691231
3. H.J. Li and **H. Zhou** (2021). "A new approach to address multiplicity in hypothesis testing with constraints", *Communications in Statistics - Theory and Methods*, 50:1, 35-60, DOI: 10.1080/03610926.2019.1628989
4. H.J. Li and **H. Zhou** (2018). "Covering principle: a new approach to address multiplicity in hypothesis testing", *Proceedings of 2018 Joint Statistical Meetings (JSM), Biopharmaceutical Section*. Alexandria, VA: American Statistical Association, 1263-1273.
5. H.J. Li, Y. Ma and **H. Zhou** (2017). "Generalized Holm's procedure for multiple testing problem", *Communications in Statistics - Theory and Methods*, 46:15, 7503-7510, DOI: 10.1080/03610926.2016.1154158
6. W.Y. Tan and **H. Zhou** (2013). "New cancer stochastic models involving both hereditary and non-hereditary cancer: a new approach". ISRN *Biomathematics*, vol.2013, Article 954912, 19 pages. DOI:10.1155/2013/954912.
7. J. Calhoun, J. Graham, **H. Zhou** and H. Jiang (2012). "Acceleration of generalized minimum aberration designs of Hadamard matrices on graphics processing units", *Proceedings of the 2012 IEEE 14th International Conference on High Performance Computing and Communications*, 1294-1300. DOI 10.1109/HPCC.2012.191.
8. **H. Zhou,** P. Muellerleile**,** D. K. Ingram and S. P. Wong (2011), "Confidence intervals and F tests for intraclass correlation coefficients based on three-way mixed models", *Journal of Educational and Behavioral Statistics*, 36:5, 638-671.
9. **H. Zhou**, S. Leonard*, and D. Ingram (2011). "Confidence intervals on generalizability coefficients for three-way mixed models and simulation study", *Proceedings of 2011 Hawaii University International Conferences on Mathematics and Engineering*, June, 13-15. ISBN 2160-2573.
10. Chonglei Mei*, Ryipeng Li*, **H. Zhou**, Hai Jiang (2010), "Exploiting bit and GPU-thread level parallelism in construction of generalized minimum aberration designs", *Proceedings of the 2010 International Conference*

on Parallel and Distributed Processing Techniques and Applications, 235-240, July.

PRESENTATIONS AND POSTERS (* Students)

International Presentation:

1. B. Nguyen* and **H Zhou** (2021), "New Multiple Testing Procedures Based on Covering Principle", WVU Symposium (online), August 11, 2021, West Virginia University.
2. J. Wolf * and **H. Zhou** (2019). "A data-driven fallback procedure for multiple comparisons", 2019 *Joint Statistical Meetings*, Denver, Colorado, July 27-August 1.
3. **H. Zhou** and H.J. Li (2019). "Covering principle to address multiplicity in hypothesis testing with constrains", 2019 *Annual Meetings of Western North American Region (*WNAR*) of the International Biometric Society (*IBS*)*, Portland, Oregon, June 22-27.
4. H.J. Li and **H. Zhou** (2019). "A general solution to multiple hypothesis testing problem with constraints", 2019 *Joint Statistical Meetings*, Denver, Colorado, July 27-August 1.
5. **H. Zhou** and H.J. Li (2018). "Covering Principle: a new approach to address multiplicity in hypothesis testing", 2018 *Joint Statistical Meetings*, July 31- August 2, Vancouver, Canada.
6. **H. Zhou** and H.J. Li (2018). "A new approach to address multiplicity in hypothesis testing", *International Conference on Mathematics and Statistics (*ICOMAS*)*, May 8, University of Memphis, TN.
7. H.J. Li and **H. Zhou** (2017). "General covering principle to address multiplicity in hypothesis testing", *10th International Conference on Multiple Comparison Procedures*, June 20-23, Riverside, University of California CA.
8. H.J. Li and **H. Zhou** (2017). "A new solution to gate-keeping problems in multiple hypothesis testing", *2017 Joint Statistical Meetings*, July 29-August 3, Baltimore, MD.
9. **H. Zhou** and H.J. Li (2015). "Generalized Holm's procedure for multiple testing problem", *2015 Joint International Chinese Statistical Association (*ICSA*) Symposium and Graybill Conference*, June 17, Colorado State University, Fort Collins, CO.
10. **H. Zhou**, M. Paige, D. Ingram and SP. Wong (2014). "Confidence intervals and F-test for intraclass correction coefficients based on three-way mixed effect models", 2014 *Joint Statistical Meetings*, Boston, MA, Aug. 2-7.
11. W.Y. Tan and **H. Zhou** (2013). "New stochastic models of carcinogenesis for human cancer involving multiple pathways", BIT 6th *World Cancer Congress*, May 23-25, Xian, China
12. L. White*, D. Ingram and **H. Zhou** (2013). "Projection properties of generalized minimum aberration designs of 40 and 44 runs", *Nebraska Conference for Undergraduate Women in Mathematics*, Lincoln, NE, Jan. 25-27.
13. W. Y. Tan and **H. Zhou** (2013). "New biologically supported models of carcinogenesis involving hereditary and non-hereditary cancer cases", *Target Meeting* 2nd *World Cancer Online Conference,* January 12.
14. W.Y. Tan and **H. Zhou** (2012). "New stochastic models of human eye cancer involving both hereditary and non-hereditary cancers", 2012 *Joint Statistical Meetings*, July 29, San Diego, CA.
15. L. White*, D. Ingram and **H. Zhou** (2012). "Constructions of generalized minimum aberration designs of 32 and 36 runs", MAA *MathFest*, August 3, Madison, WI.
16. J. Calhoun*, J. Graham*, **H. Zhou** and H. Jiang (2012). "Acceleration of generalized minimum aberration designs of Hadamard matrices on graphics processing units", 2012 IEEE 14th *International Conference on High Performance Computing and Communications*, June 26, Liverpool, England, UK.
17. L. White*, D. Ingram and **H. Zhou** (2012). "Constructions of Generalized Minimum Aberration Designs of 36 Runs", 18th *annual* SAEOPP McNair/SSS *Research Conference of the Southeastern Association of Educational Opportunity Program* (SAEOPP), June 23, 2012, Atlanta, GA.
18. W.Y. Tan and **H. Zhou** (2012). "New *Stochastic Models of Adult Human Eye Cancer Involving Both Hereditary and Non-hereditary Cancers*", *Target Meeting* 1st *World Cancer Online Conference,* January 12.
19. **H. Zhou**, S. Leonard*, and D. Ingram (2011). "Confidence intervals on generalizability coefficients for three-way mixed models and simulation study", 2011 *Hawaii University International Conferences on Mathematics and Engineering*, June, 13-15, Honolulu, HI.

20. **H. Zhou** and D. Ingram (2010), "Optimal non-regular designs of 32 runs and their properties", *Research Conference on Statistics in Quality, Industry, and Technology*, May 25, National Institute of Standards and Technology (NIST), Gaithersburg, MD.
21. W.Y. Tan and **H. Zhou** (2010). "Characterization of human eye cancer incidence by new stochastic models of carcinogenesis", *Western North American Regions (WNAR) conference*, June 22, Seattle, WA.
22. S. Leonard* and **H. Zhou** (2010). "Computer simulation study of confidence intervals for intraclass correlation coefficients for three-way random effect models", *Nebraska Conference for Undergraduate Women in Mathematics*, Jan. 31, University of Nebraska-Lincoln, NE.
23. W.Y. Tan and **H. Zhou** (2009), "A stochastic and state space model for human eye cancer involving both hereditary and non-hereditary cancer genes", 2009 *Joint Statistical Meetings*, August 1-6, Washington D.C.
24. W.Y. Tan and **H. Zhou** (2008), "Stochastic and state space models of human eye cancer: some new insights", *Eastern North American Region Meeting* (ENAR), March 16-19, Arlington, Virginia.
25. **H. Zhou**, L.Y. Deng, M.L. Aggarwal and D.K.J. Lin (2007), "Discrimination of the first order D-optimal saturated designs", *International Conference on Design and Analysis of Experiments*, October 31-Nov. 3, Memphis, TN.
26. **H. Zhou**, L.Y. Deng , M.L. Aggarwal and D.K.J. Lin (2006) , "Optimal fold-over designs for three-level fractional factorial designs", 2006 *Joint Statistical Meetings*, August 6-10, Seattle, Washington.
27. **H. Zhou**, L.Y. Deng , M.L. Aggarwal and D.K.J. Lin (2005) , "Two blocks optimal fold-over designs for three-level fractional factorial designs", *International Conference on Design and Analysis of Experiments*, October 11-14, Santa Fe, New Mexico.
28. **H. Zhou,** L.Y. Deng (2005)**, "**A large uniform design construction using multiple recursive random generators", *International Conference on Design of Experiments*, Memphis, Tennessee, May 13-15.
29. A.H. Gaur, H. Liang, W. Bitar, **H. Zhou** and H.J. Hu (2004), "Monitoring immune status in pediatric patients with HIV -Are frequent CD4 assays necessary?" *Pediatric Academic Societies' Annual Meetings* 2004, May 1-4, 2004, San Francisco, California.

Regional Presentation: (* Students)

1. B. Nguyen***** and **H Zhou** (2022), "Covering Principle for Multiple Testing Procedures", 7th LSUS Regional Student Scholars Forum, March 11, 2022, Louisiana State University in Shreveport.
2. C. Helms* and **H. Zhou** (2016). "Generalized Holm's procedure for multiple testing problem", *Oklahoma-Arkansas Mathematical Association of America Chapter Conference*, April 1, 2016, University of Central Arkansas, AR. (An undergraduate student honors thesis)
3. J. Wolf * and **H. Zhou** (2014). "A Modified Weighted Holm's Procedure for Multiple Comparisons", OK-AR MAA, Harding University, AR, April 11-12.
4. L. White*, D. Ingram and **H. Zhou** (2013). "Projection properties of generalized minimum aberration designs of 32 runs", OK-AR MAA, Oklahoma State University, Stillwater, OK, April 5-6.
5. S. Leonard* and **H. Zhou** (2009). "Computer simulation study of confidence intervals for intraclass correlation coefficients for two-way mixed models", 16th *Annual Arkansas Undergraduate Research Conference*, April 17, Henderson State University, Arkadelphia, AR.

Local Presentation: (*Students)

1. B. Nguyen***** and **H Zhou** (2022), "Development of Shiny App to Conduct Multiple Testing Procedure", CreateAstate, April 19, 2022, Arkansas State University.
2. A. Kirk* and **H. Zhou** (2018). "Simulation study for some multiple testing procedures based on the covering principle", Create@ ASTATE, April 17, Arkansas State University.
3. C. Helms* and **H. Zhou** (2016). "Generalized Holm's procedure for multiple comparisons", Create@ ASTATE, April 6, 2016, Arkansas State University.
4. C. Helms* and **H. Zhou** (2015). "Simulation study for some multiple testing procedures", RC Talk , October 13, 2015, Department of Mathematics and Statistics, Arkansas State University.

5. C.P. Katari* and **H. Zhou** (2015). "Biologically supported new stochastic models of skin cancer", Create@ ASTATE , April 7, 2015, Arkansas State University..
6. J. Wolf * and H. Zhou (2014). "A modified weighted Holm's procedure for multiple comparisons", Create@ASTATE, April 10, 2014.
7. L. White*, D. Ingram and **H. Zhou** (2013). "Constructions of generalized minimum aberration designs of 32 runs", Create@ ASTATE, April 11.
8. S. Leonard* and **H. Zhou** (2010). "Algorithm to generate combinations under constraints", Undergraduate Scholars Day (USD), April 13, 2010, Arkansas State University.
9. S. Leonard* and **H. Zhou** (2009). "Computer simulation study of confidence intervals for intraclass correlation coefficients for two-way mixed models", Undergraduate Scholars Day (USD), April 14, 2009, Arkansas State University.

STUDENT RESEARCHERS MENTORED

Undergraduate Student Research: (*Students)

1. Bao Nguyen*, undergraduate research project on " Development of Shiny App to Conduct Multiple Testing Procedure", Undergraduate Research Award $ 1,000 2022
2. Bao Nguyen*, undergraduate research project on " New Multiple Testing Procedures Based on Covering Principle", Burns 2021 Summer Award $ 2,500 2021 Summer
3. Bo Ritter*, undergraduate honors thesis, "Computer simulation study: covering principle versus the graphical approach in multiple hypothesis testing" 2017-2018
4. Audrey Kirk*, undergraduate honors thesis, "Simulation study for some multiple testing procedures based on the covering principle" 2017-2018
5. Laura White*, undergraduate SURF research project on "Constructions of generalized minimum aberration designs of 40 and 44 runs" 2011-2013
6. Jon Calhoun*, undergraduate research project on "Acceleration of generalized minimum aberration designs of Hadamard matrices on graphics processing units (GPU)" 2010
7. Shauna Leonard*, undergraduate honors thesis, "Computer simulation study of confidence intervals for intraclass correlation coefficients for two-way mixed models" 2008-2009

Graduate Student Research: (*Students)

1. Yu Zhang*, a graduate student working on the project "Development of R Package for multiple testing procedures based on covering principle", 2019-2021
2. Chaitanya Prakash Katari*, graduate research project on "Biologically supported new stochastic models of skin cancer", 2014 - 2015
3. Jared Wolf*, graduate thesis, "A simple data-driven fallback procedure for multiple comparisons" 2013-2014
4. Josh Graham*, graduate research project on "Acceleration of generalized minimum aberration designs" 2010

CLASSROOM TEACHING EXPERIENCE

Undergraduate Courses:

Mathematics:

Intermediate Algebra	Business Calculus
Discrete Structures	Calculus II

Statistics:

Applied Statistics I	Applied Statistics I II
Probability and Statistics I	Probability and Statistics II

Graduate Courses:

Statistics:

Probability and Statistics II (dual level)	Statistical Methods with SAS Programming
Design of Experiments	Statistical Analysis I
Statistical Analysis II	Probability
Survival Analysis	

ARKANSAS STATE UNIVERSITY COMMITTESERVICE

At the department level:

Co-coordinator of Department Graduate Admission in MS STAT	2020-present
Chair of Department curriculum committee	2019-present
Chair of Department library book committee	2016-present
Chair of Department new faculty search committee for a tenure-track faculty position in statistics	2018
Department Undergraduate and Graduate Certificate in Statistics Proposal Committee	2018-present
Department MS in Statistics Proposal Committee,	2014-present
Department Advisory Committee for Selection of Graduate Teaching Assistants	2014-present
Department Scholarship and Awards Committee	2014-present
Department Graduate Assistantship Awards Committee	2014-present
Department Course in Statistics Transfer Review Committee	2014-present
Degree Program Assessment Committee	2014-present
Department new faculty search committee for a tenure-track faculty position in statistics	2017
MS Comprehensive Exam committee:	
Made MS Comprehensive Exam for Sharika Minor & Zachary Ellenburg	2022
MS Comprehensive Exam Committee	
Made MS Comprehensive Exam for Stephanie Newman & Meng Chen)	2018
MS Comprehensive Exam committee: Made MS Comprehensive Exam for Belina Dulaney	2017
MS Comprehensive Exam committee: Made MS Comprehensive Exam for Tara Walker	2016

At the college level:

Curriculum Committee of College of Sciences and Mathematics	2019-present
Seminar Series Committee of College of Sciences and Mathematics	2013-2016

At the university level:

BS Data Science Development Committee	2019-present
University General Education Committee	2016-present
Undergraduate Admissions Appeal Committee	2010-2012

Leadership and Services to Students and Organizations:

Faculty advisor of ASU Chinese Student Association	2012-2015

Other University and College Services

The 61th Northeast Arkansas Regional Science Fair, Judge,	March 16, 2017
The 60th Northeast Arkansas Regional Science Fair, Judge,	March 17, 2016
The 59th Northeast Arkansas Regional Science Fair, Judge,	March 05, 2015
The 58th Northeast Arkansas Regional Science Fair, Judge,	March 14, 2014
The 57th Northeast Arkansas Regional Science Fair, Judge,	March 08, 2013

CSM college faculty to judge the Create@STATE poster session on Thursday	April 11, 2013
Crowley's Ridge BEST Robotics, Judge for spirit & sportsmanship	Oct. 27, 2012
Northeast Arkansas Regional Science Fair, Judge	March 16, 2012
Crowley's Ridge BEST Robotics, Judge for spirit & sportsmanship	Oct. 30, 2011
Northeast Arkansas Regional Science Fair, Judge	March 11, 2011
Crowley's Ridge BEST Robotics, Judger for spirit & sportsmanship	Oct. 30, 2010
Northeast Arkansas Regional Science Fair, Judge	March 05, 2010

UNDERGRADUATE HONORS THESIS COMMITTEES

Chair of Honors thesis committee for Bao Nguyen	2021-2022
Chair of Honors thesis committee for Audrey Kirk	2017-2018
Chair of Honors thesis committee for Bo Ritter	2017-2018
Chair of Honors thesis committee for Christian Helms	2015-2016
Chaired Honors Thesis Committee of S. Leonard	2009-2010
Undergraduate Honors thesis committee for Anna Grayson	2017
Undergraduate Honors thesis committee for Casey Gilbert	2017
Undergraduate Honors thesis committee for Miranda Perry	2017
Undergraduate Honors Thesis Committees: Camder Harrell	2014
Undergraduate Honors Thesis Committees: Belina Santos	2014

MASTERS THESIS COMMITTEES

Chair of Graduate Thesis, Yu Zhang	2019-2020
Chair of Graduate Thesis, Jared Wolf	2013-2014
Graduate Thesis Committee for Ms. Ranju Karki	2017-2018
Graduate Thesis Committee for Ms Ashton Erwin	2013-2014

STATISTICAL CONSULTING

St. Bernard's Medical Center, Clinical Pharmacy Residency Program	Nov., 2021 – June, 2022

PROFESSIONAL MEMBERSHIP

Member of our Editorial Board, Frontiers in Pharmacology	2015-present
Member of American Statistical Association (ASA)	2003-present
Member of Memphis Area Statistical Analysis System (SAS) Users Group (MASGA)	2003-2006
Treasurer of Western Tennessee American Statistical Association (WTASA)	2004-2005

COMUTER SKILLS

Operation systems: Unix/Linux, Windows, and MS-DOS
Statistical Packages: SAS, JMP, RStudio, SPSS, MINITAB, DesignExpert, WinBUGS, MAPLE
Languages: C++, FORTRAN, SQL
Database: SQL Server, Oracle, VFP