Curriculum Vitae

Armin R. Mikler, PhD

PERSONAL

Current Position:

Professor and Associate Department Chair
Department of Computer Science and Engineering
University of North Texas

Center Director
Center for Computational Epidemiology and Response Analysis (CeCERA)
University of North Texas

EDUCATION

Doctor of Philosophy - August 1995
Iowa State University, Ames, IA.

Major	: Computer Science
Advisors	: Prof. Johnny Wong and Prof. Vasant Honavar
Emphasis	: Communication Networks
Dissertation	: Intelligent Routing

Master of Science - December 1990
Iowa State University, Ames, IA.

Major	: Computer Science
Advisor	: Prof. Johnny Wong
Emphasis	: Communication Networks
Thesis	: Secure Communication in Integrated Services Digital Networks

Diplom-Informatiker - July 1988
University of Applied Science, Darmstadt, Germany.

Major	: Computer Science
Advisor	: Prof. Norbert Krier[†]
Emphasis	: Systems-Programming
Thesis	: Automated Remote Software Maintenance

HONORS/ AWARDS

Fulbright Scholarship - July 1986 to May 1987
Visiting Student for one Academic Year at Iowa State University, Ames, IA.
Upsilon Pi Epsilon - 1992
Honor Society in the Computing Sciences, Iowa State University Chapter.
Teaching Excellence Award - 1993
Department of Computer Science, Iowa State University, Ames, IA.
DFG (Deutsche Forschungs Gemeinschaft) Mercator Professor – June 15 – Sept. 15, 2007
Visiting Professor at Fern Universität Hagen, Germany
'Fessor Graham Award (SGA Honors Professor) – 2011
University of North Texas, Denton, TX.
UNT Research Leadership Award – 2015
University of North Texas, Denton, TX.

EMPLOYMENT

Research

DFG Mercator Visiting Professor – June 15 to Sept. 15, 2007
Visiting Professor at Fern-Universität Hagen, Germany

Postdoctoral Research Associate - Aug. 1995 to Aug. 1997
Scalable Computing Laboratory, Ames Laboratory,
U.S. Department of Energy, Iowa State University, Ames, IA.

Research Assistant - Sept. 1989 to May 1992
Center for Agricultural and Rural Development (CARD)
Iowa State University, Ames, IA.

Research Assistant - Aug. 1987 to Jan 1988
University of Applied Science, Darmstadt, Germany.

Teaching

Professor – 2011 - present
Department of Computer Science and Engineering, University of North Texas, Denton, TX.
Joined Appt. in the Department of Biological Sciences, University of North Texas, Denton, TX**.**

Associate Professor – 2003 – 2011
Department of Computer Science and Engineering, University of North Texas, Denton, TX.
Joined Appt. in the Department of Biological Sciences, University of North Texas, Denton, TX.

Assistant Professor - September 1997 – 2003
Department of Computer Sciences, University of North Texas, Denton, TX.

Adjunct Assistant Professor - Jan. 1996 to May 1997
Department of Computer Science, Iowa State University, Ames, IA.

Graduate Teaching Assistant - June 1992 to August 1995
Department of Computer Science, Iowa State University, Ames, IA.

Graduate Teaching Assistant - Summer, 1989
Upward Bound Program, Student Affairs, Iowa State University, Ames, IA.

Graduate Teaching Assistant - Aug. 1988 to May 1989
Department of Business Management, Iowa State University, Ames, IA.

Instructor - Sept. 1987 to June 1988
Kreisvolkshochschule, Darmstadt, Germany.

Instructor - Jan. 1984 to June 1986
Kreisvolkshochschule, Offenbach, Germany.

Technical

Electronics Technician - Jan. to Aug. 1982
Telenorma, Rödermark, Germany.
- Developed hard and software for microprocessor controlled test devices
- Built and implemented devices into production cycle for quality control

PROFESSIONAL ACTIVITIES

Research

Director of the Center for Computational Epidemiology and Response Analysis (CeCERA)
University of North Texas, 2009 - present
Director of the Computational Epidemiology Research Laboratory (CERL)
Department of Computer Science and Engineering**,** 2003 - present
Director of the Network Research Laboratory (NRL)
Department of Computer Science, 1998 - 2008
Member of the Technical Advisory Committee (TAC) for Packet Engines Inc.
TAC member, I have advised Engineers at Packet Engines Inc. on the use of Gigabit Ethernet Technology in an academic laboratory environment and cluster computing. 1998 - 1999
Research Associate with the Scalable Computing Laboratory at AmesLab.
1997 – 2000, research affiliation for joint research on Cluster Computing and High-Speed Networking.
Coordinator of the Agent Research Group (ARG) in the Department of Computer Science.
This group represents a forum for research in the area on intelligent mobile agents.
Member of the Institute of Applied Science at UNT. 2000 – present. Collaborative development of Interdisciplinary Research Proposals

Service

University Committees (UNT):
Faculty Senator. 2005 – 2009
Faculty Senate Committee on Committees, 2005 – 2006
Faculty Senate Committee on Faculty Participation on Governance, 2006 - 2009
Member of the Communications Planning Group at UNT. 1998 – 2004
Member and Chair of the Research Computing Planning Group at UNT. 1998 - 2004
Co-PI for UNT's Internet-2 Initiative and NSF Funding Effort. 1998 – 2000.
HPC Planning Committee, 2008 – 2009
Graduate Appeals Committee, 2008 – 2010
HPC Advisory Committee, 2009 – present
Member of the Graduate Council, 2008 - 2010
President's Council on Diversity, 2011 - 2013
UNT Foundation Award Selection Committee, 2012, 2013, 2014, 2015, 2016, 2017
Director of the Center for Computational Epidemiology and Response Analysis *2009 – present*
Member of the Executive Committee for the Logistics System Institute, 2014 – present
Member of the Planning Committee for the Institute of Computational Science. 2015 - present

College Committees(CAS):
Member of the Undergraduate Curriculum Committee. 1999 – 2003

College Committees(CENG):
Coordinator for the Cluster on Computational Life Science, 2010 - present
BEE Planning Committee, Fall 2006 – Spring 2008
College Charter Committee, Fall 2007 – Spring 2008
College Curriculum Committee, Fall 2005 – Summer 2009
Chair Evaluation Committee for Dr. Varanasi (EE), 2011 - 2012

Department of Computer Science and Engineering (CSE):
Associate Department Chair, 2009 – present
Chair of the Lecturer Search Committee. 2013 – 2014
Member of the Faculty Search Committee (2). 2015
Member of the Strategic Planning Committee. 2013 – present
Faculty Mentor for Junior Faculty – Mentor for Dr. Schneider (2012 – 2014), Dr. Caragea, Dr. Nielsen, Dr. Thompson, 2012 - present
Chair of the Graduate Committee. 2005 – 2009

PAC Co-Chair, 2006 - 2007
PAC and PT Committee member, 2003 - present
Faculty Search Committee Chair. 2000 – 2003
Member of the Executive Committee (elected). 1998 – 2003, 2005 – 2009, 2015 -
Member of the Graduate Committee. 1997 – 2002, 2005 - 2010
Member of the Undergraduate Committee. 2002 – 2003
Member of the ad hoc Computer Advisory Committee. Summer 1998 - 2002
Colloquium Coordinator. 1997 – 2001
Member of the Chair Search Committee, Fall 2009 – 2010
Chair of Faculty Search Committee (CLS), 2016
Course Coordinator for: Operating Systems (CSCE 4600), Biocomputing (CSCE 4810), and Computational Epidemiology (CSCE 4820)

Other Departments:
Member of the Computational Life Science Cluster Search Committee. Spring 2011 – 2012
Member of the iARTA Cluster Search Committee. Fall 2011 – 2012
Member of the BioInformatics Search Committee in Biology. 2008 – Summer 2010
Member of the Chair Search Committee in MEE, Fall 2009 – Summer 2010

Other Universities:
External Reviewer for Promotion and Tenure Review at the School of Public Health at UNTHSC
External Reviewer for Promotion to Full Professor at Virginia Tech University

Conference Committees

IASTED Conference on Artificial Intelligence and Soft Computing 1997, 1998, 1999.
Workshop on Distributed Computing on the WEB 1998, 1999, 2000, 2001
High Performance Computing '99 [HPC 99] Special Session on "Adaptive and Intelligent Computing Systems"
High Performance Computing '2000, 2001, 2002
7th International Conference on Telecommunication Systems and Modeling, 1999 - present.
The First ACM/IEEE International Workshop on Wireless and Mobile Multimedia (WoWMoM'98)
Supercomputing Conference SC2000 in Dallas Tx, November 2000.
Innovative Internet Computing Systems (I^2CS), 2001, 2002, 2003, 2004. 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014
Design, Analysis, and Simulation of Distribute System – DASD 2003 in Orlando.
IEEE COMPSAC 2006, 2007
IEEE GrC 2006 – Atlanta
IEEE CIT2006 – Orrisa, India 2006
IJCBS 2009 – Shanghai 2009
ACM-BCB 2010 **Program co-chair**
ACM-BCB 2011
Supercomputing Conference SC2010 in New Orleans, November 2010, Poster Committee
ACM-BCB Health Informatics Symposium (HIS), Washington DC. 2013
ACM Symposium on Applied Computing – SAC 2017 – Chair of the Student Research Competition

Proposal Review

National Science Foundation (NSF), Panel Review 2001, 2003, 2004, 2008, 2011, 2013, 2014, 2016, 2017
North Atlantic Treaty Organization (NATO) - Collaborative Research Grants.
Proposal reviewer for the University of Cyprus - Spring 2012
NSERC - Natural Sciences and Engineering Research Council of Canada 2015
NSERC - Natural Sciences and Engineering Research Council of Canada 2016

Other

Associate Editor for the Journal "Telecommunication Systems – Modeling, Analysis, Design and Management" published by J.C. Balzer AG, Basel, Switzerland. Bezalel Gavish, Editor in Chief. (July 2000 – August 2010)

Secretary and Treasurer for the ACM Special Interest Group on Bioinformatics and Computational Biology – **ACM SIGBioinformatics**, newly established in 2010 - 2015

Referee for Journals:
The Journal of Systems and Software
Journal or Parallel Distributed Computing (JPDC)
IEEE Transactions on Knowledge and Data Engineering
IEEE/ACM Transaction on Networking
Artificial Life
Simulation
International Journal of Environmental Research and Public Health
Applied Mathematics and Computation
BMC Medical Informatics and Decision Making
Communications of the ACM
PLOS (Neglected Tropical Diseases)
PLOS - ONE

Affiliations

Association for Computing Machinery (ACM), member since 1989
ACM SIGBIO. Member since 2010
IEEE Computer Society, member 1990 - 2006
IEEE, student member 1990-1996
IEEE Communication Society, member 1990-1996
Internet Society, member 1992-1996
AAAS – since 2013

TEACHING & RESEARCH

Research Interests

Computational Epidemiology (Modeling/Simulation of infectious disease outbreak)
Analysis and Optimization of Bio-Emergency Response Plans
Intelligent Agents and Multi-Agent Systems
Heuristic and Biologically Inspired Approaches for Coordinating Agents
Agent-Based Modeling and Simulation
Bio Informatics, Health Informatics, Environmental Informatics
Service Assurance and Security in Networks / Distributed Systems
Tools and Middleware for Distributed and Collaborative Computing Environments (i.e. Grid)
Intelligent Traffic Management in Large Communication Networks

Teaching Interests

Graduate Level

- Computation Life Science
- Computational Epidemiology
- BioComputing
- Operating Systems
- Distributed Systems
- Agent-Based Systems

Undergraduate Level

- Principles of Operating Systems
- Systems Programming
- BioComputing
- Computational Life Science
- Scientific Computing
- Computational Epidemiology

Courses Taught

Undergraduate (1997 – present):
CSCI 3100 - Computer Organization
CSCI 3600 - Systems Programming
CSCI 3780 - Data Communication
CSCI 3780 - Computer Networks
CSCI 4330 - UNIX and TCP/IP Programming
CSCI 4330 - TCP/IP
CSCE 4600 – Operating Systems
CSCI 4330 – Intelligent Mobile Agents
BIOL/CSCE 4810 – BioComping
CSCE 4930 – Survey of Computational Science
BIOL/CSCE 4820 – Computational Epidemiology
Biol 4005/4810 – Biocomputing

Graduate (1997 – present):
CSCI 5780 - Computer Networks
CSCI 5330 - TCP/IP
CSCI 5330 - High-Speed Networks
CSCE 5020 – Research in Computer Science
CSCE 5533/5810 – BioComputing
BIOL/CSCE 5820 – Computational Epidemiology
CSCI 5540/CSCE 5640 – Operating Systems
CSCI 6330 - Experimental CSCI
CSCI 6330 - Intelligent Mobile Agents
CSCI 6330 - Exploiting Mobility
CSCI 6330 - Quality of Service
CSCI 6330 - Proving System Correctness
CSCI 6330 - Security in Agent-Based Systems
CSCI 6330 – Computational Epidemiology
CSCI 6330 – Mathematical/Computational Models for Biology
CSCE 6330 – Bioinformatics
CSCE/Biol 6810 - Adv. Topics in Computational Life Sciences
CSCI 6780/CSE 6680 - Distributed Systems
CSCE 6933 – Learning from Social Networks (with Dr. Caragea)

In addition, I have supervised several Undergraduate and Graduate Directed Studies and Graduate Special Projects since 1997

Dissertation and Thesis Advising

Ph.D. Dissertation Advisor: 16 completed; 10 current
MS Thesis Advisor: 17 theses (completed)
Project in Lieu of Thesis: 4 (completed)

Ph.D. Dissertation Advisees:

Name	Year	Dissertation	Employment
Naveen Kakani	2000	Algorithms for efficient utilization of wireless bandwidth and to provide quality-of-service in wireless networks	Standards Architect at CSR Technology, Inc
Kaja Abbas	2006	Bayesian probabilistic reasoning applied to mathematical epidemiology for predictive spatiotemporal analysis of infectious diseases	Assistant Professor Department of Population Health Sciences, Virginia Tech
Kaizar Amin	2006	An integrated architecture for ad hoc grids	Enterprise Architect at 9Nexus Limited

Courtney Corley	2009	Social network simulation and mining social media to advance epidemiology	Senior Research Scientist at Pacific Northwest National Laboratory
Tina Johnson	2010	The influence of social network graph structure on disease dynamics in a simulated environment	Associate Professor in Computer Science at Midwestern State University in Wichita Falls, Tx
Tamara Schneider	2010	A framework for analyzing and optimizing regional bio-emergency response plans	Software Engineer at Google in Munich, Germany
Olivia Loza	2013	Optimizing non-pharmaceutical interventions using multi-coaffiliation networks	IBM Corporation – Sales and Distribution Global Solutions Center Dallas TX
Iris Nelly Gomez	2013	Simulating the spread of infectious diseases in heterogeneous populations with diverse interactions characteristics	Research Fellow in the School of Information, University of Michigan
Richard Goodrum	2013 at SMU	Algorithms and metrics for territorial design	Senior Lecturer in CS & CE, University of Texas at Dallas
Jedsada Chartree	2014	Monitoring dengue outbreaks using online data	Vice President for Research, Sisaket Rajabhat University, Thailand
Marty O'Neill	2014	A computational methodology for addressing differentiated access of vulnerable populations during biological emergencies	Research Associate Professor at the Advance Environmental Research Institute (AERI) at the University of North Texas
Jorge Reyes	2014	Modeling epidemics on structured populations: effects of socio-demographic characteristics and immune response quality	Assistant Professor of Computer Science, Muhlenberg College, Allentown, PA
Sarachandra Indrakanti	2015	Computational Methods for Vulnerability Analysis and Resource Allocation in Public Health Emergencies	Applied Researcher at eBay
Yiheng Liang	2015	Computational Methods for Discovering and Analyzing Causal Relationships in Health Data	Assistant Professor of Computer Science in the School of Computer Science and Mathematics, University of Central Missouri.
Angel Bravo-Salgado	2016	Modeling and Simulation of the Vector-Borne Dengue Disease and the Effects of Regional Variation of Temperature in the Disease Prevalence in a Homogenous and Heterogeneous Human Population	Visiting Assistant Professor at Miami University, Oxford, Ohio
Oleg Kolgushev	2016	Influence of Underlaying Random Walk Types in Population Models on Resulting Social Network Types and Epidemiological Dynamics	Director at Hivemind, Inc., Flower Mound, Tx.

Current PhD Advisees:

1. Meesumrarn,Thiraphat (Computational Epidemiology) (ABD, PhD exp. Summer 2018)
2. Joseph Helsing (Model Validation, Response Plan Simulation) (PhD exp. Fall 2017)
3. Joshua Urbanovsky (Multi-Vehicular Route Optimization in Disaster Response Plans) (PhD exp. Fall 2017)
4. Sultanah Alshammari (PhD exp. Spring 2018)
5. Nirosha Sumanasinghe (PhD exp. Spring 2018)
6. Reynaldo Quiroz (PhD exp. 2019)
7. Harsha Gwalani (PhD exp. 2019)
8. Faris Hawamdeh (PhD exp. 2019)
9. Cree White (PhD exp. 2020)

MS Thesis Advisees:

1. Andy Hopper - Design of an Agent-Based File System (Spring ‘00)
2. Vinay Balamuru - Intelligent Mobile Agents in Network Management (Fall ‘00)
3. Prasanna Iyengar - Dynamic Reallocation of Network Resources in RSVP controlled Networks (Fall ‘01)
4. Subhashini Raghunathan - Proxy Certificates for Agent-Based Systems (Fall ‘02)
5. Sandhya Sriraman - An Annotated Bibliography of Mobile Agents in Networks (Fall ‘02)
6. Cliff Cozzolino – DADS: A Distributed Agent Delivery System (Fall ‘02)
7. Anupama Krishnan – Quality of Service provisioning with the Real-time Transport Protocol (Fall ‘02)
8. Glyco George – Quality of Service Provisioning in Ad-Hoc Networks (Spring 2003)
9. Kaizar Amin – Design and Analysis of Agent-Based Routing Algorithms (Spring 2003)
10. John Mayes – Modeling Complex Forest Ecology in a parallel computing infrastructure (Summer 2003)
11. Courtney Corley - Predicting the Population-Level Impact of Demographically Biased Intervention on HPV Prevalence (Spring ‘06)
12. Sangeeta Venkatachalam – Modeling Infectious Disease Spread using Global Stochastic Field Simulation (Summer 2006)
13. Brandon Parker – Cellular Automata Based Cluster Architecture Performance Benchmarking (Summer 2006)
14. Cheryl-Annette Kincaid – Analysis of Sun Burst Activities as recorded by a Radio Telescope (Fall 2006)
15. Paul Miller – Automated Syndromic Surveillance using Intelligent Mobile Agents (Fall 2007)
16. Marty O’Neill – Agent-Based Simulation of Infectious Disease Epidemics (Summer 2009)
17. Sarachandra Indrakanti (Computational Epidemiology, Spring 2012)

Current MS Thesis Advisees:

None

Project in Lieu of Thesis

1. Anup Pachlag – Agent-Based Service Discovery (Summer 2004)
2. Sandeep Nijsure – Analysis of Intrusion Detection Mechanism (Spring 2003)
3. Wei He – Design and Analysis of Novel Web-Caching Mechanisms using Online Benchmarking (Fall ’02)
4. Ramakrishna Vellanki - Analysis of Mechanism for Secure Multicasting (Summer ‘02)

RESEARCH GRANT ACTIVITIES

Faculty Research Grant (for new faculty) - 1997
Research Initiation Grant (RIG)
Title: "A Simulator for Large High-Speed Communication Networks"
Amount: $ 2,000

UNT Junior Faculty Research Grants
Summer 1998 - $3,500.
Summer 1999 - $3,500.
Summer 2000 - $2,000.

Proposal to Packet Engines, Spokane WA - 1998/99
Title: "A Distributed Simulation Environment for the Analysis of Autonomous Management and Control Mechanisms for High-Speed Communication Infrastructures "
Result: In Kind support in the form of a Gigabit Ethernet Routing Switch, Network Interface Cards, Cables, and Network Management Software worth over $15,000.

UNT Faculty Research Grant – 1999 Research Initiation Grant (RIG) (with Dr. Tarau)
Title: "An Agent-Based Architecture to Gigabit Network Monitoring"
Amount: $ 3,800

NSF: Small Grants for Exploratory Research - 2000
Title: Analysis of Fundamental Control Mechanisms for Mobile Agents in Large Network Infrastructures
Amount: $52,957
Award # 0084846

NSF DFB Ecosystem Studies - 2000
Title: "QEIB: uncertainty analysis, spatial interaction and response functions in scaling-up models of forest ecosystems"
(with Prof. Miguel Acevedo (PI) and Michael Monticino CoPI)
Amount: $95,880.00
Award # 0108563

NSF – BioComplexity 2002
Title: "Biocomplexity: Integrating models of natural and human dynamics in forest landscapes across scales and cultures" (multiple co-PIs affiliated with the Institute of Applied Science at UNT, PI: Miguel Acevedo)
Amount: $685,236.00
Award # 0216722

NSF – Research Resources 2002
Title: "Research Resources: Computational Science and Engineering: Intelligent Information Acquisition and Management Infrastructure" (with Profs Kavi (PI), Swigger, Wilson)
Amount: $180,000 (120k from NSF, 60k UNT matching)
Award # 0222628

Research Contract November 2002 – May 2003
Argonne National Laboratory (USDOE)
Title: "A Collective Framework for Active Chemical Tables"
Amount: $ 35,252

Research Contract (Continuation) May 2003 – August 2003
Argonne National Laboratory (USDOE)
Title: "A Collective Framework for Active Chemical Tables"
Amount: $ 18,616

Research Contract (Continuation) September 2003 – Mai 2004
Argonne National Laboratory (USDOE)
Title: "A Collective Framework for Active Chemical Tables"
Amount: $ 19,734

Research Contract (Continuation) June 2004 – August 2004
Argonne National Laboratory (USDOE)
Title: "A Collective Framework for Active Chemical Tables"
Amount: $ 14,836

Research Contract (Continuation) September 2004 – Dec 2005
Argonne National Laboratory (USDOE)
Title: "Dev. of Commodity Grid Kit Version 4"
Amount: $ 52,867

NSF: Small Grants for Exploratory Research (Sep.2003 – May 2005)
Title: Towards Computational Epidemiology: Designing an Infectious Disease Simulator
A**mount:** $ 50,319
Award # 0350200

NIH: P20 MD001633-03 - Subaward from University of North Texas Health Science Center
Subaward period of performance: May 1, 2007 - April 30, 2008
Title: Computational Models to Evaluate Demographically Biased HIV/AIDS Interventions
Amount: $56,797

Analyzing Traffic Constraints and feasible Throughput for Public Health Distribution Points in Tarrant County, 06/2008-07/2009
Subcontract - Tarrant County Public Health Department, Fort Worth, TX
Amount: $25,000

Analyzing Traffic Constraints and feasible Throughput for Public Health Distribution Points in Tarrant County, 01/01/2010-07/31/2010
Subcontract - Tarrant County Public Health Department, Fort Worth, TX
Amount: $60,800

NIH: 1 R15 LM010804-01 – (PI: Armin R. Mikler; Co-I: Chetan Tiwari) – 06/21/2010 – 06/20/2013
Title: A Computational Framework for Assessing the Feasibility of Bio-emergency Response
Amount: $429,608

NIH: R01 LM011647-01 – (PI: Armin R. Mikler; Co-Is: Chetan Tiwari, Tamara Schneider-Jimenez, Renee Bryce, Suhasini Ramisetty-Mikler) - August 1, 2013 – July 31, 2015
Title: Minimizing Access Disparities in Bio-Emergency Response Planning
Amount: $799,911

Texas DSHS: Constructing Functional POD-based Response Plans for Counties in DSHS Region 2/3.
(PI: Armin R. Mikler) 11/1/2014-06/30/2015
Contract – Texas Department of State Health Services, Austin, Texas
Amount: $120,622

Texas DSHS: Constructing Functional POD-based Response Plans for Counties in DSHS Region 2/3 Contract Amendment to include 5 additional Texas counties.
(PI: Armin R. Mikler) 4/1/2014-06/30/2015
Contract – Texas Department of State Health Services, Austin, Texas
Amount: $47,323 (budget increase)

NSF-RAPID: IIS-1514390 (PI: Armin R. Mikler, Co-PI: Chetan Tiwari) 12/1/2014 – 11/30/2015
Title: RAPID: Computational Methods for Quantifying Regional Ebola-Specific Resource Coverage
A**mount:** $119,834

Texas DSHS: Developing computational methods to explore feasible strategies for the timely distribution of Medical Counter Measures from Regional RSS sites to PODs (Year-1)
(PI: Armin R. Mikler, Co-PI Chetan Tiwari) 10/1/2015 – 6/30/2016
Contract – Texas Department of State Health Services, Austin, Texas
Amount: $206,879

Texas DSHS: Developing computational methods to explore feasible strategies for the timely distribution of Medical Counter Measures from Regional RSS sites to PODs (Year-2)
(PI: Armin R. Mikler, Co-PI Chetan Tiwari) 7/1/2016 – 6/30/2017
Contract – Texas Department of State Health Services, Austin, Texas
Amount: $211,017

Los Angeles County: Response Plan Analysis and Optimization for Bio-Emergencies
(PI: Armin R. Mikler) 7/1/2016 – 12/31/2016
Contract – Los Angeles County Department of Public Health
Amount: $55,077.96

Los Angeles County: Response Plan Analysis and Optimization for Bio-Emergencies
(PI: Armin R. Mikler) 1/1/2017 – 7/30/2017
Contract – Los Angeles County Department of Public Health
Amount: $37,975.00

CENTER GRANTS

Project Title**: Center for Computational Epidemiology (CCE) – Center Development Grant (Equipment only)**
Sponsor: DHHS – US Department of Health and Human Services (PIs: Atkinson, Mikler, Oppong)
Project Period: 06/01/08 – 09/30/09
Amount: $473,707

Project Title**: Center for Computational Epidemiology (CCE) – Center Development Grant (Equipment only)**
Sponsor: DHHS – US Department of Health and Human Services (PIs: Atkinson, Mikler, Oppong)
Project Period: 08/01/2009 - 01/31/2011
Amount: $235,620

Project Title**: Center for Computational Epidemiology (CCE) – Center Development Grant (Equipment only)**
Sponsor: DHHS – US Department of Health and Human Services (PIs: Atkinson, Mikler, Oppong)
Project Period: 08/01/2010 - 07/31/2011
Amount: $346,500

EDUCATIONAL GRANT ACTIVITIES

Texas Technology Workforce (TWD) Grants Program (2005 – 2006)
Title: Improving Student Recruitment and Retention through an Interdisciplinary CS Curriculum
Amount: $ 49,656

OTHER SUPPORT

Obtained Microsoft Educational Support in the form of multiple MSDN Membership subscriptions, Software and OS licenses for Faculty members in CSCI in 1997, 1999, 2000, and 2001. Estimated value: $12,000 each year.

Travel Support from Ames Laboratory (USDOE)
- Super Computing Conference, SC97 in San Jose, November 1997.
- Super Computing Conference, SC98 in Orlando, November 1998.
- Research Collaboration Visit to Ames Laboratory, Iowa State University, July 1999.

Student Support from Ames Laboratory (USDOE)
- Summer Internship for one student (John Mayes) in Summer 1999.
- Summer Support for one student (Cliff Cozzolino) in Summer 2000.

PUBLICATIONS

Dissertation

Mikler, A. R. (1995). "Quo Vadis -- A Framework for Intelligent Routing in Large Communication Networks." Ph.D. Dissertation, Iowa State University, 1995.

Editorship:

1. Unger H., Böhme T. and Mikler A.R., "Innovative Internet Computing Systems". *Second International Workshop, IICS 2002*. Lecture Notes in Computer Science (LNCS) 2346, Springer Verlag, Berlin.

2. Arslam A., Chen S., Deng Y., Huang Y., Mikler A.R., Wang Y., Xi D., and Zhao Z.(Associate Editors), "Proceedings of the 2009 International Joint Conference on Bioinformatics, System Biology, and Intelligent Computing (IJCBS 2009). IEEE Computer Society 2009.

Invited Chapters

1. Jedsada Chartreea, Angel Bravo-Salgado, Tamara Jimenez, and Armin R. Mikler, Predicting Dengue Incidence in Thailand from Online Search Queries. De Gruyter Series in "Speech Technology and Text Analytics in Medicine and Healthcare", Neustein, Amy (Ed.). 2014. *Text Mining of Web-based Medical Content*. Berlin, Boston: De Gruyter. Sep. 2014, pp. 77-106

2. Wong, J.S.K. and Mikler, A.R. (1993). "Routing Algorithms for High-Speed Communications Networks." *Broadband Communications Systems*. (Ed. Conard, J. W.) Auerbach Publications, 97-105.

3. Wong, J.S.K., Vaidya P. and Mikler, A.R. (1993). "Dynamic Bandwidth Allocation in Broadband ISDN." *Broadband Communications Systems*. (Ed. Conard, J. W.) Auerbach Publications, 267-276.

Journal Papers in Progress or under Review:

1. Indrakanti, Saratchandra; Mikler, Armin R; O'Neill II, Martin; Gwalani, Harsha; Urbanovsky, Joshua and Tiwari, Chetan; Computational Methods for Data-Driven Response Plan Design, under revision.

Journal Papers Published or Accepted (Peer Reviewed):

1. AK Kala, C Tiwari, AR Mikler, SF Atkinson A comparison of least squares regression and geographically weighted regression modeling of West Nile virus risk based on environmental parameters, PeerJ 5, e3070, Vol. 5, https://doi.org/10.7717/peerj.3070

2. Sumanasinghe, N., Mikler, A., Tiwari, C., & Muthukudage, J. (2016). Geo-statistical dengue risk model using GIS techniques to identify the risk prone areas by linking rainfall and population density factors in Sri Lanka. *Ceylon Journal of Science*, *45*(3), 39–46. DOI: http://doi.org/10.4038/cjs.v45i3.7399

3. Reyes-Silveyra J, Mikler AR. "Modeling immune response and its effect on infectious disease outbreak dynamics." *Theoretical Biology & Medical Modelling*. 2016;13:10. doi:10.1186/s12976-016-0033-6.

4. Saratchandra Indrakanti, Armin R. Mikler, Martin O'Neill II, Chetan Tiwari "Quantifying Access Disparities in Response Plans" PLOS ONE | DOI:10.1371/journal.pone.0146350 January 15, 2016, pp. 1-18.

5. Ramisetty-Mikler S., Mikler A.R., O'Neill M., Komatz J., "Conceptual framework and quantification of population vulnerability for effective emergency response planning." J Emerg Manag. 2015 May-Jun;13(3):227-38. doi: 10.5055/jem.2015.0236.

6. Marty O'Neill, Armin R. Mikler, Chetan Tiwari, and Tamara Schneider-Jimenez (2014). "RE-PLAN: An Extensible Software Architecture to Facilitate Disaster Response Planning". IEEE Trans System Man Cybernetics: Systems 2014 Dec; 44(12):1569-1583. PMID: 25419503[PubMed], NIH Manuscript: NIHMS589022

7. O. Loza, I. Gomez-Lopez, A. R. Mikler *Multi-Coaffiliation Networks and Public Health Applications. GSTF Journal of BioSciences Vol.2 No.1*, (2012), *pp. 116-122.*

8. Jimenez, T, Mikler AR, Tiwari C. (2012) A Novel Space Partitioning Algorithm to Improve Current Practices in Facility Placement. IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans. September 2012, Volume 42, No. 5, pp 1194-1205

9. Jorge Reyes-Silveyra, Armin R. Mikler, Justin Zhao, Angel Bravo-Salgado. "Modeling infectious disease outbreaks in non-homogenous populations", Journal of Biological Systems, World Scientific Publishing, Singapore, Vol. 19, Issue 4 (2011), Page: 591-606

10. Tina V. Johnson and Armin R. Mikler. "Chasing R0: Understanding the Effects of Populations Dynamics on the Basic Reproduction Number". Journal of Biological Systems, World Scientific Publishing, Singapore, Vol. 19, Issue 4 (2011), Page: 577-589

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Conferences (Peer Reviewed):

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15. Angel Bravo-Salgado, Jessica Beckham, and Armin R. Mikler. 2011. Modeling malaria: stretch-delay effect of temperature in the sporogonic cycle and disease dynamics. In *Proceedings of the 2nd ACM Conference on Bioinformatics, Computational Biology and Biomedicine* (BCB '11). ACM, New York, NY, USA, 528-530. DOI=http://dx.doi.org/10.1145/2147805.2147891

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43. Mikler, A.R, and Fabbri, A. "Parallel Distributed Event Simulation Across Loosely Coupled Domains - Experimental Results." Proceedings of the High-Performance Computing Symposium HPC 2000, (A.Tentner, ed.), Washington D.C., April 2000, pp.274-279.

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45. Mikler, A.R., Unger H., Tarau P., Hopper A.S., and Chen F. " A Mobile Agent-Based File System for Distributed Networks. " The Proceedings of High Performance Computing '99 (HPC 99): Special Session on Adaptive and Intelligent Computing Systems April 1999, pp. 363-368.

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48. Haverdink, M.D., Baker, A.L., and Mikler, A.R. (1997). "Modeling and Simulating Computer Networks Using Formalized Data Flow Diagrams". *IASTED International Conference on Modeling and Simulation.* Pittsburgh, Pennsylvania, May 1997.

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51. Mikler, A.R., Honavar, V.G., and Wong, J.S.K. (1996). "Utility-Theoretic Heuristics for Intelligent Adaptive Routing in Large Communication Networks." *The Proceedings of the 4th International Conference on Telecommunication Systems; Modeling and Analysis.* Nashville, Tennessee, pp. 660-676.

52. Mikler, A.R., Wong, J.S.K., and Honavar, V.G. (1995). "Quo Vadis -- Adaptive Heuristics for Routing in Large Communication Networks: Experimental Results." *Proceedings of the 3rd International Conference on Telecommunication Systems; Modeling and Analysis.* Nashville, Tennessee, pp. 66-76.

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56. Wong, J. and Mikler, A. R. (1990). "Coordinated Multimedia Communication in Integrated Services Digital Networks (ISDN)." *Proceedings of the International Conference on System Management '90;* Hong Kong, pp. 450-455.

Presentations and Posters (peer reviewed)

1. Gomez-Lopez, O. Loza, A. R. Mikler (2012) *Studying Disease Dynamics under Diverse Population Structures and Contagion Scenarios,* European Conference on Complex Systems (ECCS12) Contributed talk on Data-driven modeling of contagion processes, Brussels, Belgium 2012.

2. Angel Bravo-Salgado, Armin R. Mikler, and Thiraphat Meesumrarn (2012). "Stochastic Computational, Thermal, and Vertical Transmission Models to Simulate Dengue Persistence in Vector and Human Populations" European Conference on Complex Systems (ECCS12) Contributed talk on Data-driven modeling of contagion processes, Brussels, Belgium 2012.

3. O. Loza, I. Gomez-Lopez, A. R. Mikler (2012) *Clustering and centrality measures for the optimization of infectious disease interventions,* Poster presentation at International School and Conference on Network Science (NetSci2012). Evaston, IL. Jun, 2012.

Workshops (not peer reviewed)

1. Mikler, A.R., Honavar, V., and Wong, J. (May 12, 1992). "A Knowledge-Based Approach to Dealing with Uncertain and Incomplete Information in Communication Network Management", at the First Canadian Workshop on Uncertainty Management: Theory and Practice; Vancouver, B.C. Canada.

2. Mikler, A.R. (Nov. 1995). "The Need for Service Assurance in a Global Computing Environment", U.S. Department of Energy Security Workshop at Argonne National Laboratory, November 15-17.

3. Mikler, A.R. (April 1997). "Roadmap to the Pentium-Pro Cluster Workshop", First Pentium-Pro Cluster Workshop, sponsored by the U.S. department of Energy, Des Moines, Iowa April 1997.

4. Mikler, A.R. (November 2000). "The Role of Agents in Network Management and Routing." NSF-PIs in Networking Workshop, University of California, Irvine. Nov. 1-3, 2000.

5. Mikler A.R. (July 2013). "Modeling Epidemics on Structured Populations". Fourth Annual Workshop on Dynamic Modeling for Health Policy: Cross-Leveraging Dynamic Modeling and Digital Epidemiology. Saskatoon, Canada July 16 – 18, 2013

Reports & Working Papers

1. Elbert, S., Snell, Q., Mikler, A., Helmer, G., Csanady, C., Stearns, K., MacLeod, B., Johnson, M., Osborn, B., and Verigin, I. (1997), "Gigabit Ethernet and Low-Cost Supercomputing". Technical Report #5126, Ames Laboratory, Ames, Iowa.

Posters (Peer-Reviewed)

1. Beckham, J., Atkinson, S., Mikler, A., Kennedy, J. Habitat utilization by bumble bees (*Bombus* spp.) in Denton County, Texas. Poster presented at: 61st Annual Meeting of the Entomological Society of America; Nov. 10 – 13, 2013, Austin, TX.

2. Beckham, J., Atkinson, S., Mikler, A., Kennedy, J. Utilization of urban green spaces by bumble bees (*Bombus* spp.) in North Texas. Poster presented at: 36th Annual Meeting of the Society of Ethnobiology; May 15 – 18, 2013, Denton, TX.

3. Kala, A.K, Atkinson, S.F., Mikler, A., Oppong, J. R. and Tiwari, C. (2013, April). Tele-epidemiology approach for modeling place vulnerability: a case study of West Nile Virus. Oral presentation session at Annual meeting of Association of American geographers, Los Angeles, California.

4. Harsha Gwalani, Sultanah M Alshammari, Armin R Mikler, *An Interactive Model for Vector-Borne Diseases: A Simulation for Zika in French Polynesia.* Poster session presented at: Modelling of disease contagion processes, Conference on Complex Systems, Sept 21, 2016, Amsterdam, Netherlands.

KEYNOTES, TUTORIALS AND INVITED TALKS

1. Short course titled " The Use of Expert Systems and Other Technologies in State Government Applications ", at the Making Information Work Conference by The National Governors' Association, Washington, DC., January 1992

2. Technical University of Berlin, Germany. May 2000. Colloquium Presentation. "Exploiting Mobility Intelligent Mobile Agents in Network Management and Traffic Control"

3. University of Rostock, Germany. June 2000. Colloquium Presentation. "Exploiting Mobility Intelligent Mobile Agents in Network Management and Traffic Control"

4. Fachhochschule Darmstadt, Germany. June, 2000. In-Class Presentation. "Research on Intelligent Mobile Agents".

5. Center for Discrete Mathematics and Computer Science (DIMACS) at Rutgers University. Working Group Meeting on Adverse Event / Disease Reporting, February 2004. " Towards Computational Epidemiology"

6. Centers for Disease Control and Prevention (CDC) Atlanta, February 2004. "Towards Computational Epidemiology: Designing an Infectious Disease Outbreak Simulator".

7. Iowa State University, Department of Computer Science Colloquium, April 2004. "Towards Computational Epidemiology: Designing an Infectious Disease Outbreak Simulator".

8. University of Ottawa, Computer Science Colloquium Sep. 2004. "Computational Epidemiology"

9. University of North Texas Health Science Center, November 2004. "An Introduction to Computational Epidemiology"

10. National Cancer Institute (NCI/NIH) October 2005. " From Mathematical Models to Computational Epidemiology: Facilitating Epidemiological Research through Computational Tools"

11. Iowa State University, Department of Computer Science Colloquium Series, November 2005. "From Mathematical Models to Computational Epidemiology: Facilitating Epidemiological Research through Computational Tools"

12. Fernuniversitaet in Hagen, Germany, Fachbereich Kommunikationssysteme Colloquium Series, June 2007 "From Mathematical Models to Computational Epidemiology: Facilitating Epidemiological Research through Computational Tools"

13. I2CS-2007, Universitaet der Bundeswehr, Munich, Germany, June 2007, "From Mathematical Models to Computational Epidemiology: Facilitating Epidemiological Research through Computational Tools"

14. University of Paris, Laboratory for Complex Systems, Colloquium, June 2007, " Computational Epidemiology"

15. Technische Universitaet Ilmenau, Ilmenau, Germany, Fachbereich Computer Science Colloquium, July 2007 "From Mathematical Models to Computational Epidemiology: Facilitating Epidemiological Research through Computational Tools"

16. Technische Universitaet Ilmenau, Ilmenau, Germany, Fachbereich Mathematics Colloquium, July 2007 "Computational Epidemiology"

17. EpiGrid Keynote: Fernuniversitaet Hagen, Germany, November 2007, "Modern Epidemiology – A New Computational Science"

18. Texas Department of State Health Services (DSHS) Grand Rounds Lecture, Nov. 30, 2011 in Austin,Texas, "Utilizing Computational Tools for the Design and Analysis of Bio-Emergency Response Plans"

19. Colloquium at the Faculty of Tropical Medicine in the Department of Tropical Hygiene at Mahidol University in Bangkok, Thailand. August 30, 2012. "Modeling Dengue Fever in Thailand".

20. Colloquium at the Faculty of Science, Department of Physics, Mahidol University, Salaya Campus, Salaya, Thailand, August 31, 2012. "The Effects of Population Diversity on Outbreak Dynamics".

21. Colloquium at Austin College in Sherman, Texas. February 8, 2012. "Modern Epidemiology – A New Computational Science Facilitating Epidemiological Research through Computational Tools".

22. Colloquium in the Department of Computer Science at Midwestern State University, Wichita Falls, Texas. December 6, 2012. "Re-PLAN: A Framework for Response Plan Design and Analysis".

23. Invited Keynote at the Royal Golden Jubilee Ph.D. Congress XIV, in Pattaya, Thailand, 5-7 April, 2013 "Modeling Dengue – The Role of Scientific Computing in the Study of Vector-Borne Diseases"

24. Fourth Annual Workshop on Dynamic Modeling for Health Policy: Cross-Leveraging Dynamic Modeling and Digital Epidemiology. Saskatoon, Canada July 16 – 18, 2013 "Modeling Epidemics on Structured Populations".

25. Colloquium in the Department of Computer Science at the University of Iowa, Iowa City, IA. - RE-PLAN: A Computational Framework for Response Plan Design and Analysis, October 31, 2014

26. Presentation at the Supercomputing 2014 (SC14) Impact Showcase, joined presentation with CDC. "HPC of the Living Dead", November 2014 in New Orleans.

27. Invited Talk at Sisaket Rajabhat University, Thailand, "Utilizing Computational Tools for the Design and Analysis of Bio-Emergency Response Plans", December 2014.

28. Invited Talk at Nakhoon Sawan Rajabhat University, "Utilizing Computational Tools for the Design and Analysis of Bio-Emergency Response Plans". December 2014.

29. Mikler, A.R., O'Neill, M, & Ramisetty-Mikler, S. A New Workflow for Data Driven Planning Using the RE-PLAN Framework. Invited Talk at Regional Preparedness Meeting, Texas Department of State Health Services, Arlington, TX, September 24, 2015.

30. Mikler, A.R. & O'Neill, M. Computational Tools for Biological Emergency Response Planning. Invited Talk at Texas Department of State Health Services, Austin, TX, July 2, 2015.

31. Mikler, A.R., O'Neill, M. and LaFon, T. RE-PLAN: Data Driven System for Response Planning. Texas Medical Countermeasures Symposium, Dallas, TX May 5, 2015.

32. O'Neill, M. Mikler, A.R., & LaFon, T. It's Finally Here: An Easy-to-Use, DataDriven System for Response Planning. 90 minute demo and tutorial at Preparedness Summit 2015, Atlanta, GA, April 1, 2015.

33. Colloquium at the University of Nebraska in Omaha - RE-PLAN: A Computational Framework for Response Plan Design and Analysis, December 10, 2015

34. SIAM Mini Symposium on Analysis of Noisy Networks in Theory and Practice - Epidemic in Time and Space: Modeling Spatial Outbreak Dynamics, Salt Lake City, Utah, March 15, 2015.

35. O'Neill, M, Ramisetty-Mikler, S, Mikler, A.R. Identifying Patterns of Vulnerability: A Data-Driven Approach for Accommodating At-Risk Populations. 90 minute learning session at Preparedness Summit 2016, Dallas, TX, April 20, 2016.

36. Keynote at IC2IT 2016, *RE-PLAN: A Computational Framework for Response Plan Design and Analysis;* Khon Kaen, Thailand, July 7 – 8, 2016.

37. Sultanah Alshammari and Armin R. Mikler, *Computational Framework to Assess the Risk of Epidemics at Global Mass Gatherings*, Presentation at the 2016 Conference on Complex Systems – Sattelite Session Contagion'16 Modeling of Disease Contagion Processes. Amsterdam, September 21, 2016;

38. Keynote at ACM-SAC 2017 in Marrakech, Marocco, RE-PLAN: A Computational Framework for Response Plan Design and Analysis, April 4, 2017

39. IEEE Computational Intelligence System Society Thailand Chapter, Tutorial: *"Computational Intelligence and Big Data Challenges in Computational Epidemiology and Population Health"*, at IC2IT 2017 in Bangkok, Thailand, July 7, 2017

Science Exhibition(s)

1. Mikler, A.R., "Relating Population Characteristics to the Spread of Diseases", UNT exhibits for "Relationships" @ Perot Museum of Dallas, Texas. June 21, 2013