

Dr. STEPHEN KREBSBACH
Computer Science Department
College of Computing
Dakota State University, Madison, SD 57042

{Updated 8/31/2023}

PROFESSIONAL PREPARATION:

Moorhead State University	Computer Science	B.S.	1986
Moorhead State University	Computer Science	M.S.	1990
North Dakota State University	Computer Science	Ph.D.	2005

APPOINTMENTS:

2016 – Present Professor of Computer Science, Dakota State University
2006 – 2016 Associate Professor, Computer Science, Dakota State University
2000 - 2006 Assistant Professor, Computer Science, Dakota State University
1998 – 2000 Assistant Professor, Computer Science, South Dakota State University
1997 - 1998 Teaching Fellow, Computer Science, North Dakota State University
1996 - 1997 Research Assistant, Computer Science, North Dakota State University
1988 - 1997 Instructor, Computer Science, South Dakota State University

2021 – Present Coordinator – Doctoral Computer Science (DSU)
2015 – 2021 Coordinator – Master of Computer Science (DSU)
2003 – 2007 Academic Coordinator of Computer Science, Dakota State University

State of South Dakota Committees/...

2008—2014 DSU EPSCoR Coordinator
2005—2012 Governor’s State IT Discipline Council (President 2006-07)
2008 – 2012 VDUSEL/VSURF Project Leader – Sanford Underground Lab
2009 – 2012 Sanford Center of Science Education (SCSE) Project Design Team
2010 – 2013 SD EPSCoR Advisory Committee

DSU Committees:

2018 – Present
2015— Present University Graduate Coordinators
2021 – Present DSCS Admissions
2012— Present MSCS Admissions
2000— Present Graduate Council (Graduate Faculty)
2008 – 2021 University Curriculum
2018 – 2021 University Hall of Fame Committee
2016 – 2019 University Faculty Academic Integrity Board (chair)
2016 – 2018 University Promotion and Tenure
2016 – 2018 University General Education Review
2016 – 2018 College of Computing Dean’s Advisory
2008— 2016 University Assessment
2015— 2016 Graduate Program Review
2014— 2016 Faculty/Admissions working group
2014— 2015 BIS Taskforce
2006— 2013 University Research

2011— 2012	President’s Publication Taskforce (P&T related)
2005 -- 2013	MSIS Admissions
2005— 2014	MSIS Graduate
2010 – 2010	Task Force for Student Emails
2009 – 2010	Faculty Awards

PROFESSIONAL MEMBERSHIPS:

ACM Member
 SIGCSE – ACM Special Interest Group in Computer Education Member
 IEEE Member
 IEEE Computer Society Member

Courses Taught over Fall 2006 – Summer 2023

CSC 150 – Computer Science I
 CSC 260 – Object Oriented Design
 CSC 300 – Data Structures
 CSC 456 – Operating Systems
 CSC 461 – Programming Languages
 CSC 482 – Algorithm and Optimization (Finished for Dr. Graham (illness))
 CSC 592 – Special Topics (various topics)
 CSC 710 – Structure and Design of Programming Languages
 CSC 712 – Data Structures
 CSC 714 – Advanced Database Systems
 INFS 760 – Database Design and Performance Analysis
 INFS 762 – Data Warehousing and Data Mining
 INFS 766 – Advance Database
 GS 100 – Freshmen Success

Advising:

Program coordinator for the DSCS: currently advising all student in the program, including formal Plans of Study (POS).

2016 – **The Alexander “Sandy” Davidson Award of Excellence in Advising** – DSU

Publications:

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer, “Creating a Virtual Science Center, Virtual DUSEL (vDUSEL)” presented and appear in the Proceedings of the ISCA 22nd International Conference on Computer Applications in Industry and Engineering (CAINE-09) San Francisco, Ca. November 4-6, 2009

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer “Virtual DUSEL (vDUSEL) The Online Educational Project for Sanford Center for Science Education” Proceeding, MICS conference April 17-18, 2009 Rapid City, SD.

- http://micsymposium.org/mics_2009_proceedings/mics2009_submission_25.pdf

Co-author of the “Outreach and Communication Strategies” section of the “*South Dakota EPSCoR – Strategic Implementation Plan*” - 2009

Hamer G., Andrawis D., & **Krebsbach S.** “Application of the RS Method to Detect Steganographic Messages in Database Tables” Proceedings of the ISCA 20th International Conference on Computer Applications in Industry and Engineering (CAINE-2007) November 7-9, 2007, San Francisco, California, USA.

Krebsbach S. & Hamer G. “Achieving Near-Optimal Distortion Reduction with Invisible Watermarking RSSI Algorithms” , Proceedings of the ISCA 19th International Conference on Computer Applications in Industry and Engineering (CAINE-2006) to be held November 13-15, 2006, Las Vegas, Nevada, USA.

Hamer G. & **Krebsbach S.** “Statistical Steganography and Steganalysis of Database Tables” Proceedings of the ISCA 19th International Conference on Computer Applications in Industry and Engineering (CAINE-2006) to be held November 13-15, 2006, Las Vegas, Nevada, USA.

Artifacts:

"Deep Science – the vision for underground research at Homestake" - Deep Science Animation support – vDUSEL Stephen Krebsbach – Multiple Animations produced by DSU team, First aired SD Public Television Monday, July 5; 9 p.m. CDT (8 p.m. MDT) – 2010

Deep Science Animations – **Producer of ALL**, Developer or Co-Developer of Some 2009 /2010 (note: not all made final cut for HD 30 minute documentary but most were in early distributed CD versions)

“Walk Through Underground Lab” – **S. Krebsbach**

“Chicago to Black Hills” – **S. Krebsbach**

“Underground Lab Flyover” – Scott Mackenzie, **S. Krebsbach**

Created Concept and closely Directed work:

“Dark Matter Pie Chart” – Cody Thaler (DSU student)

“Homestake Flyover with Open Cut” – Cody Thaler (DSU student)

“Rushmore in Detector” – Travis Bentley, Jon Wornson (DSU students)

“Cosmic Shower” – Ben Wermers (DSU student)

“Underground with LAB and DRILL”

– Michell Davis, Margaret Pillatzaki, Bethany Mlady – (DSU Students)

“LUX Experiment” – Travis Bentley, Jon Wornson (DSU Students)

Created vDUSEL slides for Dr. Kevin Lesko; Lawrence Berkeley Lab (LBL) for his presentation at the National Internet 2 conference in the spring of 2009.

“vDUSEL Intro Teaser” (Full Animation) – Scott Machenzie, Produced by **Stephen Krebsbach** DSU – 2008

VSURF Website : Formal website of the vSURF project; Created much content, created and voiced **ALL** example videos on the site. <http://vsurf.dsu.edu/>

Featured Research(er)Profile:

“Sanford Underground Research Facility Website Enables Users to Explore Virtual Underground Environment Online” - SD EPSCoR UPDATE- Winter 2012 Edition – Authored by Dr. Stephen Krebsbach – 2012

“DSU website taking a closer look at Sanford lab in Lead” – Rapid City Journal – September 27, 2011

State of South Dakota Featured Researcher Profile – Dr. Stephen Krebsbach, Research, Education, & Economic Development Network (REED) Brochure/Booklet, SDBOR - 2009

“Virtual DUSEL to be major educational component for lab” – Wendy Pitlick; Black Hills Pioneer & The Rapid City Weekly News – October 21, 2008

Grants:

Awarded:

PI : \$75,588 (2009), as part of the State of South Dakota EPSCoR RII Track 1 proposal, for plan the vDUSEL E&O project as South Dakota continues to partner on the DUSEL (vSURF) project. This EPSCoR participation in a major grant for DSU helped build our research presence in that organization. It also included funding to support State research communication infrastructure.

Additional Funds extended within this framework.

- + additional ~ \$5000 for Governor’s PBS Documentary video
- + additional ~ \$2000 for additional vDusel work
- + additional ~\$1500 for VDUSEL Teaser Video

PI : \$5000 (2008) “Virtual SUSEL/DUSEL” SDBOR Mini Grant – This was pre EPSCoR vDUSEL and helped lay the groundwork for inclusion in that major grant

Co-Principal Investigator Approx \$400,000 over 4 years (2002-2005)NSF - 02-006 CSEMS – CS, ENG & MATH SCHOLARSHIPS MACSTECH Scholars: A Mathematics and Computer Science Technology Scholarship Program. **Continued to server as CO-PI and awarded ~ \$83,640 over the FY06-08 period.**

*** Have applied for and received several small DSU grants for course development etc.. and although not listed here I would like to thank the Distance Education people for their support of online courses. I will not list them here as I feel that the grants are just part of DSU support for faculty and programs.*

Submitted (but Not Awarded):

CO-PI for \$50,000 (with Ms. Judy Vondruska) – *“iPads in the Science and Math Classroom”* a NCLB Federal pass through grant managed by SDBOR- **Submitted 2013**

CO-PI for 49,777 (with Ms. Judy Vondruska) - *“CEPT-SCI Curriculum Enhancement for Portable Technology in Science”* A No Child Left Behind Act, Tittle II-A - **Submitted April , 2012**

PI on Collaborative Award: \$99,900 (**amount is DSU share**) - grant collaborators SDSU, USD, BHSU, entitled Collaborative Project: Deep Science; Deeper Education: New Models for Distributed Learning Experiences around Deep Underground Science -**Submitted October 2010**

PI on Sub Award: \$170,000 (**amount is DSU share**) by Dr. Peggy Norris, Deputy Director of SCSE, entitled “Integrating DUSEL Science into the South Dakota curriculum NASA K-12 CAN” ; The DSU would be for vDUESEL support of its envisioned expanded role in the exhibit design for the physical science center and a summer support for Dr. Barbra Szczerbinska – **Submitted June 2009**

PI on Collaborative Award: \$350,546, (**amount is DSU share**) grant collaborators DSU, SDSU, NDSU to NSF entitled “Collaboration Research: vDUSEL CORE in support of Cyberinfrastructure-enabled Learning and Research Projects” **Submitted Feb. 12, 2009**

Presentations:

Invited Roundtable Panelist: Sioux Land TECH EXPO – Session: Talent Recruitment and On-Campus Recruiting, May 17th, 2016

Presented: Faculty are People Too – Autobiography of an “Accidental” Academic, Dakota State University, December 3rd, 2014

Presented at NSF EPSCoR RII ALL INVESTIGATOR MEETING, Chamberlin SD. June 14 -15, 2011

Co-Led a session entitled *National Virtual Science Centers* at the National Cyber Learning Conference held in Berkeley Cal. March 7th – 11th - 2011

Presented (with Ben Saylor) vDUSEL and SCSE E&O to NSF review team – Rapid City, SD. –April 13, 2010

Presented “1 Mile Under – Can you Hear me Now – What is Dusel Anyway” - DSU Computer Club invited talk – March 31st. 2010

Presented at the DUSEL Monitoring Workshop – March 8-9, 2010 Lead, SD.

Presenter of : “Creating a Virtual Science Center, Virtual DUSEL (vDUSEL)” the ISCA 22nd International Conference on Computer Applications in Industry and Engineering (CAINE-09) San Francisco, Ca. November 4-6, 2009

Invited Panelist & Presenter – Session : V.B, “Computational Sciences & Engineering R&E Program Development – Status , Goals and Needs” SD EPSCoR Cyber-Enabling Research Education, & Economic Development meeting – September 23rd-24th, 2009

Presenter of : “Virtual DUSEL (vDUSEL) The Online Educational Project for Sanford Center for Science Education” **Stephen Krebsbach**, Steve Graham, Judy Vondruska, George Hamer at the MICS conference April 17-18, 2009 Rapid City, SD.

Presented vDUSEL at E&O breakout session of the first formal NSF Review of DUSEL, University of California Berkeley, Berkeley, CA. January 28-30, 2008

Presented vDUSEL section at the NSF Presentation Practice Meeting, Lawrence Berkeley Laboratory, Berkeley, CA. – December 10-12, 2008

Hosted the **VIRTUAL DUESEL SYMPOSIUM** – Dakota State University – Madison, SD. November 21st, 2008

Presenter - University Round Table Discussion on DUSEL , Research, Collaboration, and Education; gave presentation after round table group discussion followed by Dr. Steven Chu's presentation. Rapid City, SD. September 23, 2008

Workshops / Participatory Meetings

2015 NSA Recruitment Partners Day – & Meeting with Rita Doerr, NSA Civilian Directorate for Education and Training College of Cyber – Fort Mead, MD. August 12th 2015

Attended the MOBILE Workshop at the University of Wisconsin - Eau Claire which dealt with new innovative technology and approaches to enhance the delivery of computer science course software materials. Sponsored by the NSF – Eau Claire, WI. June 12-13, 2013

EPSCoR-NSF RII Track 1 PANS AAAS Review , Chamberlain, SD, June 2-3, 2011
NFS EPSCoR RII All Investigator Meeting, Chamberlain, SD. June 1-3, 2011
NFS EPSCoR Diversity Summit, Chamberlain, SD. June 1, 2011

SCSE Meeting with Dr. Norris – SCSE Sanford Lab, Lead SD. – April 16, 2011

EPSCoR RII Year 2 Review Reverse Site Visit (vDUSEL) – External reviewers – Madison, SD. April 4th, 2011

NFS EPSCoR RII All Investigator Meeting, Chamberlain, SD. June 14-15, 2010

DUSEL Cyberinfrastructure Advisory Committee (CAC) Meeting – Sanford Laboratory, Lead SD. – March 10-11, 2010

Sanford Center for Science Education Initial Content Development Workshop, Denver, CO. January 19-21, 2010

“An Evening at Mt. Rushmore” with the Governor and members of the National Science Foundation in support of DUSEL/vDUSEL – September 23, 2010

vDUSEL Meetings – March 8-9, 2010 Lead, SD.

Gov. Rounds Meeting on video and vDUSEL Animation – Deadwood, SD. – January 10, 2010

EPSCoR RII Grant Management Meeting – Sioux Falls, SD. October 27-28, 2009

October Workshop on DUSEL Science and the Development of the MREFC – Also go underground, Lead, SD. Sept 30-Oct 3, 2009

Cyber-Enabling Research, Education and Economic Development, 2009 SD/WY State EPSCoR Meeting – Rapid City, SD. September 23-24, 2009

vDUSEL Update meeting with Dr. Perry – Pres. Office DSU March 16, 2009

Hosted the vDUSEL - VIRTUAL DUSEL SYMPOSIUM – Dakota State University – Madison, SD. November 21st, 2008

NSF Grant Workshop – Omaha, NE. October 20, 2008

Presenter - University Round Table Discussion on DUSEL , Research, Collaboration, and Education; September 23, 2008 Rapid City, SD. 2008

South Dakota EPSCoR State Conference – Sioux Falls, SD September 11, 2008

DUSEL meeting on Education and Outreach (E&O) – Homestake-Lead, SD, February 2006

Other Conferences:

Game+Learning+Society Conf. (GLS) (Represent vDUSEL) – Madison,WI. June 9-11, 2010

Game+Learning+Society Conf. (GLS) (Represent vDUSEL) – Madison,WI. June 13-17, 2011

EDU Symposium (Represent vDUSEL) - Madison,WI. June 14, 2010

Graduate Project Advisor:

Graduate Project Supervisor (students are in MIS/MSA graduate Programs at DSU)

Date	Student	Title
Spring 2016	Edward Mosier	Custom Reports Tracking Database – <i>in development</i>
11/2015	Lora Ersland	ITS Program Database
11/20/2014	Muthukumar Venkatachalam	Utilization of industry data models in healthcare master data management
6/27/2013	Abdelhamid Chefchaoui	Customer Marketing Campaign Datamart
4/30/2013	Aaron Napierala	Virtualized Educational Lab
7/26/2012	Michael Kaderly	Stat Taker: A Basketball Statistic Software Application Project
12/16/11	Marilyn Halgerson	Enrollment Extract Suite: Improved Enrollment for DSU
8/16/11	Divya Vemula	Online Courier Service
7/29/11	Mahendranadh Manne	Common Enrollment System
7/20/11	Connie Fan	An Automated Software Production and Reporting System
5/4/11	John Hardebeck	A Data Warehouse for Faculty Pay

4/27/11	Swathy Kodati	Java Implementation of an Office Communicator
4/27/11	Daniel Jones	Class Grading System
4/26/11	Archana Samineni	Info Pool
12/8/10	Bob Van Roekel	Database Merge
8/16/10	Sudhakar Katamaneni	Web Banking
8/8/10	Narendra Manna	Campus Events
7/27/10	Eric Johnson	Active Directory and ULT PLUS Resource Database
5/3/10	Ajaya Kumar Loya	Organizational Internal Survey
5/1/09	Daren Anderson	RMP Capital Corp - An in-house IT Solution
4/30/09	Varghese Abraham	10g Grid Control for Enterprise Database Monitoring
12/18/08	Adupudi Sriram	Bug Tracking for Improving on Software Reliability
12/18/08	Allan Wasserman	Permissions for Site Servers in a Windows Domain
12/01/08	George Hogan	Centralized College Client DB Creation from Diverse Interrelated Sources
7/23/08	Govardhan Goud Gudidevuni	Development of Report and Sales/Inventory/Purchasing Data Mart
5/19/08	Eric Urff	Student Data Repository and Warehouse
11/30/07	Christopher Haufschild	The Implementation of a Repository for Data Reporting and Analysis
8/24/07	Steve Kuchta	Website Conversion: PHP to ASP
5/7/07	Bobbi Jo Kyte	Developing a Web Presence for a Photography Business
12/14/06	Ben Condol	Quality Product Grading
12/8/06	Kranthi K. Chigullapally	Correction Action Tracker
12/6/06	David Stendel	Service Center Project
12/4/06	Mark Dykstra	The Migration of an IBM Legacy System
11/27/06	Marianne Gorecki	Customer Extranet Metrics
11/27/06	Srinivas Jujjavarapu	Inventory Management of Medical Drugs
11/27/06	Prasun K Rachamalla	Web Based Insurance Enrollment System
5/11/06	Steve Hawks	Image Database for the SDSU Fillbrandt Observatory
5/9/06	Mathew Lehmann	Workflow Management
5/5/06	Pavan Gandra	A Diagnostics service for Monitoring LED Components

Dissertation Committee Member (Doctor of Information Science) – Donald Heier Fall 2014

Graduate Project Committee Member: from 2006 to 2011 I served on more MIS project committees than I was advisor for. As the MIS deemphasized the project I have been on only a couple a year on average. Most were on committees for Dr. Shan (DSU).