

IOWA STATE UNIVERSITY  
Electrical and Computer Engineering Department

Revised 12/26/03

**I. PERSONAL DATA**

Name: Douglas W. Jacobson  
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**II. EDUCATION**

Ph.D. CprE Iowa State University 1985  
M.S. EE Iowa State University 1982  
B.S. CprE Iowa State University 1980

**III. ACADEMIC EXPERIENCE**

9/01 – present Director of Graduate Education, Information Assurance Program  
11/00-present Director, ISU Information Assurance Center  
1/96 - present Co-coordinator Information Systems Security Laboratory (ISSL)  
5/98 - present Computer Engineering Learning Community Coordinator  
7/99 - present Coordinator Active Learning Complex  
7/98 - 6/02 Miller Faculty Fellow  
7/89 - Present Associate Professor  
Electrical and Computer Engineering  
Iowa State University, Ames, IA  
1986 - 6/89 Assistant Professor  
Electrical and Computer Engineering  
Iowa State University, Ames, IA  
1985 - 1986 Temporary Instructor  
Electrical and Computer Engineering  
Iowa State University, Ames, IA

#### **IV. INDUSTRIAL AND NON-ACADEMIC EXPERIENCE**

1996 - Present President and Chief Technical Officer Palisade Systems  
1996                      Founded Palisade Systems, Inc.  
1983 – 1996              Founded D & D Digital Systems, Still operating as a corporation.  
1982 - 1985              Senior Design Engineer- ISU Computation Center

#### **V. HONORS AND AWARDS**

2003    R&D 100 Award  
2003    Warren Boast Undergraduate Teaching award  
2003    Certificate of Appreciation, Department of Public Safety  
2002    Engineering Student Body, e-Week professor of the semester  
2002    Finalist, EY Entrepreneur of the year  
2002    Louis Thompson Distinguished Undergraduate Teaching Award  
2001    R&D 100 Award  
2001    Iowa diVinci Award  
2000    Special Recognition Award, College of Engineering LEAD program  
1999    ISU Inventor  
1999    Wakonse Fellow  
1999    Warren Boast Undergraduate Teaching award  
1999    Engineering Student Council Outstanding Engineering Professorship in Computer Engineering  
1998    College of Engineering Superior Engineering Teacher Award  
1998    Engineering Student Council Outstanding Engineering Professorship in Computer Engineering  
1996    College of Engineering Superior Engineering Extension Award  
1995    Eta Kappa Nu  
1985    Iowa State University Research Excellence Award  
1983    Phi Kappa Phi

#### **VI. ACADEMIC AREAS OF SPECIALIZATION**

##### Teaching

CprE 181X Introduction to Computer Engineering I (98F)  
CprE 182X Introduction to Computer Engineering II (99S)  
CprE 183 Introduction to Computer Engineering and Problem Solving I (99F, 00F, 01F)  
CprE 184 Introduction to Computer Engineering and Problem Solving II (00S, 01S, 02S)  
CprE 185 Introduction to Computer Engineering and Problem Solving (02F, 03F)  
CprE 211 Digital Systems Design (95F,96S,96F,97S, 97SS, 97F, 98S, 98F)  
CprE 489 Data Communications and Computer Networks (87F,90F,91F,93F,94F,96F)  
CprE 580 Advanced Computer Networks  
(88S,89S,90S,91S,92S,92SS,93S,93SS,94S,94SS,95S, 97F, 98F, 99F,00F)  
CprE 530 Advanced Computer Networks (01F, 01S, 02F, 03S, 03F)  
CprE 532 Information Warfare(96S, 97S, 98S, 99S, 00S, 01S, 02S, 03S)  
CprE 534X Ethics in computer Security (99S)

## VII. GRANTS AND CONTRACTS

### Funded (last 5 years)

1. **Jacobson, D.W.** "ISEAGE: Internet-Scale Event and Attack Generation Environment ", DoJ, \$496,750
2. **Jacobson, D.W.**, Davis, J.A., Schmidt, S., Bergman, C., Wong, J., "Information assurance educational support program", 2003-2004 NSF, \$75,000 Supplemental funding
3. Guan, Yong, **Jacobson, D.W.**, Davis, J.A. "Cyberspace Forensics: Research, Course Development, and Laboratory Development (Capacity Building Track)", NSF, \$200,000
4. **Jacobson, D.W.**, "Cyber Protection Laboratory", John Deere Foundation, \$30,000
5. **Jacobson, D.W.**, "Computer Engineering Learning communities", ISU Provost 2003, \$15,000
6. **Jacobson, D.W.**, Davis, J.A., "NSF I/U CRC Cyber protection center: Planning Grant", NSF, \$10,000
7. **Jacobson, D.W.**, "Computer Engineering Learning communities", ISU Provost 2002, \$15,000
8. **Jacobson, D.W.**, Davis, J.A., Schmidt, S., Bergman, C., Wong, J., "Information assurance educational support program", 2001-2003 NSF, \$200,000
9. Davis, J.A., **Jacobson, D.W.**, Miller, C., Bergman, C., Wong, J., "SFS Fellowships for information assurance students", 2001-2006 NSF, \$2,600,000
10. **Jacobson, D.W.**, "Computer Engineering Learning communities", ISU Provost 2001, \$22,000
11. Ryan, S., Egbelu, P., Gemmill, D., Min, J., Qamhiyah, A., **Jacobson, D.**, "An enabling system for market driven product design and recycling", 1999, NSF, \$180,002.
12. **Jacobson, D.W.**, Davis, J.A., Lawson, K., Covert, G., Miller Fellowship "A web-based Information Assurance Awareness Delivery System", July 2000 - June 2001, \$17,500
13. Daniel Berleant (Primary) and Steve Russell, Carolina Cruz-Neira, Julie Dickerson, **Doug Jacobson**, John Lamont, Arun Somani, and Charles Wright, Miller Fellowship, "Using Software Engineering Concepts to Enhance Learning: A Novel Approach", July 2000 - June 2001
14. **Jacobson, D.W.**, ISU Provost "Support for Project Success", Aug 2000 - May 2001, \$32,000
15. Davis, J.A., **Jacobson, D.W.**, Russell, S, Bergman, C., Wong, J. "Integrated Security Curricula Modules", Total 467,000, NSF, \$325,000, ISU match \$162,000 8/1/99-7/31/02

### **Equipment Grants (last 5 years)**

1. **Jacobson, D.W.**, Davis, J.A. "Security equipment grant" Cisco Systems, \$99,930
2. **Jacobson, D. W.**, Equipment Grant from Intermec, November 2000, \$25,000
3. **Jacobson, D. W.**, Software Grant from NFR, December 2000, \$4500

### **VIII. TECHNICAL PUBLICATIONS**

#### **(Last 5 years)**

1. Gaitonde, S., **Jacobson, D. W.**, Pohm, A. V., "Bounding Delay on a Token Ring Network With Voice, Data and Facsimile Applications: A Simulation Study," Communications of the ACM, January 1990.
2. Tom Richardson, James A. Davis, and **Doug Jacobson**, "Developing a database of vulnerabilities to support the study of denial of service attacks", Second Annual CERT conference, September 27-29, 2000, Omaha, NE
3. Tom Richardson, James A. Davis, and **Doug Jacobson**, "Countermeasures for Denial of Service Attacks", First Annual CERT conference, August 29-31, 1999, Omaha, NE
4. **Jacobson, Doug**, Licklider, Barb, "Freshman year learning communities in a computer engineering program", 2000 FIE Conference October, 2000
5. **Jacobson, Doug**, Licklider, Barb, "Project SUCCESS", 2000 ASEE Conference June 2000
6. **Jacobson, Doug**, Venkata, S.S., "An Active Learning Complex: Can Space be used to foster student interaction?" 2000 ASEE Conference June, 2000
7. **Jacobson, Doug**, Davis James, Licklider, Barb, "See one, do one, teach one .... Two faculty member's path through student-centered learning", 1998 Frontiers in Education Conference, Nov 1998
8. **Jacobson, Doug**, Davis James, Licklider, Barb, "Ten Myths of Cooperative Learning in Engineering Education", 1998 Frontiers in Education Conference, Nov 1998
9. Davis, J., **D. Jacobson**, "Capstone Laboratory Exercise for CprE 532: Computer Security II", Workshop on Education in Computer Security, Pacific Grove, CA January 19-21, 1998.

#### **Books or Chapters of Books (last 5 years)**

1. **Jacobson, D. W.**, "Teaching Large Classes Well: A handbook for Faculty in Higher Education" Contributed a chapter "Getting students in a technical class involved in the classroom", ISBN 1-882982-51-7, pp210-220, Anker Press

## **IX. TECHNICAL PRESENTATIONS (last 5 years)**

1. **Jacobson, D.W.** “Computer Security”, Simpson College Computer Science Department, Indianola, IA, November 24, 2003. (Invited)
2. **Jacobson, D.W.** “Securing Your Perimeter: Strategies for Protecting Business Assets”, Iowa Technology Showcase, Des Moines, IA, October 22 2003. (Invited)
3. **Jacobson, D.W.** “Computer Security”, Ames Rotary, Ames, IA, October 22, 2003. (Invited)
4. **Jacobson, D.W.** “Computer Forensics”, Symposium on Information Assurance and Security, St. Cloud State University, St. Cloud, MN., April 18 2003. (Invited)
5. **Jacobson, D.W.** “Computer Security”, Clear Lake Economic Development Corporation, Des Moines, IA, December 6 2002. (Invited)
6. **Jacobson, D.W.** “Information Warfare: How do hackers hack”, Iowa Technology Showcase, Des Moines, IA, October 24 2002. (Invited)
7. **Jacobson, D.W.** “The care & feeding of a security program: A panel group discussion”, Iowa Technology Showcase, Des Moines, IA, October 24 2002. (Invited)
8. **Jacobson, D.W.** “Information Assurance at Iowa State University”, InfraGard, Des Moines, IA, September 19 2002. (Invited)
9. **Jacobson, D.W.** “Information Assurance at Iowa State University”, State of Iowa Security Staff, Des Moines, IA, June 19 2002. (Invited)
10. **Jacobson, D.W.** “Information Assurance at Iowa State University”, Iowa Association of Business and Industry, Ames, IA, May 15 2002. (Invited)
11. **Jacobson, D.W.** “Information Warfare”, ISACA meeting, Des Moines, IA, March 19 2002. (Invited)
12. **Jacobson, D.W.** “Serve and Secure Iowa”, Iowa legislative meeting, Des Moines, IA, February 28<sup>th</sup> 2002. (Invited)
13. **Jacobson, D.W.** “Information Warfare”, IEEE Central Iowa Section meeting, Ames, IA, February 2002. (Invited)
14. **Jacobson, D.W.** "Computer Security Panel Discussion", Iowa Technology Showcase, Des Moines, IA, October 25 2001. (Invited)
15. Davis, J.A., **Jacobson, D.W.** "Computer Security", State of Iowa Conference on Cyber Terrorism and Critical Infrastructure Assurance, STARC Armory April 25, 2001 (invited)
16. **Jacobson, D.W.** "Computer Security", Software Information Technology of Iowa, Annual meeting, March 6, 2001 (invited)

17. **Jacobson, D.W.** "Faulty Entrepreneurship" Entrepreneurship & Innovation at Iowa State University, ISU Memorial Union, March 29, 2001 (invited)
18. **Jacobson, D.W.** "Computer Security", Security Seminar Des Moines Country Club, March 15, 2001 (invited)
19. **Jacobson, D.W.** "Online Privacy and Security", Personal Privacy Issues Study Committee of the Iowa Legislature, Des Moines Capital Building, January 2, 2001 (invited)
20. **Jacobson, D.W.** "Computer Security at ISU", Cert Conference, Omaha, NE, September 27 2000. (Invited)
21. **Jacobson, D.W.** "Security and Privacy for a Small Business", Iowa Technology Showcase, Des Moines, IA, November 8 2000. (Invited)
22. **Jacobson, D.W.** "Security and Privacy for a Small Business", Iowa Technology Showcase, Des Moines, IA, November 7 2000. (Invited)
23. **Jacobson D.W.** "Faculty Entrepreneurship Experiences", Entrepreneurship & Innovation at ISU Breakfast & Discussion, Ames, IA, October 24, 2000 (Invited)
24. **Jacobson D.W.** "Computer Security", Iowa CIO Forum, Des Moines, IA, October 16, 2000 (Invited)
25. **Jacobson D.W.** "Securing Your Business: What to Fear from the E", Midwest E-Business Conference, September 18-20, 2000 (Invited)
26. **Jacobson, D.W.,** "Palisade Systems: Entrepreneurial Success in Iowa", Iowa Venture Capital Conference, Des Moines, IA, September 6, 2000 (Invited)
27. **Jacobson, D.W.,** "Computer Security", ISU Computation Center, June 30, 2000 (Invited)
28. **Jacobson, Doug,** Venkata, S.S., "An Active Learning Complex: Can Space be used to foster student interaction?" 2000 ASEE Conference, St. Louis, MO., June 18-21, 2000
29. **Jacobson, Doug,** Lickliger, Barb, "Project SUCCESS", 2000 ASEE Conference, St. Louis, MO., June 18-21 2000
30. **Jacobson, D.W.,** "Network Security", Palisade Systems Seminar, Des Moines, IA, May 19, 2000
31. **Jacobson, D.W.** "The Benefits of Starting a Business: A faculty Perspective", Entrepreneur Forum, ISU Pappajohn Center, ISU, March 24, 2000 (Invited)
32. **Jacobson, D.W.** "Computer Security", ISU Unix Users Group, March 8<sup>th</sup> 2000. (Invited)
33. **Jacobson D.W.** "Information Warfare", ISU Scholars Fair, February 26, 2000
34. **Jacobson, D.W.,** Davis, J.A., "Network Security and ISSL", ISACA meeting February 21<sup>st</sup> 2000. (Invited)

35. **Jacobson, D.W.**, "Brief history of Palisade Systems", Joint State of Iowa Senate/House Economic Development Appropriations Committee, Des Moines, February 1, 2000 (Invited)
36. **Jacobson, D.W.** "Computer Security", Iowa Technology Showcase, Des Moines, IA, December 16<sup>th</sup> 1999. (Invited)
37. **Davis, J.A., Jacobson, D.W.** "Overview of NSF security education grant", National Security Agency, September 9<sup>th</sup> 1999. (Invited)
38. **Jacobson, D.W.** "Productivity Management: Keeping your employees on task", Iowa Technology Showcase, December 16, 1999 (Invited)
39. **Jacobson, D.W.** "Computer Security", ISU Society of Women Engineers, November 8<sup>th</sup> 1999. (Invited)
40. **Jacobson, D.W.** "Reality Works", ISU New Student Days, August 21st 1999.
41. **Jacobson, D.W.**, Jungst, S. "Experiences with Project LEA/RN", ISU College Teaching Seminar 1999, August 18<sup>th</sup> 1999. (Invited)
42. **Richardson, T., Davis J.A., Jacobson, D.W.**, "Countermeasures for Denial of Service Attacks", First Annual CERT conference, August 29-31, 1999, Omaha, NE.
43. **Richardson, T., Davis J.A., Jacobson, D.W.**, "Developing a database of vulnerabilities to support the study of denial of service attacks", research talk at the 1999 IEEE Symposium on Security and Privacy, May 10, 1999.
44. **Jacobson, D.W.** "Computer Security in Schools", ICN course for school administrators, April 24<sup>th</sup> 1999 (invited)
45. **Jacobson D.W.**, Stewart, J "Computer Crime", 1999 International Association of Campus Law Enforcement Administrator's (IACLEA) Region 6 Conference, May 5, 1999 (invited)
46. **Jacobson, D.W.** **Davis, J.A.**, "Hackers, Viruses and Worms (Oh MY!)", Iowa Government Management Information Sciences, April 22, 1999, Gateway - Ames. (Invited)
47. **Jacobson, D.W.** "Computer Security in Schools", ICN course for school administrators, April 24<sup>th</sup> 1999
48. **Jacobson, Doug**, **Davis James**, **Licklider, Barb**, "See one, do one, teach one .... Two faculty member's path through student-centered learning", 1998 Frontiers in Education Conference, Nov 1998
49. **Jacobson, Doug**, **Davis James**, **Licklider, Barb**, "Ten Myths of Cooperative Learning in Engineering Education", 1998 Frontiers in Education Conference, Nov 1998
50. **Jacobson, D.W.**, "Computer & Network Security" IEEE Central Iowa Section, September 10, 1998 (invited)

## **X. OUTREACH ACTIVITIES**

### **Tutorials (last 5 years)**

1. **Jacobson, D.W.** "Authentication Methods", ISU ADP July 31, August 2,4 2000 (Invited)
2. **Jacobson, D.W.** "Authentication Methods", ISU Computation Center July 26, 27, 28 2000 (Invited)
3. **Jacobson, D. W.** and Davis, J. A., "Current technology in Computer Security" (IEEE), ICC 98, Atlanta, GA, June 11, 1998.

## **XI. PATENTS**

1. **Jacobson, D.W.** and J.A. Davis. "Network Connection Blocker, Method, and Computer Readable Memory for Monitoring Connections in a Computer Network and Blocking the Unwanted Connections." US Patent #6,044,402, awarded March 28, 2000
2. **Jacobson, Douglas**, "Network Security Bridge and associated method." US Patent #5,548,649, Awarded Aug 20, 1996
3. **Jacobson, D.W.** and G, Helmer, "Network security suite" Patent Pending

## **XII. GRADUATE STUDENTS**

50 non-thesis students since 1986

70 thesis students since 1986

11 Ph.D. students since 1986



### **XIII. PROFESSIONAL ACTIVITIES**

|               |               |   |
|---------------|---------------|---|
| 2001-present  | Member        | InfraGard   |
| 2000-2001     | Member        | International Advisory Board, Software and Internet Quality Week Conference |
| 1991- Present | Member        | ASEE  |
| 1991- Present | Member        | Internet Society  |
| 1990-1991     | Chairman      | IEEE Central Iowa Section   |
| 1990-Present  | Senior Member | IEEE  |

#### **Active Learning Activities (last 5 years):**

In addition to modifying courses to include cooperative learning methods, Dr. Jacobson has participated in the following activities:

|                |   |
|----------------|---|
| May 2001       | Attended and presented the ISU Learning Communities workshop                          |
| May 1999       | Attended Wakonse teaching conference  |
| May 1999       | Attended ISU learning community workshop  |
| November 1998  | Attended and presented at a Learning Communities workshop                             |
| August 1998    | Facilitator at the Engineering College "Foundations for effective Assessment workshop |
| August 1998    | Helped facilitate one session of cooperative learning workshop                        |
| Summer 1998    | Helped facilitate one session of cooperative learning workshop                        |
| May 1998       | Attended and presented at a Learning Communities workshop                             |
| May 1998       | Attended a Leadership & Ethics Workshop   |
| April 1998     | Attended learning centered syllabi workshop   |
| February 1998  | Presentation at active learning workshop  |
| January 1998   | Helped facilitate one day cooperative learning workshop                               |
| January 1998   | Helped facilitate one session of cooperative learning workshop                        |
| AY 1997 - 1998 | Co-facilitated bi-weekly student athletes leadership training workshop                |

## **XIV. UNIVERSITY ACTIVITIES**

Last 5 years

### **University Committees & activities**

|           |   |
|-----------|---|
| 2003      | Information Security Task Force                 |
| 2002-2005 | Faculty Senate Curriculum Committee             |
| 2001      | Graduate Curriculum and catalog committee       |
| 2000      | Authentication Committee                        |
| 1999-2000 | Faculty Spring Conference Planning Committee    |
| 1998      | Summer orientation panel 6/2/98 & 6/29/98       |
| 1998-2001 | Learning Communities advisory Committee         |
| 1997-2000 | University Computer Security Policy Group       |
| 1997-98   | Academic Information Technology Director Search |

### **College Committees**

|              |       |   |
|--------------|-------|---|
| 2002-2005    | Chair | Curriculum Committee                      |
| 2003         |       | EE/CPRE department chair search committee |
| 2001-present |       | Academic Quality management team          |
| 2001         |       | Curriculum Committee                      |
| 1998-2000    |       | ABET Task Force                           |
| 1998-2001    |       | Learning Communities Task Group           |

### **Department Committees**

|              |  |
|--------------|--|
| 1999-2000    | Ad-Hoc ABET task group                           |
| 1998-1999    | Chair: Ad-Hoc Governance Revision                |
| 1998-2002    | Student recruitment and retention advisory board |
| 1996-Present | Chair Information Security and Networking group  |
| 1996-2001    | Advisory   |
| 1990-Present | Curriculum                                       |

## Other Professional Activities

### Book Reviews

|      |                                       |                                |                 |
|------|---------------------------------------|--------------------------------|-----------------|
| 2001 | TCP/IP Protocol Suite                 | Forouzan                       | McGraw-Hill     |
| 1998 | Computer Networks: A systems Approach | Larry Peterson and Bruce Davie | Morgan Kaufmann |
| 1998 | Information Security                  | Neil Rowe                      | Morgan Kaufmann |

### Journals and Conferences reviews

|      |                                |
|------|--------------------------------|
| 2001 | ASEE Conference                |
| 2000 | Software Quality Week 2000     |
| 1999 | IEEE transactions on Education |
| 1998 | Infocom                        |

### Proposal Review

|      |     |   |
|------|-----|---|
| 2002 | NSF | SBIR proposal review panel                |
| 1987 | NSF | Division of networking and communications |

### Other

Invited to participate in the 2003 CRA grand challenges in computer security conference, Airlie House, Washington D.C., November 16-19, 2003

Invited to participate in a NSF workshop on Cyber Infrastructure hosted by the engineering directorate. June 5 & 6, 2003.

Coordinated and developed curriculum material for the ISU summer connections program, Summer 1999.

Program review for MS program in Computer Science at Winona State University, March 1998

Detailed study of State Fiber Optic Network for State Auditor