

## CURRICULUM VITAE

June 23, 2006

NAME: Peter John Haug

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EDUCATION: 1968-1972 University of Wisconsin, Madison, BA, Mathematics  
1972-1976 University of Wisconsin Medical School, MD

INTERNSHIP: 1976-1977 LDS Hospital, Salt Lake City, Utah, Flexible Internship

RESIDENCY: 1979-1983 LDS Hospital, Salt Lake City, Utah, Internal Medicine  
(shared time)

FELLOWSHIP: 1977-1983 University of Utah, Department of Medical Informatics  
(shared time)

CERTIFICATION: 1977 National Board of Medical Examiners  
1983 American Board of Internal Medicine

LICENSURE: Utah State

### PROFESSIONAL EXPERIENCE:

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| January 2006-Present      | Director, Center for Clinical Informatics Research,<br>Intermountain Healthcare |
| September 2002-Present    | Senior Medical Informaticist, Intermountain<br>Health Care                      |
| July 2002-Present         | Professor, Dept. of Medical Informatics<br>University of Utah/LDS Hospital      |
| February 2001-August 2002 | Director, Dept. of Medical Informatics<br>LDS Hospital                          |
| January 1994-January 2001 | Co-Director, Dept. of Medical Informatics<br>LDS Hospital                       |
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|                         | University of Utah/LDS Hospital  |
| 1987-July 1992          | Assistant Professor, Dept. of Medical Informatics<br>University of Utah/LDS Hospital |
| 1983-1987               | Research Instructor, Dept. of Medical Informatics<br>University of Utah/LDS Hospital |
| June 1973 - August 1973 | Research Assistant, Dr. Edward Azen,<br>University of Wisconsin Medical School       |

## PROFESSIONAL SOCIETIES:

- 1) American Medical Informatics Association
- 2) Health Level 7
- 3) American College of Medical Informatics

## PUBLICATIONS:

## I. Journals

- 1) Anderson MW, Haug PJ, Critchfield G. Dermatoglyphic Features of Myocardial Infarction Patients. *American Journal of Physical Anthropology* 1981; 55:523-527
- 2) Edwards CQ, Cannon RB, Haug PJ. Control of Diabetes During Pregnancy Using Continuous Insulin Infusion. *Western Journal of Medicine*. March 1982; 136:249-251,
- 3) Kelly T, Sanborn GE, Haug PJ, Edwards CQ. The Effect of Infusion Pump Use on Diabetic Retinopathy; *Archives of Ophthalmology* 1984; 102:1156-1159
- 4) Haug PJ, Warner HR, Clayton PD, Schmidt CD, Pearl JE, Farney RJ, Crapo RO, Tocino I, Morrison WJ, and Frederick PR. A Decision-Driven System to Collect the Patient History. *Computers and Biomedical Research* 1987; 20:193-207
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- Cancer Screening. *Radiology* 1987; 164:747-752.
- 8) Dean NC, Haug PJ, Hawker PJ. Effect of Mobile Paramedic Units on Outcome in Patients with Myocardial Infarction. *Annals of Emergency Medicine* (1988); 17:1034-1041.
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  - 10) Haug PJ, Ranum DL, and Frederick PR. Computerized Extraction of Coded Findings from Free-Text Radiology Reports. *Radiology* (1990); 174:543-548.
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  - 12) Balas EA, Pryor TA, Hebertson RM, Haug PJ, Twede M. A Computer Method for Visual Presentation and Programmed Evaluation of Labor. *Obstet Gynecol* (1991); 78:3.
  - 13) Franco A, Farr FL, King JD, Clark JS, Haug PJ. "NEONATE" - An Expert System for the "HELP" System: Comparison of the Computer's and the Physician's Problem List. *Journal of Medical Systems* (1991); 14:297-306.
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  - 15) Chowdhury C, Bodemar G, Haug PJ, Babic A, Wigertz O. Methods for Knowledge Extraction from a Clinical Database on Liver Diseases. *Computers and Biomedical Research* (1991); 24:530-548.
  - 16) Haug PJ, Frederick PR, Tocino I. Quality Control in a Medical Information System. *Medical Decision Making* (1991); 11:S57-60.
  - 17) Sager JT, Haug PJ, Turner CW, Hebertson RM. Developing Models to Evaluate Pregnancy Outcomes. *Medical Decision Making* (1991); 11:S33-36.
  - 18) Lincoln, MJ, Turner CW, Haug PJ, Warner HR, Williamson JW, Bouhaddou O, Jessen SG, Sorenson D, Cundick RC, Grant Morgan. Iliad Training Enhances Medical Students' Diagnostic Skills. *Journal of Medical Systems* (1991); 15:93-110.
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## II. Book Chapters

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## III Proceedings

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- Access Medical Knowledge. Proceedings of the Eleventh Annual Symposium on Computer Applications in Medical Care, (1987) pp. 488-491.
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- 28) Haug PJ, Beesley D. Automated Selection of Clinical Data to Support Radiographic Interpretation. Fifteenth Annual Symposium on Computer Applications in Medical Care (1991) pp. 593-597.
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#### IV) Abstracts

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- 18) Henderson, SE, Maack B, Haug PJ, Gardner RM. Integration of Dictated Reports into a Computerized Medical Record. AMIA program, (1993) pp. 121.
- 19) Haug PJ, Davies M, Oberg B, Boam B, Gardner RM. Tools for Enterprise Wide Quality Assurance. AMIA Spring Congress, (1996); 104.
- 20) Haug PJ, Farrell M, Frear J, Blatter D, Frederick PR. Developing a Radiology Data Base for Quality Assurance. Symposium for Computer Applications in Radiology (1997).
- 21) Aronsky D, Haug PJ, Design of a probabilistic decision support system for automatically detecting patients with community-acquired pneumonia. Swiss Medical Weekly, 1999, Suppl 105/I, 5S.
- 22) Aronsky D, Haug PJ. Stepwise evaluation of a clinical decision support system for identifying patients with community-acquired pneumonia. Swiss Medical Weekly, 199, Suppl. 105/I, 14S.

#### V) Poster Presentations

- 1) Wigertz O, Pryor TA, Clayton P, and Haug P. Transportability of Knowledge Between Expert Systems. Eighth International Congress, Medical Informatics Europe 1988.
- 2) Aronsky D, Haug, Merkley K, James BC. Reducing Free Text Entries: A Continuous Quality Improvement Project. Proceedings of the 1998 AMIA Annual Fall Symposium.
- 3) Chapman W.W., Fiszman M., Haug P.J. Correct vs. Parsed Data for Inferring Pneumonia in Chest X-ray Reports. Proc AMIA Symp 1999;:1038.
- 4) Haug PJ, Frederick PR, Christensen L, Haug SJ, Farney M. Model-Based Quality Assurance in Radiology. Proc AMIA Symp 1999;1074.

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- 5) Aronsky D, Kendall D, Haug PJ. Applying Continuous Quality Improvement Methods to Reduce Free Text Entries. Proc AMIA Symp 1999;:1015.
- 6) Lagor C, Haug PJ, Aronsky D, Fiszman M. Comparing Diagnostic Decision Support Systems for Pneumonia. Proc AMIA Symp 2000; 1057.
- 7) Eardley DD, Aronsky D, Chapman WW, Haug PJ. Using Decision Tree Classifiers to Confirm Pneumonia Diagnosis. Proc AMIA Symp 2000; 999.

#### VI) Panel Discussions

- 1) Hausam R., Wenner A., Hayes G., Narus S., Haug P. Panel: Breaking Down the Data Entry Barrier: Enabling Technologies for the EMR User Interface. Proc AMIA Symp 1999.
- 2) Johnson SB, Hripcsak G, Haug PJ, Elkin P, Baud R. Natural Language Processing: Impact on Medicine. Proc AMIA Symp 2001.

#### VII) Tutorials

- 1) Aronsky D, Haug PJ. Building Bayesian Decision Support Systems. Proc AMIA Symp 2000.
- 2) Haug PJ, Aronsky D. Building Bayesian Decision Support Systems. Proc AMIA Symp 2001.
- 3) Aronsky D, Haug PJ. Building Bayesian Decision Support Systems. Proc AMIA Symp 2002.
- 4) Haug PJ, Aronsky D. Building Bayesian Decision Support Systems. Proc AMIA Symp 2003 (full day tutorial).
- 5) Haug PJ, Aronsky D. Building Bayesian Decision Support Systems. Medinfo. 2004 (full day tutorial).
- 6) Haug PJ, Aronsky D. Building Bayesian Decision Support Systems. Proc AMIA Symp 2005

#### VIII) Oral Presentations

- 1) Chicago Medical Informatics Conference and Workshop (1990). "The HELP System".
- 2) Chicago Medical Informatics Conference and Workshop (1990). "The ILIAD

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- System".
- 3) Chicago Medical Informatics Conference and Workshop (1991). "The ILIAD System".
  - 4) Chicago Medical Informatics Conference and Workshop (1991). "An ILIAD Hands on Workshop".
  - 5) Managed Care Information Technology Solutions Conference (1996). "Hospital Information Systems", San Diego, CA.
  - 6) Medical Group Management Association 70th Annual Conference (1996). "Managing Clinical Information in an Integrated Delivery System", Minneapolis, MN.
  - 7) Future of Health Technology Summit, Boston, Sept. 2000
  - 8) MIST-Medical Informatics Symposium in Taiwan-2000
  - 9) Future of Health Technology Summit, Boston, Sept. 2001
  - 10) International Medical Informatics Association HIS Working Conference Heidelberg, 2002
  - 11) Implementing Electronic Medical Records, A World Research Group Healthcare Quality Series Conference, Chicago, July 18-20, 2005

#### IX) Teaching Assignments

- 1) University Utah Department of Medical Informatics:  
Medicine for Scientists and Engineers (1983-1986)  
Medical Decision Making (1986 - 2002)  
Advance Medical Decision Making (2000)  
Knowledge Engineering (1986 - 1992)  
Medical Informatics Core Course (Individual Lectures-yearly)
- 2) Medical Informatics (Week long course sponsored by the National Library of Medicine at the Marine Biological Laboratory, Woods Hole, Massachusetts) (1992)
- 3) Medical Informatics (Week long course sponsored by the National Library of Medicine at the Marine Biological Laboratory, Woods Hole, Massachusetts) (1993)

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- 4) Medical Informatics (Week long course sponsored by the National Library of Medicine at the Marine Biological Laboratory, Woods Hole, Massachusetts) (1994)
- 5) Medical Informatics (Week long course sponsored by the National Library of Medicine at the Marine Biological Laboratory, Woods Hole, Massachusetts) (1995)

#### X) Involvement, National Meetings

- Fifteenth Annual Symposium on Computer Applications in Medical Care 1991 - Program Committee and Reviewer
- Sixteenth Annual Symposium on Computer Applications in Medical Care 1992 - Reviewer
- American Medical Informatics Association (AMIA) 1993 Spring Congress - Program Committee
- Seventeenth Annual Symposium on Computer Applications in Medical Care 1993 - Reviewer
- Eighteenth Annual Symposium on Computer Applications in Medical Care 1994 - Reviewer
- Nineteenth Annual Symposium on Computer Applications in Medical Care 1995 - Reviewer
- Twentieth Annual Symposium on Computer Applications in Medical Care 1996 - Reviewer
- Twenty-first Annual Symposium on Computer Applications in Medical Care 1997 - Reviewer
- 1999 AMIA Annual Fall Symposium - Reviewer
- 2000 AMIA Annual Fall Symposium - Reviewer
- 2001 AMIA Annual Fall Symposium - Reviewer
- 2002 AMIA Annual Fall Symposium - Reviewer
- 2004 MedInfo – Reviewer
- 2005 AMIA Annual Fall Symposium – Reviewer
- 2006 AMIA Annual Fall Symposium – Reviewer

#### XI) Grants

- 1 R01 LM 04932 A Knowledge Based Radiology Information System  
(9/1/88 - 8/31/91)
- 1 S15 HL43925 Small Instrumentation Grant  
(9/1/89 - 8/31/90)

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1 S15 HL47710 Small Instrumentation Grant  
(9/1/91 - 8/31/92)

1 R01 LMM05323: Development of a Semantic Parser for Medical Text  
(8/1/91 - 7/31/94)

1 R01 HL53427: Quality Assurance System for Radiology Reporting  
(12/1/94-11/31/97)

1 R01 LM06539: A Semantic Parser for Medical Free-Text  
(9/30/97-9/29/00)-Extended to 9/29/02

Deseret Foundation Research Grant #365: Evaluation of a Decision Support System for  
Community Acquired Pneumonia, 1999 (Co PI's Peter Haug and Dominik  
Aronsky, MD)

Deseret Foundation Research Grant #402: Antithrombotic Bleeds: Effects of Clinical  
Practice and Bleeding Risks, 2001 (Co-PI's: Peter Haug, MD and Charles Lagor,  
MD)

Deseret Foundation Research Grant: BNs in Problems, 2002 (Co-PI's: Peter Haug,  
MD and Jauhwei Lin, MD)

Supplement to R01 HS12035-02S1: The Relationship of Hospital Workload to Patient  
Safety—Using Electronic Discharge Summaries and Medical Language Processing  
to Identify Adverse Events.

Deseret Foundation Research Grant: Problem List Management Using Natural  
Language Understanding, 2003 (Co-PI's: Peter Haug, MD and Stephane Mestre,  
MD)

## XII) Committees and Other Assignments (past and present assignments)

Deseret Foundation Executive Committee-*current*

Deseret Foundation Scientific Review Board-*current*

IHC Urban Regional Information Management Executive Team

IHC Urban Regional Information Systems Operations Group

Intermountain Health Care Informatics Council

Medical Executive Committee, LDS Hospital

Medical Informatics Systems Meeting, LDS Hospital (Chair)

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Medical Records Committee, LDS Hospital  
Radiology IS Steering Committee, IHC  
Radiology Advisory Committee, IHC  
ACMI Scientific Committee  
University of Utah, Medical Informatics Dept. Departmental Advisory Committee  
University of Utah, Medical Informatics Dept. Executive Committee-*current*  
University of Utah, Medical Informatics Dept. Faculty Search Committee-*current*  
AMIA Publications Committee (2006)  
School of Medicine Appointment, Retention, Promotion and Tenure (A&RPT)  
Committee (2006- )

### XIII) Local Collaborators

Members of the Department of Radiology, LDS Hospital  
Members of the Department of Internal Medicine, LDS Hospital  
Members of the Computer Science Department, University of Utah  
Members of the Department of Obstetrics and Gynecology, LDS Hospital

### XIV) Patents

A Probabilistic System for natural Language Processing, Patent # 6,556,964