Kilian M. Pohl, Ph.D.

Associate Professor
Department of Psychiatry and Behavioral Sciences
Stanford University
401 Quarry Road
Stanford, CA 94305

EDUCATION

Massachusetts Institute of Technology, Cambridge, Massachusetts
Ph.D. in Computer Science 09/01 – 05/05

University of Karlsruhe, Karlsruhe, Germany
Master of Science in Mathematics, Summa Cum Laude 10/95 – 06/99

University of Massachusetts – Amherst, Amherst, Massachusetts
Visiting Graduate Student, Electrical & Computer Engineering Department 08/96 – 06/97

University of Karlsruhe, Karlsruhe, Germany
Bachelor of Science in Mathematics 10/93 – 09/95

PROFESSIONAL EXPERIENCE

Stanford University, Stanford, CA
Associate Professor, Department of Psychiatry & Behavioral Sciences 03/19 – present

SRI International, Menlo Park, CA
Program Director of Biomedical Computing, Center for Health Sciences 10/16 – 02/19
Program Director, Center for Health Sciences 08/14 – 10/16
Senior Research Scientist, Center for Health Sciences 06/13 – 07/14

SRI International, Menlo Park, CA
Program Director of Biomedical Computing, Center for Health Sciences 10/16 – 02/19
Program Director, Center for Health Sciences 08/14 – 10/16
Senior Research Scientist, Center for Health Sciences 06/13 – 07/14

Stanford University, Stanford, CA
Consulting Associate Professor, Department of Psychiatry & Behavioral Sciences 10/15 – 10/16
Consulting Assistant Professor, Department of Psychiatry & Behavioral Sciences 10/13 – 10/15

University of Pennsylvania, Philadelphia, PA
Assistant Professor (Tenure Track), Dept. of Radiology, Bioengineering Graduate Group 07/10 – 06/13

IBM Research - Almaden, San Jose, CA
Research Staff Member, Department of Computer Science 10/08 – 06/10

Brigham and Women's Hospital, Harvard Medical School, Boston, MA
Instructor, Department of Radiology 11/06 – 09/08
Postdoctoral Research Fellow, Department of Radiology 10/05 – 10/06

Isomics, Cambridge, Massachusetts
Consultant 10/05 – 06/07

Massachusetts Institute of Technology, Cambridge, MA
Postdoctoral Research Affiliate, Dept. of Electrical Engineering & Computer Science 10/05 – 06/09
Research Associate, Department of Electrical Engineering & Computer Science 09/01 – 05/05

Propack Data Corporation, Cary, NC
Training Manager 03/00 – 04/01
Technical Consultant 07/99 – 02/00

University of Karlsruhe, Karlsruhe, Germany
Research Assistant, Department of Computer Science 01/98 – 06/99

HONORS

- Creative and Novel Ideas in HIV Research Award, The 20th International AIDS Conference 2014
- Two Top 10 most accessed papers of IEEE Transactions on Medical Image Analysis in December 2012
- Top 10 Paper of the 8th International Symposium on Biomedical Imaging (736 submissions) 2011
- IBM Research Accomplishment, IBM 2009
- Best Paper Prize of Medical Image Analysis-MICCAI 06 (575 submissions) 2007
- Student Award, IEEE International Symposium on Biomedical Imaging 2004
- Student Travel Award, Tenth Annual Meeting of the Organization for Human Brain Mapping 2004
- Summa Cum Laude, Masters, Department of Mathematics, University of Karlsruhe 1999
- One-Year US Graduate School Scholarship, State of Baden-Wuerttemberg, Germany 1996

JOURNAL REVIEW

Editorial Board

Medical Image Analysis 2017 – present

Associate Editor

IEEE Transactions on Medical Imaging 2016 – present

Review Editor

Frontiers in Brain Imaging Methods 2013 – present

Book Editor

Information Processing in Medical Imaging 2013
Springer-Verlag, Lecture Notes in Computer Science, Vol. 7917, 782 pages

Reviewer

Archives of General Psychiatry
Computer Methods and Programs in Biomedicine
Computer Vision and Image Understanding
Computers in Biology and Medicine
Developmental Cognitive Neuroscience
Human Brain Mapping
IEEE Journal of Biomedical and Health Informatics
IEEE Transactions on Biomedical Engineering
IEEE Transactions on Image Processing
IEEE Transactions on Medical Imaging
IEEE Transactions on Pattern Analysis & Machine Intelligence
International Journal of Computer Vision
Journal of Magnetic Resonance Imaging
Journal of Mathematical Imaging and Vision
Journal of Medical Imaging
Medical Image Analysis
NeuroImage
Neuroinformatics
Pattern Recognition Letters
Psychiatry Research: Neuroimaging
SLEEP

SCIENTIFIC REVIEW

NIH

BMIT-A: Biomedical Imaging Technology – A, September, 2017
The Surgical Sciences, Biomedical Imaging, and Bioengineering IRG

BMIT-A: Biomedical Imaging Technology – A, June, 2017
The Surgical Sciences, Biomedical Imaging, and Bioengineering IRG

ZDA1 GXM-A(33): Analytical Tools and Approaches for (Multidimensional) Scholarly Research Assessment and Decision Support in the Biomedical Enterprise February, 2017

BDMA: The Biodata Management and Analysis Study Section, February, 2017
Bioengineering Sciences and Technologies IRG

ZRG1 BST-T 03: The Bioengineering Sciences and Technologies member conflict Special Emphasis Panel November, 2016

BDMA: The Biodata Management and Analysis Study Section, February, 2016
Bioengineering Sciences and Technologies IRG

BDMA: The Biodata Management and Analysis Study Section, October, 2015
Bioengineering Sciences and Technologies IRG

The National Institute of Diabetes and Digestive and Kidney Diseases 2011

Technical Evaluation Group - Next Generation Software for Biomedical Image Analysis: Reinventing the Insight Toolkit (ITK-v4.0) 2010

Program of Fonds de Recherche du Québec - Nature et Technologies

Research Support for New Academics 2018

New University Researchers Start-Up Program 2011

CIMIT

Center for Integration of Medicine & Innovative Technology (CIMIT) Grant Review 2010

CONFERENCE ACTIVITIES

International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)

Conference
- Program Committee Member 2011 – 2016
- Chair of Oral Session “Registration and Atlases Construction” 2013
- MICCAI Young Investigator Award Committee 2013
- Co-Chair of Workshops, Tutorials, and Challenges 2012
- Reviewer 2005 – 2010, 2017-

ABCD Neurocognitive Prediction Challenge
- Chair 2019

Medical Computer Vision Workshop
- Program Committee Member 2010 – 2016

International Workshop on Machine Learning in Medical Imaging
- Program Committee Member 2011 – present

Workshop on Spectral and Shape Analysis in Medical Imaging
- Advisory Panel 2015 – 2017

Workshop on Shape in Medical Imaging
- Advisory Panel 2018

Interactive Medical Image Computing Workshop
- Program Committee Member 2014 – 2015

Bayesian & Graphical Models for Biomedical Imaging Workshop
- Program Committee Member 2014

Spatio-Temporal Image Analysis Workshop
- Program Committee Member 2012, 2014

Probabilistic Modeling for Medical Image Analysis
- Co-Chair 2009

Biennial International Conference on Information Processing in Medical Imaging
Co-Chair 2013
Program Committee Member 2009, 2011, 2015, 2017

Workshop on Biomedical Image Registration
Program Committee Member 2012, 2014, 2018

National Alliance for Medical Image Computing Registration Retreat
Session Chair 2011

9th Workshop on Mathematical Methods in Biomedical Image Analysis
Program Committee Member 2008

IEEE International Symposium on Biomedical Imaging
Reviewer 2010 – 2015

Medical Imaging and Augmented Reality & Environments for Computer-Assisted interventions
Reviewer 2013

IEEE Visualization Conference
Reviewer 2011

GRANTS

Current

NIH/NIAAA 5 U24 AA021697 (Pfefferbaum & Pohl) 12/14 – 06/22
Title: NCANDA: Data Analysis Resource
Agency: National Institute of Health
Role: Multiple Principal Investigator

NIH/NIAAA 3 U24 AA021697 (Pfefferbaum & Pohl) 05/18 – 06/22
Title: NCANDA Administrative Supplement for Clinical Readings and Analysis
Agency: National Institute of Health
Role: Multiple Principal Investigator

NIH/NIMH 5 R01 MH113406 (Valcour & Pohl) 05/17 – 01/22
Title: Machine learning to distinguish HAND from Alzheimer's disease in HIV over age 60
Agency: National Institute of Health
Role: Multiple Principal Investigator

NIH/NHLBI 5 R01 HL127661 (Axel & Metaxas & Pohl) 04/15 – 03/20
Title: Innovative MRI-based Characterization of Cardiac Dyssynchrony
Agency: National Institute of Health
Role: Multiple Principal Investigator

NIH NIDA/NCI 5 U24 DA041123 (Dale) 09/15 – 05/20
Title: ABCD-USA Consortium: Data Analysis Center
Agency: National Institute of Health
Role: Multiple Principal Investigator of Subcontract

NIH/NIMH 1 R43 MH119022 (Chaudhary)
Title: MIQA: A Highly Scalable and Customizable Platform for Medical Image Quality Assessment 09/18 – 08/19
Agency: National Institute of Health
Role: Principal Investigator of Subcontract

NIH/NIAAA R01AA05965 (Pfefferbaum & Zahr)
Title: CNS Deficits: Interaction of Age & Alcoholism 04/15 – 03/20
Agency: National Institute of Health
Role: Co-investigator

NIH/NIAAA 2 U01 AA017347 (Pfefferbaum & Sullivan & Zahr)
Title: Tracking HIV Infection & Alcohol Abuse CNS Comorbidity with Neuroimaging 09/18 – 08/23
Agency: National Institute of Health
Role: Co-investigator

Past

NIH/NIAAA 5 U01 AA013521 (Pfefferbaum & Zahr)
Title: Neuroimaging of Alcohol-Induced Neuroadaption: Translation from Animals to Humans 02/18 – 03/19
Agency: National Institute of Health
Role: Co-investigator

Creative and Novel Ideas in HIV Research (Pohl) 06/14 – 11/17
Title: Creating Maps of 4D Brain Images to Unravel Dementia Heterogeneity of Aging HIV Population
Agency: National Institute of Health (NIAID & OAR), International AIDS Society
Role: Principal Investigator

NIH/NIAAA/OD/NABIB U01 AA021697-04S1 (Pohl) 07/15 – 06/17
Title: Supplement to N-CANDA: Data Analysis
Agency: National Institute of Health
Role: Principal Investigator

NIH NIAAA R37 AA10723 (Sullivan) 06/13 – 10/16
Title: Cerebellar Structure and Function in Alcoholism
Agency: National Institute of Health
Role: Senior Research Scientist

NIH/NIAAA R01 AA012388 (Pfefferbaum & Sullivan) 06/13 – 01/16
Title: Neuroimaging of Connectivity in Alcoholism
Agency: National Institute of Health
Role: Co-investigator

Translational Biomedical Imaging Center Pilot Grant (Pohl) 02/12 – 06/13
Title: Automatic 4D Analysis of Cardiac MR Scans
Agency: Institute for Translational Medicine and Therapeutics
Role: Principal Investigator

NIH/NIA R01AG014971-10A1 (Davatzikos) 09/11 – 06/13
Title: Computational Neuroanatomy of Aging and AD via Pattern Analysis
Agency: National Institute of Health
Role: Co-Investigator

NIH/NIBIB R01 EB009234-01A1 (Davatzikos) 07/10 – 06/13
Tittle: Computer Analysis of Brain Vascular Lesions in MRI: Evaluating Longitudinal Change
Agency: National Institute of Health
Role: Co-Investigator

NIH/NCRR P41RR013218-12S1 (Kikinis) 09/09 – 09/11
Title: NAC ARRA Supplement / Image Analysis of Personalized Medicine
Agency: National Institute of Health
Role: Principal Investigator of Subcontract

NIH/NCRR P41 RR013218 (Kikinis) 10/07 – 09/08
Title: Neuroimaging Analysis Center
Agency: National Institute of Health
Role: Co-Investigator

Brain Science Foundation Grant (Pohl) 10/07 – 09/08
Title: Meningioma Tracking Project
Agency: The Brain Science Foundation
Role: Principal Investigator

NIH/NIAAA R01 AA016748 (Daunais) 04/07 – 09/08
Title: Measuring Alcohol and Stress Interactions with Structural and Perfusion MRI
Agency: National Institute of Health
Role: Investigator

Brain Science Foundation Grant (Kikinis) 10/05 – 09/07
Title: Meningioma Tracking Project
Agency: The Brain Science Foundation
Role: Co-Investigator

MENTORING

PhD Thesis Advisor

Dong Hye Ye, Bioengineering, University of Pennsylvania (graduated August 2013) 2010 – 2013
Current Position: Research Assistant Professor, Purdue University

PhD Thesis Reviewer

Volker Gerhard Daum, Department of Computer Science, University of Erlangen-Nuermberg 2011

Rowa Aljondi, Department of Medicine and Radiology, University of Melbourne 2018

Trainee Name	Level of Training	Current Position	Training Period
Nicolas Honnorat, Ph.D.	Research Scientist	Research Scientist, SRI International	2018 – present
Kelvin Cumins	Graduate Student	Graduate Student, University of California – San Diego	2017 – present
Eshan Adeli, Ph.D.	Postdoctoral Fellow	Postdoctoral Fellow, Stanford University	2017 – present
Qingyu Zhao, Ph.D.	Postdoctoral Fellow	Postdoctoral Fellow, Stanford University	2017 – present
Dongjin Kwon, Ph.D.	Postdoctoral Fellow	Software Engineer, Google	2012 – 2018
Mahnaz Maddah, Ph.D.	Consultant	Managing Member, Dana Solutions	2017
Sang Hyun Park, Ph.D.	Postdoctoral Fellow	Assistant Professor, Daegu Gyeongbuk Institute of Science & Technology, South Korea	2016 – 2017
Nolan Nichols, Ph.D.	Postdoctoral Fellow	Bioinformatics Software Engineer, Genentech	2015 – 2016
Yong Zhang, Ph.D.	Postdoctoral Fellow	Data Scientist, Istuary Innovation Group	2014 – 2016
Elena Bernardis, Ph.D.	Postdoctoral Fellow	Assistant Research Professor, University of Pennsylvania	2012 – 2014
Dong Hye Ye, Ph.D.	Graduate Student	Assistant Professor, Marquette University	2010 – 2014
Birkan Tunc, Ph.D.	Postdoctoral Fellow	Research Assistant Professor, University of Pennsylvania	2012 – 2013
Yangming Ou, Ph.D.	Graduate Student	Instructor, Harvard Medical School	2011 – 2013
Bilwaj Gaonkar, Ph.D.	Graduate Student	Postdoctoral Researcher, University of California – Los Angeles	2010 – 2013
Chunming Li, Ph.D.	Postdoctoral Fellow	Professor of Electrical Engineering, University of Electronic Science and Technology of China	2010 – 2012
Ender Konukoglu, Ph.D.	Graduate Student	Assistant Professor, ETH Zurich	2007 – 2012
Ali Gooya, Ph.D.	Postdoctoral Fellow	Lecturer, The University of Sheffield,	2010 – 2012
Yong Zhang, Ph.D.	Postdoctoral Fellow	Assistant Professor, Weber State University	2010
Andrey Fedorov, Ph.D.	Postdoctoral Fellow	Assistant Professor, Harvard Medical School	2008 – 2010

Software Engineer

Ramon Quitales	Software Engineer	Software Engineer, SRI International	2018 – present
James Klo	Senior Software Engineer	Senior Software Engineer, SRI International	2018 – present
Simon Podhajsky	Data Manager	Data Manager, SRI International	2018 – present
Michael Hasak, BS	Senior Software Engineer	Senior Software Engineer, SRI International	2017 – 2018
Sara Benito, BS	Biomedical Software Engineer	Software Test Engineer, Heat Flow Inc.	2016 – 2017

Daniel Cuneo, BS	Research Associate II	ALS Control Systems Engineer, Lawrence Berkeley National Laboratory	2014
Andreas Schuh, Ph.D.	Software Engineer	Research Engineer, Imperial College London	2010 – 2012
Daniel Haehn, MS	Software Engineer	PhD Student, Harvard	2010 – 2011
Dominique Belhachemi, MS	Software Engineer	Software Engineer, Life Technologies Corporation	2010 – 2011

Data Analysist

Lisa Jack, BS		Assistant Director, SRI International	2017 – present

Visiting Scholar

Tuo Leng, PhD	Associate Professor	Visiting Scholar, Stanford University	2018 – present

ORAL PRESENTATIONS BY MENTEES AT NATIONAL AND INTERNATIONAL MEETINGS

Listed are talks by mentees based on peer-reviewed, full-length publications co-authored by the mentee and me

Multi-Label Transduction for Identifying Disease Comorbidity Patterns — September, 2018
International Conference on Medical Image Computing and Computer Assisted Intervention, Granada, Spain
Oral presentation by first author E. Adeli

End-To-End Alzheimer's Disease Diagnosis and Biomarker Identification — September, 2018
International Workshop on Machine Learning in Medical Imaging, 2018 MICCAI Workshop, Granada, Spain
Oral presentation by last author E. Adeli

Multinomial Probabilistic Fiber Representation for Connectivity Driven Clustering — June, 2013
Information Processing in Medical Imaging, Asilomar, California
Oral presentation by first author B. Tunc

Validation of DRAMMS among 12 Popular Methods in Cross-Subject Cardiac MRI Registration — July, 2012
Workshop on Biomedical Image Registration, Nashville, Tennessee
Oral presentation by first author Y. Ou

Prediction of MCI to AD conversion via structural MRI using manifold learning and semi-supervised pattern classification — May 2011
IEEE Int. Workshop on Pattern Recognition in NeuroImaging, Seoul, S. Korea
Oral presentation by first author D.H. Ye

Morphological Classification: Application to cardiac MRI of Tetralogy of Fallot — May 2011
Int. Conference on Functional Imaging and Modeling of the Heart, New York, NY
Oral presentation by first author D.H. Ye

Monitoring slowly evolving tumors — April, 2008
IEEE International Symposium on Biomedical Imaging, Paris, France
Oral presentation by first author E. Konukoglu

INVITED ORAL PRESENTATIONS AT NATIONAL AND INTERNATIONAL VENUES

Identify Brain Patterns Predicting Diagnosis — September, 2018
Predictive Intelligence in Medicine*, 2018 MICCAI Workshop, Granada, Spain*

Computational Science for Identifying Biomedical Phenotypes — August, 2017
2017 Intelligence in Medicine Summit, Stanford, California

Public Access to the National Consortium on Alcohol & Neurodevelopment in Adolescence (NCANDA) Data — June, 2017
40th Annual Research Society on Alcoholism Scientific Meeting, Denver, Colorado

Extracting Patterns of Morphometry Distinguishing HIV Associated Neurodegeneration from Mild Cognitive Impairment *Creative and Novel Ideas in HIV Research NIH Workshop, Bethesda, Maryland*	August, 2016
Classifying MRIs based on Group Cardinality Constrained Solutions *Workshop on Medical Computer Vision at the IEEE Conference on Computer Vision and Pattern Recognition, Las Vegas, Nevada*	June, 2016
Creating Maps of 4D Brain Images to Unravel Dementia Heterogeneity of Aging HIV Population: Findings *Creative and Novel Ideas in HIV Research Workshop, Vancouver, Canada*	July, 2015
Age-Related Differences in Adolescent Brain Microstructure: Initial Findings from National Consortium on Alcohol & Neurodevelopment in Adolescence *38th Annual Research Society on Alcoholism Scientific Meeting, San Antonio, TX*	June, 2015
Logarithm of Odds for Medical Images Analysis, *Joint Statistical Meetings, Boston, Massachusetts*	August, 2014
Creating Maps of 4D Brain Images to Unravel Dementia Heterogeneity of Aging HIV Population: First Findings *Creative and Novel Ideas in HIV Research Workshop, Melbourne, Australia*	July, 2014
Medical Image Based Biomarkers for Disease Detection *Janelia Conference: BioImage Informatics II, Loudoun County, Virginia*	September, 2011
Image Segmentation: EMSegmenter *From MICCAI Algorithms to Clinical Translational Tools: The NA-MIC Platform, Beijing, China*	October, 2010
Slicer Annotation *National Alliance for Medical Image Computing All Hands Meeting, Salt Lake City, Utah*	January , 2010
Automated Tumor Growth Detection *International Congress on Meningiomas and Cerebral Venous System, Boston, Massachusetts*	September, 2008
Active Mean Fields: Solving the Mean Field Approximation in the Level Set Framework *Information Processing in Medical Imaging, Kerkrade, Netherlands*	June, 2007
EM Segmentation Tutorial *National Alliance for Medical Image Computing All Hands Meeting, Salt Lake City, Utah*	January, 2007
Logarithm Odds Maps for Shape Representation *International Conference on Medical Image Computing and Computer Assisted Intervention, Copenhagen, Denmark*	October, 2006
EMAtlasBrainClassifier *National Alliance for Medical Image Computing All Hands Meeting, Salt Lake City*	January, 2006
Anatomical Guided Segmentation with Non-Stationary Tissue Class Distributions in an Expectation-Maximization Framework *IEEE International Symposium on Biomedical Imaging, Arlington, Virginia*	April, 2004
Incorporating Non-Rigid Registration into Expectation Maximization Algorithm to Segment MR Images *International Conference on Medical Image Computing and Computer Assisted Intervention, Tokyo, Japan*	October, 2002
Batch-Tracing Report *The International Society for Pharmaceutical Engineering, Arlington, Virginia*	October, 2000

PEER-REVIEWED FULL-LENGTH PUBLICATIONS (N=85)

85 peer-reviewed publications resulting in over 2000 citations (h-index=24) according to Google Scholar.

Publications listed are full-length, peer-reviewed articles and are based on original research using either newly acquired data or large consortia data (e.g., Alzheimer's Disease Neuroimaging Initiative, ADNI).

Original Research Indexed in PubMed (N=82)

1. Adeli E, Li X, Kwon D, Zhang Y, **Pohl KM**: Logistic Regression Confined by Cardinality-Constrained Sample and Feature Selection, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, In press.
2. Adeli E, Zahr NM, Pfefferbaum A, Sullivan EV, **Pohl KM**: Novel Machine Learning Identifies Brain Patterns Distinguishing Diagnostic Membership of HIV, Alcoholism, and Their Comorbidity of Individuals, *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, In press.
3. Zhao Q, Pfefferbaum A, Podhasjky S, **Pohl KM***, Sullivan EV: Accelerated Aging and Motor Control Deficits Are Related to Regional Deformation of Central Cerebellar White Matter in Alcohol Use Disorder, *Addiction Biology*, In press.
   * *Conducted data analysis and interpretation*
4. Zhao Q, Kwon D, Müller-Oehring EM, Le Berre AP, Pfefferbaum A, Sullivan EV, **Pohl KM**: Longitudinally Consistent Estimates of Intrinsic Functional Networks, *Human Brain Mapping*, In press.
   * *Conducted data analysis and interpretation*
5. Zahr NM, **Pohl KM**, Pfefferbaum A, Sullivan EV: Dissociable Contributions of Precuneus and Cerebellum to Subjective and Objective Neuropathy in HIV, *Journal of Neuroimmune Pharmacology*. In press
   * *Conducted data analysis and interpretation*
6. Zhao Q, Honnorat N, Adeli E, Pfefferbaum A**,** Sullivan EV, **Pohl KM**: Variational Autoencoder with Truncated Mixture of Gaussians for Functional Connectivity Analysis, *The 26th biennial International Conference on Information Processing in Medical Imaging*, In press.
7. Kwon D, Pfefferbaum A, Sullivan EV, **Pohl KM**: Regional Growth Trajectories of Cortical Myelination in Adolescents and Young Adults: Longitudinal Validation and Functional Correlates, *Brain Imaging and Behavior*, In press.
8. Peterson E, Kwon D, Luna B, Larsen B, Pouty D, De Bellis M, Voyvodic J, Liu C, Li W, **Pohl KM***, Sullivan EV, Pfefferbaum A.: Distribution of Brain Iron Accrual in Adolescence: Evidence from Cross-Sectional and Longitudinal Analysis*, Human Brain Mapping*, 40, pp. 1480–1495, 2019.
   * *Conducted data analysis and interpretation*
9. Zhao Q, Fritz M, Pfefferbaum A, Sullivan EV, **Pohl KM*,** Zahr NM: Jacobian maps reveal under-reported brain regions sensitive to extreme binge ethanol intoxication in the rat, *Frontiers in Neuroanatomy*, 12(108), pp 1. -13, 2018.
   * *Provided critical revision of manuscript for important intellectual content*
10. Pfefferbaum A, Zahr NM, Sassoon SA, Kwon D, **Pohl KM***, Sullivan EV: Accelerating and Premature Aging Characterizing Regional Cortical Volume Loss in Human Immunodeficiency Virus Infection: Contributions from Alcohol, Substance Use, and Hepatitis C Co-Infection, *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging,* 3(10), pp. 844-859, 2018.
    * *Conducted data analysis and interpretation*
11. Adeli E, Kwon D, Zhao Q, Pfefferbaum A, Zahr NM, Sullivan EV, **Pohl KM**: Chained regularization for identifying brain patterns specific to HIV infection, *NeuroImage*, 183, 425 -437, 2018.
12. Sullivan EV, Zahr NM, Sassoon SA, Thompson WK, Kwon D, **Pohl KM***, Pfefferbaum A.: Enduring Cortical Compromise in Alcoholism: *Accelerated by Aging and Compounded by Drug Dependence and Hepatitis C Comorbidity, JAMA* Psychiatry, 75(5), pp. 474 – 483, 2018.
    * *Conducted data analysis and interpretation*

13. Goldstone A, Willoughby A, de Zambotti M, Frenzen PL, Kwon D, **Pohl KM***, A. Pfefferbaum, Sullivan EV, Müller-Oehring EM, Prouty D, Hasler BP, Clark DB, Colrain IM, Baker FC: The mediating role of cortical thickness and gray matter on sleep slow wave activitycd during adolescence, *Brain Structure and Function*, 223(2), pp. 669-685, 2018.
    * *Provided critical revision of manuscript for important intellectual content*

14. Adeli E, Kwon D, **Pohl, KM**, Multi-Label Transduction for Identifying Disease Comorbidity Patterns, *Medical Image Computing and Computer-Assisted Intervention*, Springer-Verlag, Lecture Notes in Computer Science, 11072, pp 575–583, 2018.

15. Zhao Q, Kwon, D, **Pohl KM**, A Riemannian Framework for Longitudinal Analysis of Resting-State Functional Connectivity, *Medical Image Computing and Computer-Assisted Intervention*, Springer-Verlag, Lecture Notes in Computer Science, 11072, pp 145–153, 2018.

16. Esmaeilzadeh S, Belivanis DI, **Pohl KM**, Adeli E, End-To-End Alzheimer's Disease Diagnosis and Biomarker Identification, *International Workshop on Machine Learning in Medical Imaging*, Springer-Verlag, Lecture Notes in Computer Science, 11046, pp 337–345, 2018

17. Park SH, Zhang Y, Kwon D, Zhao Q, Zahr N, Pfefferbaum A, Sullivan E, **Pohl, KM**: Alcohol use effect on adolescent brain development revealed by simultaneously removing confounding factors, identifying morphometric patterns, and classifying individuals, Scientific Reports, 8 (8297), pp. 1-14, 2018.

18. Pfefferbaum A, Kwon D, Brumback T, Cummins K, Tapert SF, Brown SA, Colrain IM, Baker FC, Prouty D, De Bellis MD, Clark DB, Nagel BJ, Chu W, Park SH, **Pohl KM***, Sullivan EV: Altered Brain Developmental Trajectories in Adolescents after Initiating Drinking, *American Journal of Psychiatry*, 175(4), pp. 370-380, 2018.
    * *Conducted data analysis and interpretation*

19. Bernardis E, Zhang Y, Konukoglu E, Ou Y, Javitz HS, Axel L, Metaxas D, Desjardins B, **Pohl KM**: eCurves: A Temporal Shape Encoding, *IEEE Transactions on Biomedical Engineering*, 65(4), pp 733-744, 2018.

20. Müller-Oehring EM, Kwon D, Nagel BJ, Sullivan EV, Chu W, Rohlfing T, Prouty D, Nichols N, Poline J-B, Tapert SF, Brown SA, Cummins K, Brumback T, Colrain IM, Baker FC, De Bellis MD, Voyvodic J, Clark DB, Pfefferbaum DB, **Pohl KM**: Influences of age, sex, and moderate alcohol drinking on the intrinsic functional architecture of adolescent brains, *Cerebral Cortex*,28(3), pp 1049-1063, 2018.

21. Sullivan EV, Lane B, Kwon D, Meloy MJ, Tapert SF, Brown SA, Colrain IM, Baker FC, De Bellis MD, Clark DB, Nagel BJ, **Pohl KM***, A. Pfefferbaum: Structural brain anomalies in healthy adolescents in the NCANDA cohort: Relation to neuropsychological test performance, sex, and ethnicity, *Brain Imaging and Behavior*, 11, pp 1302-1315,2017.
    * *Provided critical revision of manuscript for important intellectual content*

22. Yang D, Wu P, Tan C, **Pohl KM***, Axel L, Metaxas D: 3D Motion Modeling and Reconstruction of Left Ventricle Wall in Cardiac MRI, *International Conference on Functional Imaging and Modeling of the Heart*, pp 481-492, 2017.
    * *Provided critical revision of manuscript for important intellectual content*

23. Clark DB, Chung T, Martin CS, Hasler BP, Fitzgerald DH, Luna B, Brown SA, Tapert SF, Brumback T, Cummins K, Pfefferbaum A, Sullivan EV, **Pohl KM***, Colrain IM, Baker FC, De Bellis MD, Nagel BJ, Adolescent executive dysfunction in daily life: Relationships to risks, brain structure and substance use, *Frontiers in Behavioral Neuroscience*, 11, 223, 2017.
    * *Provided critical revision of manuscript for important intellectual content*

24. Niethammer M, **Pohl KM***, Janoos F, Wells WM: Active mean fields for probabilistic image segmentation: Connections with Chan-Vese and Rudin-Osher-Fatemi models, *SIAM Journal on Imaging Sciences*, 10(3), pp 1069-1103, 2017.
    * *Conducted data analysis and interpretation*

25. Hasler BP, Franzen PL, de Zambotti M, Prouty D, Brown SA, Tapert SF, Pfefferbaum A, **Pohl KM***, Sullivan EV, De Bellis MD, Nagel BJ, Baker FC, Colrain IM, Clark DB: Eveningness and later sleep timing are associated with greater risk for alcohol and marijuana use in adolescence: Initial findings from the NCANDA study, *Alcoholism: Clinical and Experimental Research*, 41(6), pp 1154-1165, 2017.
* *Provided critical revision of manuscript for important intellectual content*

26. Sullivan EV, Brumback T, Tapert SF, Prouty D, Fama R, Thompson W, Brown SA, Cummins K, Colrain IM, Baker FC, Clark DB, Chung T, De Bellis MD, Hooper S, Nagel BJ, Chu W, Kwon D, **Pohl KM***, Pfefferbaum A: Effects of prior testing lasting a full year in NCANDA adolescents: Contributions from age, sex, socioeconomic status, ethnicity, site, family history of alcohol or drug abuse, and baseline performance, *Developmental Cognitive Neuroscience*, 24, pp 72–83, 2017.
* *Conducted data analysis and interpretation*

27. Zhang Y, Kwon D, **Pohl KM**: Computing group cardinality constraint solutions for logistic regression problems, *Medical Image Analysis*, 35, pp 58-69, 2017.

28. Zhang Y, Park S, **Pohl KM**: Joint data harmonization and group cardinality constrained classification, *Medical Image Computing and Computer-Assisted Intervention*, Springer-Verlag, Lecture Notes in Computer Science, 9900, pp 282–290, 2016.

29. Zhang Y, Kwon D, Esmaeili-Firidouni PE, Pfefferbaum A, Sullivan EV, Javitz H, Valcour V, **Pohl KM**: Extracting patterns of morphometry distinguishing HIV associated neurodegeneration from mild cognitive impairment via group cardinality constrained classification, *Human Brain Mapping*, 37(12), pp 4523-4538, 2016.

30. **Pohl KM**, Sullivan EV, Rohlfing T, Chu W, Kwon D, Nichols BN, Zhang Y, Brown SA, Tapert SF, Cummins K, Thompson WK, Brumback T, Colrain IM, Baker FC, Prouty D, De Bellis MD, Voyvodic JT, Clark DB, Schrida C, Nagel BJ, Pfefferbaum A: Harmonizing DTI measurements across scanners to examine the development of white matter microstructure in 803 adolescents of the NCANDA study, *NeuroImage*, 130, pp 194-213, 2016.

31. Sullivan EV, Brumback T, Tapert SF, Fama R, Prouty D, Brown SA, Cummins K, Thompson WK, Colrain IM, Baker FC, De Bellis MD, Hooper SR, Clark DB, Chung T, Nagel B, Nichols BN, Rohlfing T, Chu W, **Pohl KM***, Pfefferbaum A: Cognitive, emotion control, and motor performance of adolescents in the NCANDA study: Contributions from alcohol consumption, age, sex, ethnicity, and family history of addiction, *Neuropsychology*, 30(4), pp 449-473, 2016.
* *Conducted data analysis and interpretation*

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* *Conducted data analysis and interpretation*

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* *Conducted data analysis and interpretation*

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* *Provided critical revision of manuscript for important intellectual content*

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64. Chen K, Zhang Y, **Pohl KM**, Syeda-Mahmood T, Song Z, Wong STC: Coronary artery segmentation using geometric moments based tracking and snake-driven refinement, *2010 Annual International Conference of the IEEE Engineering in Medicine and Biology*, pp 3133-3137, 2010.

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69. Vosburgh KG, Stoll J, Noble V, **Pohl KM**, Estepar RSJ, Takacs B: Image registration assists novice operators in ultrasound assessment of abdominal trauma, *Medicine Meets Virtual Reality 16*, Studies in Health Technology and Informatics, 132, pp 532 - 537, IOS Press, 2008.

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Original Research Published Directly by Scientific Meeting (N=3)

1. Rehman T, Haber E, **Pohl KM**, Haker S, Halle M, Talos F, Wald L, Kikinis R, Tannenbaum A: Multimodal registration of white matter brain data via optimal mass transport*, The MIDAS Journal - Computational Biomechanics for Medicine (MICCAI 2008 Workshop),* pp 27 - 35, 2008.
2. Zöllei L, Shenton M, Wells WM, **Pohl KM**: The impact of atlas formation methods on atlas-guided brain segmentation, *In Statistical Registration: Pair-wise and Group-wise Alignment and Atlas Formation Workshop at the Tenth International Conference on Medical Image Computing and Computer-Assisted Intervention*, pp 39-46, 2007.
3. Rogalla O, **Pohl KM**, Dillmann R: A General approach for modeling robots, *IEEE/RSJ International Conference on Intelligent Robots and Systems*, 3, pp 1963 – 1968, 2000.

BOOK CHAPTERS

Pohl KM, Konukoglu E, Golby A, Kikinis R: Automatic Tumor Growth Detection, *In Pamir MN, Black P, Fahlbusch R: Meningiomas - A Comprehensive Text,* Philadelphia, Saunders, pp 2671 - 271, 2010.

GUEST LECTURES

2018

Create a Software Platform for Large Scale Imaging Studies
Course Biomedical Informatics 260, Stanford University, Stanford, CA; Spring

2016

Create a Software Platform for Large Scale Imaging Studies
Course Biomedical Informatics 260, Stanford University, Stanford, CA; Spring

SIBIS: Scalable Informatics for Biomedical Imaging Studies
Department of Tropical Medicine, Burns School of Medicine, University of Hawaii; May

SIBIS: Scalable Informatics for Biomedical Imaging Studies
Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA; February

2015

SIBIS: Scalable Informatics for Biomedical Imaging Studies
Integrative Biomedical Imaging Informatics at Stanford Annual Retreat, Santa Cruz, CA; September

A Shape Representation based on the Logarithm of Odds
Department of Computer Science, Simon Fraser University, Burnaby, British Columbia; July

iMap: Manifold Learning for MRI Phenotype Detection
Course Biomedical Informatics 260, Stanford University, Stanford, CA; Spring

Automatic Identification of Imaging Phenotypes from Cine MRIs
HeartFlow Inc. Redwood City, CA; May

2014

iMap: Manifold Learning for MRI Phenotype Detection
Course Biomedical Informatics 260, Stanford University, Stanford, CA; Spring

Logarithm of Odds for Medical Images Analysis
Divisions of Biostatistics and Bioinformatics, University California - San Francisco; March

2013

Automatic Identification of MRI Phenotypes
Biosciences Seminar, SRI International, Menlo Park, California; August

Automatic Identification of Imaging Phenotypes
Department of Computer Science, IBM Research Almaden, San Jose, CA; March

2012

Image-Based Quantification of Pathologies
Department of Radiology and Biomedical Imaging Research, University of California, San Francisco; September

Identifying Imaging Phenotypes via Advanced Shape Analysis
Neurology Grand Rounds, University of California, San Francisco; August

Automatic Identification of Pathology from 4D Medical Scans
Center for Biomedical Imaging, University of Pennsylvania, Philadelphia, PA; June

Implicit Shape Representations for Medical Images
Center for Imaging Science, John Hopkins University, Baltimore, MA; April

Biomedical Image Analysis
Lecturer, Graduate Course CIS 537-401 2012A,
Department of Computer & Information Science, University of Pennsylvania, Philadelphia, Spring

Computational Sciences in Oncologic Imaging
ACC Radiobiology and Imaging Program Annual Retreat, University of Pennsylvania, Philadelphia; March

Learning to Extract Disease Specific Phenotypes from Medical Scans
Center for Imaging of Neurodegenerative Diseases, Department of Radiology,
University of California - San Francisco; February

2011

Automatic Identification of Pathology from Medical Scans
Department of Computer Science, University of Erlangen-Nuermberg, Germany; November

Automatic Cardiac Disease Detection based on Multimodal Medical Data
Radiology Cardiovascular Imaging Research Seminar, University of Pennsylvania; November

Identifying Pathologies from Medical Images
Department of Radiation Oncology, Massachusetts General Hospital, Boston, MA; September

Medical Image Based Biomarkers for Disease Detection
Department of Computer Science, Rutgers University, New Brunswick, NH; August

Computer Reading of Brain Tumor Radiologic Images
Brain Tumor Imaging Retreat, University of Pennsylvania, Philadelphia; June

Identifying Pathologies from Medical Images
Golby Lab Meeting, Brigham and Women's Hospital, Boston, MA; June

Medical Image Based Biomarkers for Disease Detection
Information Sciences in Imaging at Stanford Seminar, Stanford University, Stanford, CA; May

Computational Biology and Visualization
Guest Lecturer, Graduate Course CSE 788, Department of Computer Science and Engineering, Ohio State University, Columbus, OH; Spring

Medical Image Based Disease Markers
Department of Computer Science and Engineering, Ohio State University, Columbus, OH; April

2010

Monitoring Slowly Evolving Tumors
Radiobiology and Imaging Program-Seminar, Department of Radiation Oncology, University of Pennsylvania, Philadelphia; December

Joint Registration and Segmentation
Lecture Series in Bioimaging Sciences, Yale University, New Haven, CT; November

Active Mean Fields: Evolving Curves via an Explicit Probabilistic Representation
GRASP Seminar Series, Department of Computer Science, University of Pennsylvania, Philadelphia; October

Active Mean Fields: Evolving Curves via an Explicit Probabilistic Representation
Department of Computer Science, Technical University of Munich, Germany; October

A Unified Framework for MR Based Disease Classification
Pattern Recognition Lab, University of Erlangen, Germany; September

Active Mean Fields: Evolving Curves via an Explicit Probabilistic Representation
Department of Computer Science, University of North Carolina, Chapel Hill, NC; August

Representing Objects via the Logarithm of Odds
Cardiovascular Imaging & Biomedical Image Computing Retreat, University of Pennsylvania, Philadelphia; May

miAnnotation: An Open Source Software Tool for Annotating Medical Images
Health Care Lunch Talk, IBM Research Almaden, San Jose, CA; May

2009

Decision Support based on 3D Medical Imaging
Health Care Department, IBM Research Almaden, San Jose, CA; December

Representing Objects via the Logarithm of Odds
Pattern Recognition Lab, University of Erlangen, Germany; September

A Unified Framework for MR Based Disease Classification
Functional Imaging Laboratory, University College London, London, Great Britain; September

Representing Objects via the Logarithm of Odds
Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston; April

2008

Representing Objects via the Logarithm of Odds
Department of Computer Science, University of Chicago, Chicago IL; December

Decision Support based on 3D Medical Imaging
The Healthcare Lunch Seminar, IBM Research Almaden, San Jose, CA; November

Representing Objects via the Logarithm of Odds
Le Laboratoire de Mathématiques Appliquées aux Systèmes, Ecole Centrale Paris, Paris, France; October

Tools for Processing Medical Images
Medical and Biological Informatics, German Cancer Research Center, Heidelberg, Germany; May

Incorporating Prior Information into Automatic Segmentation
Allen Institute, Seattle, WA; April

Automatic Tools for Monitoring Brain Tumors
Neuro-Oncology Conference, Dana-Farber Cancer Institute, Boston, MA; March

Representing Objects via the Logarithm of Odds
Minerva Research Group, Georgia Institute of Technology, Atlanta, GA; March

Simple Interface / Powerful Algorithms: Image Segmentation and Legion Measurement Tools for Interdisciplinary Research
National Cancer Institute Advanced Biomedical Computing Center, Fredrick, Maryland; March

Representing Objects via the Logarithm of Odds
Stanford University, The Paik Lab, Stanford, CA; February

A Hierarchical Segmentation Algorithm for Medical Images
Image Processing Seminar, University of California, Irvine; January

Representing Objects via the Logarithm of Odds
Institute for Pure & Applied Mathematics, University of California, Los Angeles; January

2007

Monitoring Brain Tumor Growth
Prostate Group Meeting, Brigham and Women's Hospital, Boston, MA; December

Representing Uncertainty via the Logarithm of Odds
Visualization and Graphics Group, University of California, Santa Cruz; November

Incorporating Prior Information into Automatic MR Brain Segmentation
Center for Imaging of Neurodegenerative Diseases, University of California, San Francisco; October

Solving the Mean Field Approximation in the Level Set Framework via the Logarithm of Odds,
INRIA, Sophia-Antipolis, France; August

Automatic Segmentation of MR Brain Images
Radiology Sciences Laboratory, Stanford University, Stanford, CA; July

Solving the Mean Field Approximation in the Level Set Framework via the Logarithm of Odds
Institute for Mathematics, University of Lübeck, Germany; July

Solving the Mean Field Approximation in the Level Set Framework via the Logarithm of Odds
Image Processing Seminar, Institute for Pure & Applied Mathematics, University of California, Los Angeles; June

A Hierarchical Segmentation Algorithm for MR Brain Images
Center for Computational Biology, University of California, Los Angeles; May

2006

Logarithm Odds Maps for Shape Representation
Journal Club, Department of Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA; September

Automatic Segmentation of Medical Images
Vision Seminar, IBM Research Almaden, San Jose, CA; July

Calibrating Slicer's EM Segmenter
National Alliance for Medical Image Computing Summer Project Week, Boston, MA; June

A Shape Representation based on the Logarithm of Odds
The Stochastic Systems Group Seminar, Laboratory for Information and Decision Systems, Massachusetts Institute of Technology, Cambridge, MA; May

Using Prior Information for the Automatic Segmentation of Medical Images
Vision Seminar, Stanford Vision Science and Neuroimaging Group, Stanford University; April

2005

Combining Registration and Segmentation to Analyze Medical Images
The Stochastic Systems Group Seminar, Laboratory for Information and Decision Systems, Massachusetts Institute of Technology, Cambridge, MA; April

2004

Anatomical Guided Segmentation with Non-Stationary Tissue Class Distributions in an Expectation-Maximization Framework
Surgical Planning Lab, Brigham and Women's Hospital, Harvard School of Medicine, Boston, MA; March

Seminars

2004

Mathematics for Computer Science
Teaching Assistant, Department of Computer Science, Massachusetts Institute of Technology, Cambridge, MA; Fall

1996

Introductory Calculus
Department of Mathematics, University of Karlsruhe, Germany; Spring

1995

Advanced Calculus
Department of Mathematics, University of Karlsruhe, Germany; Fall

PATENTS

Validation of Ingested Data for Smart Analytics Applications
US 2012/0197848 A1
Varun Bhagwan, Tyron Grandison, Daniel Gruhl, Kilian Pohl

PUBLICLY AVAILABLE SOFTWARE

Software Package	Initial Release
Scalable Informatics for Biomedical Imaging Studies (SIBIS) Description: SIBIS consists of IT infrastructure for uploading behavioral and imaging data through application programming interfaces to a central biomedical data repository, querying the data through a web interface, a validated workflow to perform quality control, and a multi-modal image processing pipeline. Distribution: https://github.com/sibis-platform Role: Developer & Supervisor	May, 2016
Sviewer Description: 3D+t viewer based on 3D Slicer technology Distribution: https://github.com/sibis-platform Role: Developer	January, 2015
BASIS Description: Development environment accompanying tools for testing and packaging software across platforms and languages Distribution: http://www.rad.upenn.edu/sbia/software/doxygen/basis/1.2/html Role: Supervisor	February, 2012
AtlasCreator Description: Automatically extracts cohort specific data from set of training images Distribution: 3DSlicer (www.slicer.org) Role: Supervisor	July, 2011
GLISTR Description: The first software package for automatically segmenting glioma and healthy tissue from MR brain scans Distribution: https://www.rad.upenn.edu/sbia/projects/glistr.html Role: Supervisor	June, 2011
SceneView Description: Graphical browser for scenes saved in 3D Slicer Distribution: 3DSlicer (www.slicer.org) Role: Supervisor	December, 2010
Annotation Description: A tool for annotating medical scans using state-of-the-art 2D and 3D Distribution: 3DSlicer (www.slicer.org) Role: Developer, Supervisor	May, 2010
Change Tracker Description: Semi-automatic tool for quantification of the subtle changes in pathology Distribution: 3DSlicer (www.slicer.org) Role: Developer	November, 2008
EMSegmenter Description: An advanced segmentation tool that addresses a wide variety of MR image segmentation problems. Distribution: 3DSlicer (www.slicer.org) Role: Developer, Supervisor	March, 2003