CURRICULUM VITAE

University of Pittsburgh

School of Medicine

**BIOGRAPHICAL**

**Name:** Jonathan C. Silverstein **Business Address:** 5607 Baum Boulevard

Pittsburgh, PA 15206

**Home Address:** 2032 West Fletcher Street **Business Phone:**  (412) 624-8950

Chicago, IL 60618 **Business Fax:** (412) 648-9118

**Home Phone:** (773) 396-2485

**E-Mail Address:**  [j.c.s@pitt.edu](mailto:j.c.s@pitt.edu)

**EDUCATION and TRAINING**

**UNDERGRADUATE:**

|  |  |  |  |
| --- | --- | --- | --- |
| 1983-1986 | University of Illinois, Champaign-Urbana, IL | Bachelor of Science 1986 | Microbiology |
| 1985-1986 | Trinity College, Dublin, Ireland | Study Abroad | Microbiology |

**GRADUATE:**

|  |  |  |  |
| --- | --- | --- | --- |
| 1986-1990 | Washington University, St. Louis, MO | Medicinae Doctoris 1990 | Medicine |
| 1998 | School of Public Health, Harvard University, Boston, MA | Master of Science 1998 | Clinical Epidemiology |

**POSTGRADUATE:**

|  |  |  |  |
| --- | --- | --- | --- |
| 1990-1991 | Department of Pharmacology and Medical Informatics Laboratory  Washington University  St. Louis, MO | Research Fellow (Mark Frisse and Michael Kahn, Mentors) | Supported by NIH Neuropharmacology Research Training Grant #5T32 N507129-11) |
| 1991-1996 | Rush-Presbyterian-St. Luke's Medical Center  Chicago, IL | General Surgery Residency | Surgery |
| 1996 | Harvard University  Boston, MA | Program in Clinical Effectiveness | Seven-week intensive program |
| 1997 | American College of Surgeons  Chicago, IL | Surgeons as Educators Workshop | One-week intensive program |

**APPOINTMENTS AND POSITIONS**

**ACADEMIC:**

|  |  |  |
| --- | --- | --- |
| 1996-2001 | Division of General Surgery  Department of Surgery  UIC College of Medicine  Chicago, IL | Assistant Professor of Surgery |
| 1996-2001 | School of Biomedical and Health Information Sciences  UIC College of Health & Human Development Sciences  Chicago, IL | Assistant Professor of Health Informatics |
| 1997-1999 | Graduate School of Library and Information Science  University of Illinois at Urbana-Champaign  Champaign, IL | Adjunct Appointment |
| 1999-2001 | Department of Bioengineering  UIC College of Engineering  Chicago, IL | Adjunct Appointment |
| 2000-2001 | Department of Radiology  University of Illinois at Chicago (UIC) College of Medicine  Chicago, IL | Adjunct Appointment |
| 2001-2007 | Section of General Surgery, Department of Surgery, Biological Sciences Division  University of Chicago  Chicago, IL | Assistant Professor |
| 2003-2011 | Computation Institute of University of Chicago and Argonne National Laboratory  Chicago, IL | Senior Fellow |
| 2007-2011 | Departments of Surgery, Radiology, and the Collegiate Division Biological Sciences Division  University of Chicago  Chicago, IL | Associate Professor |
| 2011-2016 | NorthShore University HealthSystem  Evanston, IL | Davis Family Chair of Informatics (clarification: health system endowed chair) |
| 2012-2016 | Department of Surgery  University of Chicago  Chicago, IL | Research Associate (Professor) (clarification: research affiliate with rank of professor) |
| 2017-present | Department of Biomedical Informatics  University of Pittsburgh  Pittsburgh, PA | Professor |
| 2017-present | Pitt Cyber  Institute for Cyber Law, Policy, and Security  University of Pittsburgh  Pittsburgh, PA | Affiliate Scholar |
| 2018-present | The Clinical and Translational Science Institute  University of Pittsburgh  Pittsburgh PA | Professor  (secondary appointment) |

**NON-ACADEMIC:**

|  |  |  |
| --- | --- | --- |
| 1997-2001 | University of Illinois at Chicago (UIC) Medical Center  Chicago, IL | Physician Informatician |
| 1998-2001 | UIC Virtual Reality in Medicine Laboratory (VRMedLab)  Chicago, IL | Co-Director |
| 2001-2008 | Center for Clinical Information (CCI)  University of Chicago Medical Center  Chicago, IL | MD Director, Health IT |
| 2002-2011 | Chicago Biomedical Consortium  Chicago, IL | Scientific Director |
| 2004-2008 | Biomedical Informatics Core,  U. of Chicago Biological Sciences Div.  Chicago, IL | Director |
| 2006-2011 | Computation Institute  University of Chicago and Argonne National Laboratory  Chicago, IL | Associate Director |
| 2011-2016 | NorthShore University HealthSystem  Evanston, IL | Vice President, Biomedical Research Informatics  Head, Center for Biomedical Research Informatics |
| 2016-2017 | Kanter Health Foundation | Chief Medical Informatics Officer |
| 2016-2017 | Tempus Health, Inc.  Chicago, IL | Chief Medical Informatics Officer |
| 2017-Present | University of Pittsburgh School of Medicine  Pittsburgh, PA | Chief Research Informatics Officer |

**CERTIFICATION and LICENSURE**

1992 Diplomate of the National Board of Medical Examiners

1993-current Licensed Physician and Surgeon, State of Illinois

1991, 1995 Advanced Cardiac Life Support

Rush-Presbyterian-St. Luke's Medical Center, Chicago

1995 Advanced Trauma Life Support

Rush-Presbyterian-St. Luke's Medical Center, Chicago

1997-2007 Certified, American Board of Surgery

1996-2001 General Surgery Attending at The University of Illinois at Chicago

2001-2003 General Surgery Attending at The University of Chicago

**MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES**

**Professional Organization Roles**

1995- Member, Chicago Medical Society

1995- Member, Illinois State Medical Society

1995- Member, American Medical Association

1997- Member, Association for Academic Surgery

1997-2001 Physician Advisor for Physician Order Entry, Cerner Corporation

1998- Member, Chicago Surgical Society

1998- Member, The Illinois Surgical Society, Inc.

1998- Member, American Medical Informatics Association

1999- Fellow, American College of Surgeons

1999- Member, Association for Surgical Education

2000-2001 Alternate Councilor, Chicago Medical Society

2000-2006 Member, Regents Committee on Informatics, American College of Surgeons

2007-2011 President, HealthGrid.US Alliance Association.

2007 Member, Scientific Program Committee, Annual Symposium American Medical Informatics Association

2007- Fellow, American College of Medical Informatics

2009-2011 Board of Directors, HealthGrid Association (International)

2010-2013 Board Member, WHITIA (HealthGreen)

2011- Member, IEEE

2014- Member, Association for Computing Machinery (ACM)

**Other Positions**

2011-2015 Health Professions Council, Western Governors University

2010-2015 Board of Trustees, The Catherine Cook School

2015-current Chair, Learning Health Community: learninghealth.org

2016-current Associate Editor, Learning Health Systems (Wiley)

**HONORS**

1996 Resident Teacher of the Year, Department of Surgery

Rush-Presbyterian-St. Luke's Medical Center, Chicago

1999 Jerry and Thelma Stergios Award for Excellence in Basic Science Research,

University of Illinois at Chicago, Department of Surgery

2001 Class Act Award, University of Illinois at Chicago Medical Center

“This employee is a role model who continuously demonstrates exceptional competence and compassion in the performance of his/her job responsibilities…

an outstanding example of UIC Medical Center’s five values: Respect, Customer Service, Teamwork, Continuous Improvement and Pride.”

2002 Most Outstanding Faculty Poster Presentation, Charles B. Huggins

Research Conference, The University of Chicago Department of Surgery

2003 Top Five Poster Prize, Midwest Clinical Conference of Chicago Medical Society

2004 Top Five Poster Prize, Midwest Clinical Conference of Chicago Medical Society

2004 Most Outstanding Student Poster Presentation (Jesse Ehrenfeld), Charles B. Huggins Research Conference, The University of Chicago Department of Surgery

2006 Finalist, CityLIGHTS Award, Illinois I.T. Association (ITA)

“The CityLIGHTS Award recognizes a business, education, media or government leader whose relentless efforts on behalf of the information technology industry have best promoted its growth and/or awareness of its vitality in Illinois to a range of audiences and raised the stature of the Illinois technology industry.”

2009-2010 Chan Soon-Shiong Scholar

2018 Winning Team, NAACCR 2018 Cancer Informatics Hackathon

**PUBLICATIONS**

Curated [bibliography at NCBI/PubMed](https://www.ncbi.nlm.nih.gov/myncbi/1vsMqqMOojIkO/bibliography/public/)

Curated [citations at Google Scholar](http://scholar.google.com/citations?user=L8w3PNwAAAAJ&hl=en)

ORIGINAL PEER REVIEWED ARTICLES

1. Cousins SB, **Silverstein JC**, Frisse ME. Query Networks for Medical Information Retrieval - Assigning Probabilistic Relationships. In: Miller, RA, editor. Proceedings 14th Annual Symposium on Computer Applications in Medical Care; 1990 Nov 4-7; Washington, DC. Los Alimitos (CA): IEEE Computer Society Press; 1990. P.800-4.
2. Millikan KW, **Silverstein J**, Hart V, Blair K, Bines S, Roberts J, Doolas A. A 15-Year Review of Esophagectomy for Carcinoma of the Esophagus and Cardia. Arch Surg. 1995 Jun; 130(6):617-24.
3. Millikan KW, **Silverstein JC**, Timmerman G, Economou SG. Fractionated Irradiation of the Regenerated Rat Liver. J Surg Res. 1995 Aug; 59(2):229-35.
4. **Silverstein JC**, Staren E, Velasco J. Thermal Bile Duct Protection During Liver Cryoablation. J Surg Oncol. 1997 Feb;64(2):163-4.
5. **Silverstein J**, Rubenstein J, Millman A, Panko W. Web-Based Segmentation and Display of 3-Dimensional Radiologic Image Data. Stud Health Technol Inform. 1998;50:53-9.
6. **Silverstein JC**, Wavak E, Millikan KW. A Prospective Experience with Selective Cholangiography. Am Surg. 1998 Jul; 64(7):654-9.
7. Panko W, **Silverstein JC**, Lincoln T. Technologies for extracting the full value from electronic patient records. Proceedings of the Hawaii International Conference on System Sciences (HICSS-32). IEEE. 1999 Jan;32:1-9.
8. Rubenstein J, **Silverstein J**, Panko W. Limitations of Distributed Segmentation of 3-Dimensional Radiologic Image Data. Stud Health Technol Inform. 1999; 62:308-14.
9. **Silverstein JC**, Shenoy A, Rice CL. Web-based entry, validation, and reporting of resident operative experience. Current Surgery. 1999 March/April;56(3):161-4.
10. Millikan KW, Deziel D, **Silverstein JC**, Kanjo T, Christein J, Doolas A, Prinz R. Prognostic factors associated with resectable adenocarcinoma of the head of the pancreas. Am Surg. 1999 Jul;65(7):618-24.
11. Pearl RK, Evenhouse R, Rasmussen M, Dech F, **Silverstein JC**, Prokasy S, Panko WB. The Virtual Pelvic Floor, a Tele-Immersive Educational Environment. Proc AMIA Symp. 1999 Nov 6;:345-348 (J AM MED INFORM ASSN : 345-348 Suppl. S 1999).
12. Zhuming Ai, Balaji K. Gupta, Mary Rasmussen, Ya Ju Lin, Fred Dech, Walter Panko, and **Jonathan C. Silverstein**. Simulation Of Eye Diseases in a Virtual Environment. Proceedings of the Thirty-Third Annual Hawaii International Conference on System Sciences (CD-ROM), Computer Society Press, 2000.
13. Ai Z, Dech F, Rasmussen M, **Silverstein JC**. Radiological Tele-Immersion for Next Generation Networks. Stud Health Technol Inform. 2000; 65:4-9.
14. Dech F, Ai Z, **Silverstein JC**. Manipulation of Volumetric Patient Data in a Distributed Virtual Reality Environment. Stud Health Technol Inform. 2001; 81:119-25.
15. Chhadia A, Dech F, Ai Z, **Silverstein JC**. Autocolorization of Three-Dimensional Radiological Data. Stud Health Technol Inform. 2001; 81:90-96.
16. Ai Z, Dech F, **Silverstein JC**, Rasmussen M. Tele-Immersive Medical Education Environment. Stud Health Technol Inform. 2002; 85:24-30.
17. **Silverstein JC**, Chhadia A, Dech F. Visualization of conserved structures by fusing highly variable datasets. Stud Health Technol Inform. 2002; 85:494-500.
18. Dech F, **Silverstein JC**. Rigorous Exploration of Medical Data in Collaborative Virtual Reality Applications. IEEE Computer Society Proceedings of 6th Annual Conference on Information Visualisation. 2002; 6:32-38.
19. **Silverstein JC**, Dech F, Edison M, Jurek P, Helton WS, Espat NJ. Virtual Reality: Immersive Hepatic Surgery Educational Environment (IHSEE). Surgery. 2002 Aug;132(2):274-7.
20. **Silverstein JC**, Dech F, Ai Z. Biomedical Tele-Immersion for Next Generation Systems [Peer-reviewed white paper] - Workshop on New Visions for Large-Scale Networks: Research and Applications – This was published as part of a three day event sponsored by the Federal Large Scale Networking Working Group, DARPA, DOE, NASA, NIST, NLM and NSF in 2003 to inform development of long-term research programs within the sponsoring organizations.
21. Dobson HD, Pearl RK, Orsay CP, Rasmussen M, Evenhouse R, Ai Z, Blew G, Dech F, Edison MI, **Silverstein JC**, Abcarian H. Virtual Reality: new method of teaching anorectal and pelvic floor anatomy. Dis Colon Rectum 2003 Mar; 46(3):349-52.
22. **Silverstein JC**, Dech F, Kouchoukos PL. Enhancing Radiological Volumes with Symbolic Anatomy Using Image Fusion and Collaborative Virtual Reality. Stud Health Technol Inform. 2004; 98:347-52.
23. **Silverstein JC**, Tsirline V, Dech F, Kouchoukos P, Jurek P. Automated Renderer for Visible Human and Volumetric Scan Segmentations. Stud Health Technol Inform. 2005; 111:473-6.
24. **Silverstein JC**, Dech F, Binns J, Jones D, Papka ME, Stevens R. Distributed Collaborative Radiological Visualization using Access Grid. Stud Health Technol Inform. 2005; 111:477-81.
25. Binns J, Dech F, McCrory M, Papka ME, **Silverstein JC**, Stevens R. Developing a Distributed Collaborative Radiological Visualization Application. Stud Health Technol Inform. 2005; 112:70-9.
26. **Silverstein JC**, Dech F. Precisely Exploring Medical Models and Volumes in Collaborative Virtual Reality. Presence: Teleoperators & Virtual Environments (MIT Press) 2005 Feb; 14(1):47-59.
27. **Silverstein JC**, Ehrenfeld JM, Croft D, Dech F, Small S, Cook S. Tele-Immersion: Preferred Infrastructure for Anatomy Instruction. Journal of Computing in Higher Education Fall 2005; 18(1):80-93.
28. **Silverstein JC**, Amine M, Dech F, Jurek P, Pires I, Tsirline V, Walsh C. Web-based viewer for systematic combination of anatomy and nomenclature. Stud Health Technol Inform. 2006;119:518-22.
29. **Silverstein JC**, Selkov E, Salud L, Pugh C. Developing Performance Criteria for the e-Pelvis Simulator Using Visual Analysis. Stud Health Technol Inform. 2007;125:436-8.
30. **Silverstein JC**, Walsh C, Dech F, Olsen E, Papka ME, Parsad N, Stevens R. Immersive Virtual Anatomy Course Using a Cluster of Volume Visualization Machines and Passive Stereo. Stud Health Technol Inform. 2007;125:439-44.
31. Erberich SG, **Silverstein JC**, Chervenak A, Schuler R, Nelson M, Kesselman C. Globus MEDICUS - Federation of DICOM Medical Imaging Devices into Healthcare Grids. Stud Health Technol Inform. 2007;126:269-278.
32. Erberich SG, **Silverstein JC**, Chervenak A, Schuler R, Nelson M, Kesselman C. Globus MEDICUS – Protected Health Information in Medical Imaging Grids. Int J CARS (2007) 2 (Suppl 1):S297-99
33. **Silverstein JC**, Walsh C, Dech F, Olson E, Papka ME, Parsad N, Stevens R. Multi-Parallel Open Technology to Enable Collaborative Volume Visualization: How to Create Global Immersive Virtual Anatomy Classrooms. Stud Health Technol Inform. 2008;132:463-8.
34. **Silverstein JC**, Parsad NM, Tsirline V. Automatic perceptual color map generation for realistic volume visualization. J Biomed Inform. 2008;41(6):927–935.
35. Savel TG, **Silverstein JC**, Hall K, Lenert L. In Response to: What is a Grid? J Am Med Inform Assoc. 2008;15(5):705-6.
36. Wang X, Liu L, Fackenthal J, Cummings S, Olopade OI, Hope K, **Silverstein JC**, Olopade OI. Translational integrity and continuity: Personalized biomedical data integration. Journal of Biomedical Informatics 2009 Feb.;42(1):100–112.
37. Roach PB, Roggin KK, Selkov Jr, E, Posner MC, **Silverstein JC**. The Use of a Novel, Web-based Educational Platform Facilitates Intraoperative Training in a Surgical Oncology Fellowship Program. Ann Surg Onc. 2009;16(5):1100-07.
38. Shen Y, **Silverstein JC**, Roth S. In-hospital complications and mortality after elective spinal fusion surgery in the united states: a study of the nationwide inpatient sample from 2001 to 2005. Journal of neurosurgical anesthesiology 2009;21(1):21–30.
39. Roach PB, **Silverstein, JC**. Training fellows and core competency: "Making quality certain". Journal of Surgical Oncology. 2009;99(2):83-4.
40. Bernstam EV, Hersh WR, Johnson SB, Chute CG, Nguyen H, Sim I, Nahm M, Weiner M, Miller P, DiLaura RP, Overcash M, Lehmann HP, Eichmann D, Athey BD, Scheuermann RH, Anderson N, Starren JB, Harris PA, Smith JW, Barbour E, **Silverstein JC**, Krusch DA, Nagarajan R and Becich MJ. Synergies and Distinctions between Computational Disciplines in Biomedical Research: Perspective from the Clinical and Translational Science Award Programs. Acad Med. 2009 Jul;84(7):964-70.
41. Bernstam EV, William R Hersh, MD; Ida Sim, MD, PhD; David Eichmann, PhD; **Jonathan C Silverstein**, MD, MS; Jack W Smith, MD, PhD; Michael J Becich, MD, PhD. Unintended consequences of health information technology: a need for biomedical informatics. J of Biomed Inform. DOI: 10.1016/j.jbi.2009.05.009
42. Roach PB, Roggin KK, Selkov G Jr, Posner MC, **Silverstein JC**. Continuous, data-rich appraisal of surgical trainees’ operative abilities: A novel approach for measuring performance and providing feedback. J Surg Educ. 2009 Sep-Oct;66(5):255-63.
43. Kaspar M, Parsad NM, **Silverstein JC**. CoWebViz: interactive collaborative sharing of 3D stereoscopic visualization among browsers with no added software. Proceedings of the 1st ACM International Health Informatics Symposium, IHI '10, November 11-12, 2010, Arlington, Virginia, USA. (2010) pp. 809-836.
44. Kaspar M, Dech F, Parsad NM, **Silverstein JC**. Web-Based Stereoscopic Visualization for the Global Anatomy Classroom. Stud Health Technol Inform. 2011; 264-70.
45. Chard K, Russell M, Lussier YA, Mendonça EA, **Silverstein JC**. A Cloud-based Approach to Medical NLP. AMIA Annu Symp Proc 2011;2011:207–216.
46. Chard K, Russell M, Lussier YA, Mendonça EA, **Silverstein JC**. Scalability and Cost of a Cloud-based Approach to Medical NLP. In: 2011 24th International Symposium on Computer-Based Medical Systems (CBMS). IEEE; 2011 p. 1–6.
47. Mollberg NM, Parsad NM, Armato SG III, Vigneswaran J, Kindler HL, Sensakovic WF, Salgia R, **Silverstein JC**, Vigneswaran WT. Three-Dimensional Stereoscopic Volume Rendering of Malignant Pleural Mesothelioma. International Surgery. 2012 Oct 30;97(1):65–70.
48. Makelarski JA, Lindau ST, Fabbre VD, Grogan CM, Sadhu EM, **Silverstein JC**, Tran TT, Van Haitsma M, Whitaker E, Johnson D. Are Your Asset Data as Good as You Think? Conducting a Comprehensive Census of Built Assets to Improve Urban Population Health. J Urban Health. 2012 Sep.15. doi:10.1007/s11524-012-9764-9
49. Embi PJ, Tachinardi U, Lussier Y, Starren J, **Silverstein J**. Integrating Governance of Research Informatics and Health Care IT Across an Enterprise: Experiences from the Trenches. AMIA Jt Summits Transl Sci Proc. 2013 Mar 18;2013:60–62. PMCID: PMC3845750
50. Kaspar M, Parsad NM, **Silverstein JC**. An optimized web-based approach for collaborative stereoscopic medical visualization. Journal of the American Medical Informatics Association. 2013 Apr 10;20(3):535-43.
51. Cohn JA, Wang CE, Lakeman JC, **Silverstein JC**, Brendler CB, Novakovic KR, McGuire MS, Helfand BT. Primary care physician PSA screening practices before and after the final U.S. Preventive Services Task Force recommendation. Urol Oncol. 2014 Jan;32(1):41.e23–30.
52. Kho AN, Hynes DM, Goel S, Solomonides AE, Price R, Hota B, Sims SA, Bahroos N, Angulo F, Trick WE, Tarlov E, Rachman FD, Hamilton A, Kaleba EO, Badlani S, Volchenboum SL, **Silverstein JC**, Tobin JN, Schwartz MA, Levine D, Wong JB, Kennedy RH, Krishnan JA, Meltzer DO, Collins JM, Mazany T, CAPriCORN Team. CAPriCORN: Chicago Area Patient-Centered Outcomes Research Network. Journal of the American Medical Informatics Association. 2014 Jul;21(4):607–11.
53. Goldberg RP, Gafni-Kane A, Jirschele K, Silver R, Maurer D, Solomonides T, Simmons A, **Silverstein J**. An Automatic Female Pelvic Medicine and Reconstructive Surgery Registry and Complications Manager Developed in an Electronic Medical Record. Female Pelvic Medicine & Reconstructive Surgery. 2014 Sep;:1.
54. Cherenfant J, Talamonti MS, Hall CR, Thurow TA, Gage MK, Stocker SJ, Lapin B, Wang E, **Silverstein JC**, Mangold K, Odeleye M, Kaul KL, Lamzabi I, Gattuso P, Winchester DJ, Marsh RW, Roggin KK, Bentrem DJ, Baker MS, Prinz RA. Comparison of tumor markers for predicting outcomes after resection of nonfunctioning pancreatic neuroendocrine tumors. Surgery. Elsevier Inc; 2014 Dec 1;156(6):1504–11.
55. Zhu Y, Xu Y, Helseth DL Jr, Gulukota K, Yang S, Pesce LL, Mitra R, Müller P, Sengupta S, Guo W, **Silverstein JC**, Foster I, Parsad N, White KP, Ji Y. Zodiac: A Comprehensive Depiction of Genetic Interactions in Cancer by Integrating TCGA Data. J Natl Cancer Inst [Internet]. 2015 Aug;107(8). Available from: http://dx.doi.org/10.1093/jnci/djv129 PMCID: PMC4554190
56. Baldridge AS, Pacheco JA, Aufox SA, Kim K-YA, **Silverstein JC**, Denham W, Hungness E, Smith ME, Allen NB, Greenland P, Rasmussen-Torvik LJ. Factors Associated With Long-Term Weight Loss Following Bariatric Surgery Using 2 Methods for Repeated Measures Analysis. Am J Epidemiol. Oxford Univ Press; 2015 Aug 1;182(3):235–243. PMCID: PMC4517695
57. Solomonides A, Goel S, Hynes D, **Silverstein JC**, Hota B, Trick W, Angulo F, Price R, Sadhu E, Zelisko S, Fischer J, Furner B, Hamilton A, Phua J, Brown W, Hohmann SF, Meltzer D, Tarlov E, Weaver FM, Zhang H, Concannon T, Kho A. Patient-Centered Outcomes Research in Practice: The CAPriCORN Infrastructure. Stud Health Technol Inform. 2015;216:584–588.
58. Maraganore DM, Frigerio R, Kazmi N, Meyers SL, Sefa M, Walters SA, **Silverstein JC**. Quality improvement and practice-based research in neurology using the electronic medical record. Neurol Clin Pract. 2015 Oct;5(5):419–429. PMCID: PMC4634157
59. Rasmussen-Torvik LJ, Baldridge AS, Pacheco JA, Aufox SA, Kim K-YA, **Silverstein JC**, Denham EW, Hungness E, Smith ME, Greenland P. rs4771122 Predicts Multiple Measures of Long-Term Weight Loss After Bariatric Surgery. Obes Surg. 2015 Nov;25(11):2225–2229. PMCID: PMC4598314
60. McCray AT, Glaser J, Koppel R, Langlotz CP, **Silverstein J**. Health IT vendors and the academic community: The 2014 ACMI debate. J Biomed Inform [Internet]. 2016 Mar 8; Available from: http://dx.doi.org/10.1016/j.jbi.2016.03.003 PMID: 26968349
61. Gitelis ME, Kaczynski A, Shear T, Deshur M, Beig M, Sefa M, **Silverstein J**, Ujiki M. Increasing compliance with the World Health Organization Surgical Safety Checklist-a regional health system’s experience. American journal of surgery. 2017; 214(1):7-13. PubMed PMID: 27692671
62. Cheng Q, Juen J, Bellam S, Fulara N, Close D, **Silverstein JC**, Schatz B. Classification Models for Pulmonary Function using Motion Analysis from Phone Sensors. AMIA Annu Symp Proc. 2017 Feb 10;2016:401-410. eCollection 2016. PMID: 28269835, PMCID:PMC5333291.
63. Friedman CP, Allee NJ, Delaney BC, Flynn AJ, **Silverstein JC**, Sullivan K, Young KA. The science of Learning Health Systems: Foundations for a new journal. Learn Health Sys [Internet]. 2017 Jan 1;1(1). Available from: http://dx.doi.org/10.1002/lrh2.10020
64. Cheng Q, Juen J, Bellam S, Fulara N, Close D, **Silverstein JC**, Schatz B. Predicting Pulmonary Function from Phone Sensors. Telemed J E Health [Internet]. 2017 Mar 16; Available from: http://dx.doi.org/10.1089/tmj.2017.0008 PMID: 28300524, PMCID: PMC5684658.
65. Rubin JC, **Silverstein JC**, Friedman CP, Kush RD, Anderson WH, Lichter AS, Humphreys DJ, Brown J, Crawford L, Walker JM, Tannen RL, Berry K, Hamilton Lopez M, Kolodner RM, Marchibroda JM, Rockhold FW. Transforming the future of health together: The Learning Health Systems Consensus Action Plan. Learn Health Sys. 2018 Apr 25;27:e10055.
66. Amin W, Linkov F, Landsittel DP, **Silverstein JC,** Becich MJ. Factors influencing malignant mesothelioma survival: a retrospective review of the National Mesothelioma Virtual Bank cohort. F1000Res. 2018 Aug 3;7:1184. PMID: 30410729,PMCID: PMC6198263.3.
67. Linkov F, **Silverstein JC**, Davis M, Crocker B, Hao D, Schneider A, Schwenk M, Winters S, Zelnis J, Lee AV, Becich MJ. Integration of cancer registry data into the text information extraction system: Leveraging the structured data import tool. J Pathol Inform 2018 Dec 24;9:47. doi: 10.4103/jpi.jpi\_38\_18. eCollection 2018. PMID: 30662793, PMCID: PMC6319041.
68. Fukushima M, Austin C, Sato N, Maruyama T, Navarro E, Rocca M, Demotes J, Haendel M, Volchenboum SL, Cowperthwaite M, **Silverstein JC**, Webb C, Sim I, Chase M, Speakman J, Augustine E, Ford DE, Kush R. The Global academic research organization network: Data sharing to cure diseases and enable learning health systems. Learn Health Sys. 2019 Dec 3;8. <https://doi.org/10.1002/lrh2.10073>. PMID: 31245596; PMCID: PMC6508835
69. HuBMAP Consortium (Writing Group: Snyder MP, Lin S, Posgai A, Atkinson M, Regev A, r Rood J, Rozenblatt-Rosen O, Gaffney L, Hupalowska A, Satija R, Gehlenborg G, Shendure J, Laskin J, Harbury P, Nystrom NA, C. **Silverstein JC**, Bar-Joseph Z, Zhang K, Börner K, Lin Y, Conroy R, Procaccini D, Roy AL, Pillai A, Brown M, Galis ZS.)The human body at cellular resolution: the NIH Human Biomolecular Atlas Program. Nature. Nature Publishing Group; 2019 Oct 9; 574(7777):187–192. DOI: 10.1038/s41586-019-1629-x, PMID: 31597973; PMCID: PMC6800388.
70. Marquis-Gravel G, Roe MT, Turakhia MP, Boden W, Temple R, Sharma A, Hirshberg B, Slater P, Craft N, Stockbridge N, McDowell B, Waldstreicher J, Bourla A, Bansilal S, Wong JL, Meunier C, Kassahun H, Coran P, Bataille L, Patrick-Lake B, Hirsch B, Reites J, Mehta R, Muse ED, Chandross KJ, **Silverstein JC**, Silcox C, Overhage JM, Califf RM, Peterson D.Technology-Enabled Clinical Trials: Transforming Medical Evidence Generation..Circulation. American Heart Association; 2019 Oct22;140(17):1426–1436. PMID: 31634011.
71. Fan P, Guo X, Qi X, Matharu M, Patel R, Sakolsky D, Kirisci L, **Silverstein JC**, Wang L. Prediction of Suicide-Related Events by Analyzing Electronic Medical Records from PTSD Patients with Bipolar Disorder. Brain Sci [Internet]. 2020 Oct 27;10(11). Available from: http://dx.doi.org/10.3390/brainsci10110784 PMCID: PMC7692143
72. Delapaz NR, Hor WK, Gilbert M, La AD, Liang F, Fan P, Qi X, Guo X, Ying J, Sakolsky D, Kirisci L, **Silverstein JC**, Wang L. An Emulation of Randomized Trials of Administrating Antipsychotics in PTSD Patients for Outcomes of Suicide-Related Events. J Pers Med. MDPI AG; 2021 Mar 4;11(3):178. PMCID: PMC8001183
73. Yan Q, Kim J, Hall DE, Shinall MC Jr, Reitz KM, Stitzenberg KB, Kao LS, George EL, Youk A, Wang C-P, **Silverstein JC**, Bernstam EV, Shireman PK. Association of Frailty and the Expanded Operative Stress Score with Preoperative Acute Serious Conditions, Complications and Mortality in Males Compared to Females: A Retrospective Observational Study. Ann Surg [Internet]. 2021 Jun 25; Available from: http://dx.doi.org/10.1097/SLA.0000000000005027 PMID: 34183515
74. Reitz KM, Hall DE, Shinall MC Jr, Shireman PK, **Silverstein JC**. Using the Unified Medical Language System to expand the Operative Stress Score - first use case. J Surg Res. Elsevier BV; 2021 Aug 28;268:552–561. PMID: 34464893
75. Visweswaran S, McLay B, Cappella N, Morris M, Milnes JT, Reis SE, **Silverstein JC**, Becich MJ. An atomic approach to the design and implementation of a research data warehouse. J Am Med Inform Assoc [Internet]. Cold Spring Harbor Laboratory Press; 2021 Oct 6; Available from: http://dx.doi.org/10.1093/jamia/ocab204 PMID: 34613409
76. Ye Y, Barapatre S, Davis MK, Elliston KO, Davatzikos C, Fedorov A, Fillion-Robin J-C, Foster I, Gilbertson JR, Lasso A, Miller JV, Morgan M, Pieper S, Raumann BE, Sarachan BD, Savova G, **Silverstein JC**, Taylor DP, Zelnis JB, Zhang G-Q, Cuticchia J, Becich MJ. Open-source Software Sustainability Models: Initial White Paper From the Informatics Technology for Cancer Research Sustainability and Industry Partnership Working Group. J Med Internet Res. 2021 Dec 2;23(12):e20028.
77. Miranda O, Fan P, Qi X, Yu Z, Ying J, Wang H, Brent DA, **Silverstein JC**, Chen Y, Wang L. DeepBiomarker: Identifying important lab tests from electronic medical records for the prediction of suicide-related events among PTSD patients. J Pers Med. 2022 Mar 24;12(4):524. <https://doi.org/10.3390/jpm12040524>
78. Garcia-Recio S, Hinoue T, Wheeler GL, Kelly BJ, Garrido-Castro AC, Pascual T, De Cubas AA, Xia Y, Felsheim BM, McClure MB, Rajkovic A, Karaesmen E, Smith MA, Fan C, Ericsson PIG, Sanders ME, Creighton CJ, Bowen J, Leraas K, Burns RT, Coppens S, Wheless A, Rezk S, Garrett AL, Parker JS, Foy KK, Shen H, Park BH, Krop I, Anders C, Gastier-Foster J, Rimawi MF, Nanda R, Lin NU, Isaacs C, Marcom PK, Storniolo AM, Couch FJ, Chandran U, Davis M, **Silverstein J**, Ropelewski A, Liu MC, Hilsenbeck SG, Norton L, Richardson AL, Symmans WF, Wolff AC, Davidson NE, Carey LA, Lee AV, Balko JM, Hoadley KA, Laird PW, Mardis ER, King TA, Perou CM. Multiomics in primary and metastatic breast tumors from the AURORA US network finds microenvironment and epigenetic drivers of metastasis. Nature Cancer. 2022 Dec 30;1–20.
79. SenNet Consortium (Writing Group: Patty J. Lee, Christopher C. Benz, Philip Blood, Katy Börner, Judith Campisi, Feng Chen, Heike Daldrup-Link, Phil De Jager, Li Ding, Francesca E. Duncan, Oliver Eickelberg, Rong Fan, Toren Finkel, David Furman, Vesna Garovic, Nils Gehlenborg, Carolyn Glass, Indra Heckenbach, Ziv-Bar Joseph, Pragati Katiyar, So-Jin Kim, Melanie Königshoff, George A. Kuchel, Haesung Lee, Jun Hee Lee, Jian Ma, Qin Ma, Simon Melov, Kay Metis, Ana L. Mora, Nicolas Musi, Nicola Neretti, João F. Passos, Irfan Rahman, Juan Carlos Rivera-Mulia, Paul Robson, Mauricio Rojas, Ananda L. Roy3 Morten Scheibye-Knudsen, Birgit Schilling, Pixu Shi, **Jonathan C. Silverstein**, Vidyani Suryadevara, Jichun Xie, Jinhua Wang, A. Ian Wong & Laura J. Niedernhofer). NIH SenNet Consortium to map senescent cells throughout the human lifespan to understand physiological health. Nature Aging. 2022 Dec 20;2(12):1090–100.
80. Börner K, Bueckle A, Herr BW 2nd, Cross LE, Quardokus EM, Record EG, Ju Y, **Silverstein JC**, Browne KM, Jain S, Wasserfall CH, Jorgensen ML, Spraggins JM, Patterson NH, Weber GM. Tissue registration and exploration user interfaces in support of a human reference atlas. Commun Biol. 2022 Dec 13;5(1):1369.
81. Marsolo K, Kiernan D, Toh S, Phua J, Louzao D, Haynes K, Weiner M, Angulo F, Bailey C, Bian J, Fort D, Grannis S, Krishnamurthy AK, Nair V, Rivera P, **Silverstein J**, Zirkle M, Carton T. Assessing the impact of privacy-preserving record linkage on record overlap and patient demographic and clinical characteristics in PCORnet®, the National Patient-Centered Clinical Research Network. J Am Med Inform Assoc [Internet]. 2022 Nov 30; Available from: <http://dx.doi.org/10.1093/jamia/ocac229>
82. Kiernan D, Carton T, Toh S, Phua J, Zirkle M, Louzao D, Haynes K, Weiner M, Angulo F, Bailey C, Bian J, Fort D, Grannis S, Krishnamurthy AK, Nair V, Rivera P, **Silverstein J**, Marsolo K. Establishing a framework for privacy-preserving record linkage among electronic health record and administrative claims databases within PCORnet®, the National Patient-Centered Clinical Research Network. BMC Res Notes. 2022 Oct 31;15(1):337.
83. Garcia-Recio S, Hinoue T, Wheeler GL, Kelly BJ, Garrido-Castro AC, Pascual T, De Cubas AA, Xia Y, Felsheim BM, McClure MB, Rajkovic A, Karaesmen E, Smith MA, Fan C, Ericsson PIG, Sanders ME, Creighton CJ, Bowen J, Leraas K, Burns RT, Coppens S, Wheless A, Rezk S, Garrett AL, Parker JS, Foy KK, Shen H, Park BH, Krop I, Anders C, Gastier-Foster J, Rimawi MF, Nanda R, Lin NU, Isaacs C, Marcom PK, Storniolo AM, Couch FJ, Chandran U, Davis M, Silverstein J, Ropelewski A, Liu MC, Hilsenbeck SG, Norton L, Richardson AL, Symmans WF, Wolff AC, Davidson NE, Carey LA, Lee AV, Balko JM, Hoadley KA, Laird PW, Mardis ER, King TA, AURORA US Network, Perou CM. Multiomics in primary and metastatic breast tumors from the AURORA US network finds microenvironment and epigenetic drivers of metastasis. Nat Cancer [Internet]. 2023 Jan;4(1):128–147. Available from: http://dx.doi.org/10.1038/s43018-022-00491-x PMCID: PMC9886551
84. Stear BJ, Ahooyi TM, Vasisht S, Simmons A, Beigel K, Callahan TJ, Silverstein JC, Taylor DM. Petagraph: A large-scale unifying knowledge graph framework for integrating biomolecular and biomedical data [Internet]. bioRxiv. 2023 [cited 2023 Mar 19]. p. 2023.02.11.528088. Available from: <https://www.biorxiv.org/content/biorxiv/early/2023/02/13/2023.02.11.528088>
85. Schmidt S, Kim J, Jacobs MA, Hall DE, Stitzenberg KB, Kao LS, Brimhall BB, Wang CP, Manuel LS, Su HD, Silverstein JC, Shireman PK. Independent Associations of Neighborhood Deprivation and Patient-level Social Determinants of Health with Textbook Outcomes after Inpatient Surgery. Ann Surg Open [Internet]. 2023 Mar [cited 2023 Mar 19];4(1):e237. Available from: http://dx.doi.org/10.1097/as9.0000000000000237 PMCID: PMC10427124
86. Callahan TJ, Tripodi IJ, Stefanski AL, Cappelletti L, Taneja SB, Wyrwa JM, Casiraghi E, Matentzoglu NA, Reese J, Silverstein JC, Hoyt CT, Boyce RD, Malec SA, Unni DR, Joachimiak MP, Robinson PN, Mungall CJ, Cavalleri E, Fontana T, Valentini G, Mesiti M, Gillenwater LA, Santangelo B, Vasilevsky NA, Hoehndorf R, Bennett TD, Ryan PB, Hripcsak G, Kahn MG, Bada M, Baumgartner WA Jr, Hunter LE. An Open-Source Knowledge Graph Ecosystem for the Life Sciences [Internet]. arXiv [cs.AI]. 2023. Available from: <http://arxiv.org/abs/2307.05727>
87. Quardokus EM, Saunders DC, McDonough E, Hickey JW, Werlein C, Surrette C, Rajbhandari P, Casals AM, Tian H, Lowery L, Neumann EK, Björklund F, Neelakantan TV, Croteau J, Wiblin AE, Fisher J, Livengood AJ, Dowell KG, Silverstein JC, Spraggins JM, Pryhuber GS, Deutsch G, Ginty F, Nolan GP, Melov S, Jonigk D, Caldwell MA, Vlachos IS, Muller W, Gehlenborg N, Stockwell BR, Lundberg E, Snyder MP, Germain RN, Camarillo JM, Kelleher NL, Börner K, Radtke AJ. Organ Mapping Antibody Panels: a community resource for standardized multiplexed tissue imaging. Nat Methods [Internet]. 2023 Jul 19; Available from: http://dx.doi.org/10.1038/s41592-023-01846-7 PMCID: 10335836
88. Jain S, Pei L, Spraggins JM, Angelo M, Carson JP, Gehlenborg N, Ginty F, Gonçalves JP, Hagood JS, Hickey JW, Kelleher NL, Laurent LC, Lin S, Lin Y, Liu H, Naba A, Nakayasu ES, Qian WJ, Radtke A, Robson P, Stockwell BR, Van de Plas R, Vlachos IS, Zhou M, HuBMAP Consortium, Börner K, Snyder MP. Advances and prospects for the Human BioMolecular Atlas Program (HuBMAP). Nat Cell Biol [Internet]. 2023 Aug;25(8):1089–1100. Available from: http://dx.doi.org/10.1038/s41556-023-01194-w PMCID: 8238499
89. Oniani D, Parmanto B, Saptono A, Bove A, Freburger J, Visweswaran S, Cappella N, McLay B, Silverstein JC, Becich MJ, Delitto A, Skidmore E, Wang Y. ReDWINE: A clinical datamart with text analytical capabilities to facilitate rehabilitation research. Int J Med Inform [Internet]. 2023 Sep;177:105144. Available from: http://dx.doi.org/10.1016/j.ijmedinf.2023.105144 PMCID: PMC10528160
90. Rashid R, Copelli S, Silverstein JC, Becich MJ. REDCap and the National Mesothelioma Virtual Bank-a scalable and sustainable model for rare disease biorepositories. J Am Med Inform Assoc [Internet]. 2023 Sep 25;30(10):1634–1644. Available from: http://dx.doi.org/10.1093/jamia/ocad132 PMCID: PMC10531116
91. Behari J, Bradley A, Townsend K, Becich MJ, Cappella N, Chuang CH, Fernandez SA, Ford DE, Kirchner HL, Morgan R, Paranjape A, Silverstein JC, Williams DA, Donahoo WT, Asrani SK, Ntanios F, Ateya M, Hegeman-Dingle R, McLeod E, McTigue K. Limitations of Noninvasive Tests-Based Population-Level Risk Stratification Strategy for Nonalcoholic Fatty Liver Disease. Dig Dis Sci [Internet]. 2024 Feb;69(2):370–383. Available from: http://dx.doi.org/10.1007/s10620-023-08186-8 PMCID: 6088429
92. Jacobs MA, Schmidt S, Hall DE, Stitzenberg KB, Kao LS, Brimhall BB, Wang CP, Manuel LS, Su HD, Silverstein JC, Shireman PK. A Surgical Desirability of Outcome Ranking (DOOR) Reveals Complex Relationships Between Race/Ethnicity, Insurance Type, and Neighborhood Deprivation. Ann Surg [Internet]. 2024 Feb 1;279(2):246–257. Available from: http://dx.doi.org/10.1097/SLA.0000000000005994 PMCID: PMC10787813
93. Schmidt S, Jacobs MA, Kim J, Hall DE, Stitzenberg KB, Kao LS, Brimhall BB, Wang CP, Manuel LS, Su HD, Silverstein JC, Shireman PK. Presentation Acuity and Surgical Outcomes for Patients With Health Insurance Living in Highly Deprived Neighborhoods. JAMA Surg [Internet]. 2024 Feb 7; Available from: http://dx.doi.org/10.1001/jamasurg.2023.7468 PMCID: PMC10851138
94. Suryadevara V, Hudgins AD, Rajesh A, Pappalardo A, Karpova A, Dey AK, Hertzel A, Agudelo A, Rocha A, Soygur B, Schilling B, Carver CM, Aguayo-Mazzucato C, Baker DJ, Bernlohr DA, Jurk D, Mangarova DB, Quardokus EM, Enninga EAL, Schmidt EL, Chen F, Duncan FE, Cambuli F, Kaur G, Kuchel GA, Lee G, Daldrup-Link HE, Martini H, Phatnani H, Al-Naggar IM, Rahman I, Nie J, Passos JF, Silverstein JC, Campisi J, Wang J, Iwasaki K, Barbosa K, Metis K, Nernekli K, Niedernhofer LJ, Ding L, Wang L, Adams LC, Ruiyang L, Doolittle ML, Teneche MG, Schafer MJ, Xu M, Hajipour M, Boroumand M, Basisty N, Sloan N, Slavov N, Kuksenko O, Robson P, Gomez PT, Vasilikos P, Adams PD, Carapeto P, Zhu Q, Ramasamy R, Perez-Lorenzo R, Fan R, Dong R, Montgomery RR, Shaikh S, Vickovic S, Yin S, Kang S, Suvakov S, Khosla S, Garovic VD, Menon V, Xu Y, Song Y, Suh Y, Dou Z, Neretti N. SenNet recommendations for detecting senescent cells in different tissues. Nat Rev Mol Cell Biol [Internet]. 2024 Jun 3; Available from: http://dx.doi.org/10.1038/s41580-024-00738-8 PMID: 38831121
95. Callahan TJ, Tripodi IJ, Stefanski AL, Cappelletti L, Taneja SB, Wyrwa JM, Casiraghi E, Matentzoglu NA, Reese J, Silverstein JC, Hoyt CT, Boyce RD, Malec SA, Unni DR, Joachimiak MP, Robinson PN, Mungall CJ, Cavalleri E, Fontana T, Valentini G, Mesiti M, Gillenwater LA, Santangelo B, Vasilevsky NA, Hoehndorf R, Bennett TD, Ryan PB, Hripcsak G, Kahn MG, Bada M, Baumgartner WA Jr, Hunter LE. An open source knowledge graph ecosystem for the life sciences. Sci Data [Internet]. 2024 Apr 11;11(1):363. Available from: http://dx.doi.org/10.1038/s41597-024-03171-w PMCID: PMC11009265
96. Zuley ML, Silverstein J, Logue D, Morgan RS, Bhargava R, McAuliffe PF, Brufsky AM, Bandos AI, Nishikawa RM. Organizational Breast Cancer Data Mart: A Solution for Assessing Outcomes of Imaging and Treatment. JCO Clin Cancer Inform [Internet]. 2024 Apr;8:e2300193. Available from: http://dx.doi.org/10.1200/CCI.23.00193 PMID: 38621193
97. Börner K, Blood PD, Silverstein J, Ruffalo M, Teichmann SA, Pryhuber G, Misra R, Purkerson J, Fan J, Hickey JW, Molla G, Xu C, Zhang Y, Weber G, Jain Y, Qaurooni D, Kong Y, Bueckle A, Herr B. Human BioMolecular Atlas Program (HuBMAP): 3D Human Reference Atlas Construction and Usage. bioRxiv [Internet]. 2024 Mar 30; Available from: http://biorxiv.org/lookup/doi/10.1101/2024.03.27.587041 [In Second Round Review by Nature Methods]
98. Schmidt S, Jacobs MA, Kim J, Hall DE, Stitzenberg KB, Kao LS, Brimhall BB, Wang CP, Manuel LS, Su HD, Silverstein JC, Shireman PK. Presentation Acuity and Surgical Outcomes for Patients With Health Insurance Living in Highly Deprived Neighborhoods. JAMA Surg [Internet]. 2024 Feb 7; Available from: http://dx.doi.org/10.1001/jamasurg.2023.7468 PMCID: PMC10851138
99. Behari J, Bradley A, Townsend K, Becich MJ, Cappella N, Chuang CH, Fernandez SA, Ford DE, Kirchner HL, Morgan R, Paranjape A, Silverstein JC, Williams DA, Donahoo WT, Asrani SK, Ntanios F, Ateya M, Hegeman-Dingle R, McLeod E, McTigue K. Limitations of Noninvasive Tests-Based Population-Level Risk Stratification Strategy for Nonalcoholic Fatty Liver Disease. Dig Dis Sci [Internet]. 2024 Feb;69(2):370–383. Available from: http://dx.doi.org/10.1007/s10620-023-08186-8 PMCID: 6088429
100. Fan P, Zeng L, Ding Y, Kofler J, Silverstein J, Krivinko J, Sweet RA, Wang L. Combination of antidepressants and antipsychotics as a novel treatment option for psychosis in Alzheimer’s disease. CPT Pharmacometrics Syst Pharmacol [Internet]. 2023 Aug;12(8):1119–1131. Available from: http://dx.doi.org/10.1002/psp4.12979 PMCID: PMC10431054

OTHER PEER REVIEWED PUBLICATIONS/ABSTRACTS/POSTERS

1. Panko W, **Silverstein J**, Lincoln T. Computer-mediated Access to the Narrative in the Computer-Based Patient Record [Abstract]. MEDNET 97.
2. Dobson H, Pearl RK, Edison M, Orsay C, Evenhouse R, Rasmussen M, Ai Z, Blew G, Dech F, **Silverstein JC**, Abcarian H. Virtual Reality: new method of teaching anorectal and pelvic floor anatomy. [Poster]. American Society of Colon and Rectal Surgeons Annual Meeting, Boston, 2000.
3. Ehrenfeld J, Croft D, Dech F, **Silverstein JC**. Utilizing Tele-Immersion Virtual Reality for Anatomy Instruction. [Poster]. Midwest Clinical Conference of Chicago Medical Society, Chicago IL, March 2003. This also won top five prize and was therefore published [abstract] in Chicago Medicine No. 106, Vol. 7, Page 20, 2003.
4. **Silverstein JC**, Ehrenfeld JM, Croft D, Dech F, Small S, Cook S. Tele-Immersion: Preferred Infrastructure for Anatomy Instruction. [Poster]. Midwest Clinical Conference of Chicago Medical Society, Chicago IL, March 2004. This also won top five prize at the Clinical Conference. It was also presented at the AAMC Spring Meeting 2004 and the Pritzker School of Medicine 58th Annual Senior Scientific Session and the Department of Surgery Huggins Research Conference where it also won most outstanding student poster.
5. **Silverstein JC**, Binns J, Papka M, Parsad N. EMS Telemedicine in the Access Grid: from ambulance to ER [Abstract/Presentation]. Proceedings of the Access Grid Retreat, San Francisco CA, April 2005.
6. **Silverstein JC**, Papka ME, Small S, Stevens R. The Access Grid: Enabling Infrastructure for Surgical Collaboration [Abstract and Oral Poster]. First Annual Academic Surgical Congress 2006, San Diego, CA. J Surg Res. 2006;130(2):286.
7. **Silverstein JC**, Papka ME, Small S, Stevens R. The Access Grid: Open Source Infrastructure for Biomedical Collaboration [Poster]. American Medical Informatics Association Spring Meeting 2006, Phoenix AZ.
8. Xiaoming Wang, Lili Liu, Maggie Cook, James Fackenthal, Shelley Cummings, **Jonathan Silverstein**, Ian Foster, Olufunmilayo I Olopade Translational Continuity and Integrity: a personalized biomedical data management system - TraM [Poster]. 2007, NCI’s caBIG Meeting.
9. **Silverstein JC**, Parsad N, Dech F, Philips J, Small S, Olson E, Papka ME, Stevens R. Distributed Collaborative Biomedicine Including Shared Volume Visualization [Abstract/Presentation]. Access Grid Retreat. Chicago, May 15, 2007.
10. N. Parsad, M. Millis, M. Vannier, F. Dech, E. Olson, M. Papka, **J. Silverstein**, Real-time Automated Hepatic Explant Volumetrics on a Stereoscopic Three-Dimensional Parallelized Visualization Cluster [Abstract/Presentation]. Int J CARS (2007) 2 (Suppl 1):S488
11. Small S, **Silverstein J**, Metis K. Application of the Access Grid to Immersive Medical Simulation and Visualization [Abstract/Presentation]. CompMed 2007. Montreal, Canada. May 16, 2007.
12. **Silverstein J**, N Parsad, Dech F, Olson E, Papka M, Small S. Immersive Virtual Surgical Anatomy: Real Time Manipulation of Three Dimensional Visualization via a High Performance Graphics Cluster [Abstract/Poster]. CompMed 2007. Montreal, Canada. May 16, 2007.
13. Erberich SG, Parsad N, **Silverstein JC**, Chervenak A, Kesselman C, Pearlman L. RSNA2007 #5007317: Patient Centric Authorization for Cross Enterprise Healthcare Information Exchange in HealthGrids. Available at:
14. Sadhu EM, Parsad NM, **Silverstein JS**. A perceptual spectral coloring system for computed tomography image representation [Poster]. AMIA 2009.
15. Balach T, Roach P, Selkov E, **Silverstein J**, Peabody T. Orthopaedic Trainee Procedural Competency Assessment with the Surgical Training and Assessment Tool [Poster]. AAOS Annual Meeting. March 9-13, 2010.
16. Parsad NM, **Silverstein JC**. Virtual Surgical Planning for Pleural Mesothelioma. Interactive volume visualization and automated quantification of pleural tumors on a 3D stereoscopic graphics cluster [Abstract/Presentation]. 10th International Conference of the International Mesothelioma Interest Group (IMIG2010) August 31 to September 3, Kyoto, Japan.
17. Baumgart LA, Vogel Postula KJ Walters SA, **Silverstein JC**, Knaus WA. Cancer risk assessment using an automated electronic patient-facing tool for the collection and evaluation of family history [Internet]. J. Clin. Oncol. 2016. p. (suppl; abstr e13055). Available from: <http://meetinglibrary.asco.org/content/166518-176>.
18. Behari J, Cappella N, Townsend K, Becich MJ, Chuang C, Fernandez SA, Ford DE, Lester Kirchner H, Paranjape A, Potter JJ, **Silverstein JC**, Stine JG, Williams DA, Woreta TA, Ntanios F, Ateya M, Hegeman-Dingle R, McLeod E, McTigue K. Estimating the burden of nonalcoholic steatohepatitis (Nash) and population-level risk stratification using a multi-state electronic health record data network. The Liver Meeting Digital ExperienceTM [Internet]. AASLD; 2020 [cited 2021 Mar 28]. Available from: https://aasld.confex.com/aasld/2020/meetingapp.cgi/Paper/19936

OTHER NON-PEER REVIEWED PUBLICATIONS

1. Millikan K, **Silverstein J**, Staren E, Solerno C, Doolas A. Surgical Treatment of Complicated Hydatid Liver Cysts. Surgical Rounds. 1995 August: 306-10.
2. **Silverstein J**, Dorio P, Doolas A, Millikan K. 104 Consecutive Nonthoracotomy Resections of the Esophagus for Carcinoma [Abstract]. Gastroenterology 1996 April;110 (4 Suppl):A1419.
3. **Silverstein JC**, Rothschild A. Clinical perspectives on the modern laboratory. Clin Lab Med. 1999 Jun; 19(2):421-32.
4. **Silverstein JC**, Dech F, Edison M, Jurek P, Helton WS, Espat NJ. Virtual Reality: Immersive Hepatic Surgery Educational Environment (IHSEE). [Poster]. University of Chicago Department of Surgery Huggins Research Conference, May 10, 2002. This poster won Huggins research conference award “Most Outstanding Faculty Poster Presentation”.
5. **Silverstein JC**, Croft D, Dech F, Ehrenfeld J. Utilizing Tele-Immersion Virtual Reality for Anatomy Instruction. [Poster]. AAMC Annual Meeting, San Francisco, CA, November 2002.
6. **Silverstein JC**, Dech F. Collaborative Exploration of Medical Data in VR. [Stereoscopy Presentation]. Medicine Meets Virtual Reality 11; January 25, 2003.
7. **Silverstein JC**, Dech F, Binns J, Jones D, Papka ME, Stevens R. Distributed Collaborative Radiological Visualization using Access Grid [Poster]. University of Chicago Department of Surgery Huggins Research Conference 2005.
8. Kratz M, **Silverstein JC**, Dev P, Dugan J, Bilofsky H, Legre Y. HealthGrid: An International Initiative for Collaborative eHealth [Poster]. National Centers for Biomedical Computing All Hands Meeting, July 17-19 2006, Bethesda MD.
9. Erberich SG, **Silverstein JC**, Daher N. Open-Source Grid Opens Nationwide Image Exchange. Imaging Technology News. March 2007:47(2).
10. Roach PB, Roggin KK, Selkov E, Dignam J, Posner MC, **Silverstein JC**. The Surgical Training and Assessment System [Abstract/Presentation]. University of Chicago Department of Surgery Huggins Research Conference; May 5, 2007.
11. **Silverstein JC**, Walsh C, Dech F, Olson E, Papka M, Parsad N, Stevens R. Immersive Virtual Anatomy Course Using Cluster of Volume Visualization Machines and Passive Stereo [Poster]. University of Chicago Department of Surgery Huggins Research Conference; May 5, 2007.
12. Parsad NM, Milis MJ, Vannier MW, Dech F, Olson E, Papka M, **Silverstein JC**. Real-time Automated Hepatic Explant Volumetrics on a Stereoscopic, Three-Dimensional Parallelized Visualization Cluster [Abstract/Presentation]. University of Chicago Department of Surgery Huggins Research Conference; May 5, 2007.Kratz M, **Silverstein J**, Dev P: Co-Chairs. Integrated Research Team Final Report HealthGrid: Grid Technologies for Biomedicine, March 2006. Published December 2007 by Telemedicine & Advanced Technology Research Center of the U.S. Army Medical Research and Materiel Command. See <http://www.tatrc.org/conferences/website_healthgrid05/index.html> This was also reprinted In: T. Solomonides, J.C. Silverstein, J. Saltz, Y. Legré, M. Kratz, I. Foster, V. Breton and J.R. Beck. Global Healthgrid: e-Science Meets Biomedical Informatics. Proceedings of HealthGrid 2008. Volume 138; Studies in Health Technology and Informatics, June 2008. IOS Press. 300 pp., hardcover
13. Börner K, Quardokus EM, Herr BW II, Cross LE, Record, E., Ju, Y., Bueckle, A., Sluka, J.P., Silverstein, J.C., Browne, K., Jain, S., Wasserfall, C.H., Jorgensen, M., Spraggins, J.M., Patterson, N.H., Musen, M.A., & Weber, G.M.Construction and Usage of a Human Body Common Coordinate Framework Comprising Clinical, Semantic, and Spatial Ontologies. arXiv preprint arXiv [Internet]. arxiv.org; 2020; Available from: <https://arxiv.org/abs/2007.14474>

Reviews, invited published papers, proceedings of conference and symposia, monographs, books, and book chapters

BOOK CHAPTERS

1. **Silverstein JC**. Biostatistics and Data management. Deziel D, editors. Rush University Review of Surgery. 3rd ed. Philadelphia: WB Saunders; 2000.
2. **Silverstein JC**. Pre-operative Bleeding Disorders. In: Millikan KW, Saclarides TJ, editors. Common Surgical Diseases: A Handbook for Rounds and On-call Problems. New York: Springer-Verlag, New York, Inc.; 1997.
3. **Silverstein JC**. Intraoperative Coagulopathy. In: Millikan KW, Saclarides TJ, editors. Common Surgical Diseases: A Handbook for Rounds and On-call Problems. New York: Springer-Verlag, New York, Inc.; 1997.
4. **Silverstein JC**, Rice CL. Economic Issues in Surgery. In: Corson, Williamson, editors. Surgery. Mosby; 2001.
5. Shuhaiber J., **Silverstein J**. Management of Preoperative Bleeding Disorders-Intraoperative Coagulopathy. In: Myers J, Millikan KW, Saclarides TJ, editors. Common Surgical Diseases: An Algorithmic Approach to Problem Solving 2nd Edition. Springer, New York. 2008.
6. **Silverstein JC**, Foster IT. Computer Architectures for Health Care and Biomedicine. In: Shortliffe EH, Cimino JJ, editors. Biomedical Informatics: Computer Applications in Health Care and Biomedicine (Fourth Edition). Springer, New York. 2014. pp 149-184.
7. Hartman D, Chandran U, Davis M, Dhir R, Shirey WE, **Silverstein JC**, Becich MJ. Clinical and research informatics data strategy for precision oncology. In: Holland-Frei Cancer Medicine. Wiley; 2022.

PROCEEDING/JOURNAL EDITOR

1. T. Solomonides, **J.C. Silverstein**, J. Saltz, Y. Legré, M. Kratz, I. Foster, V. Breton and J.R. Beck. Global Healthgrid: e-Science Meets Biomedical Informatics. Proceedings of HealthGrid 2008. Volume 138;Studies in Health Technology and Informatics, June 2008. IOS Press. 300 pp., hardcover.
2. Associate Editor, Learning Health Systems (Wiley) 2016-2020

**PROFESSIONAL ACTIVITIES**

**TEACHING:**

**Medical School Teaching:**

1996 - 2003 Instructor: University of Illinois/ University of Chicago - Mentored, supervised, and provided clinical teaching to surgical residents and medical students on a regular basis (typically more than 5 chief residents, 20 junior residents, and 30 students each year). This supervision and mentoring included contact discussing patient-related care by day and night, clinical rounds, didactic teaching conferences, operating room teaching, and outpatient clinic teaching.

1999 - 2001 Instructor: University of Chicago - One half day each week dedicated to skills teaching in the surgical education laboratory. Clinical load typically was more than 100 general surgical and advanced laparoscopic operations per year plus clinical consultations.

Spring 2005-2010 Instructor/Course Developer: The University of Chicago, Pritzker School of Medicine BIOS20245, Immersive Virtual Anatomy

2017-present Lecturer, University of Pittsburgh, Department of Pathology, Basics of Personalized Medicine course, Bioinformatics versus Biomedical Informatics in Personalized Medicine.

**Medical School Mentoring:**

*(University of Chicago)*

* Jason Rubenstein, MD, Medical Student Research Assistant at UIC, 1997, 1998, Web-based radiological data
* Adam Rothschild, MD, MS, Medical Student Research Assistant (volunteer) at UIC, 1999, Alerts and Reminders Systems
* J.J. Kempiners, MD, Medical Student research volunteer, 2000, Virtual Temporal Bone
* Theodore Mason, M, Resident Research, 2000, Virtual Temporal Bone
* Jeffrey Shuhaiber, MD, Resident Research, 2000, Review of augmented reality and surgery
* Ankur Chhadia, MD, Medical Student Summer Research at UIC, 2000-2002, Autocolorization of Three-dimensional Radiological Data
* Jesse M. Ehrenfeld, MD, medical student at UChicago, 2002-2004, Anatomy teaching using tele-immersion

**Resident/Fellow Mentoring:**

*(University of Chicago)*

* Victor Tsirline, MD, University of Chicago, General Surgery Resident, Healthcare Informatics Fellowship, 2006-07
* Paul B. Roach, MD, University of Chicago, Surgical Oncology Fellow, Quality-Based Surgical Training: The Surgical Training and Assessment Tool, 2006-08

*(University of Pittsburgh)*

* Stephanie O. Frisch, RN, University of Pittsburgh, School of Nursing, T32 Pre-doctoral Fellow, Modernizing Emergency Department Triage via Big Data Analytics, NIH F31 award

**Graduate School Mentoring:**

*(University of Chicago)*

* Kristine Johnson, MAMS, Research for Master of Associated Medical Sciences in Biomedical Visualization at UIC, 1997-1998, Thesis: Web-based three dimensional visualization
* Anjali Shenoy ,Graduate Research Assistant (in Computer Science at UIC), 1998-199, Web-based resident case log system
* Paul F. Neumann, PhD, PhD student at UIC in Virtual Reality in Medicine Laboratory, 1998-2000, Thesis: Virtual Reality Vitrectomy Simulator
* Ming Yuan, MS, Graduate student at UIC in electrical engineering and computer science, 1999-2000, three-dimensional image processing
* Ami Rice, MAMS, Research for Master of Associated Medical Sciences in Biomedical Visualization at UIC, 1999-2000, Choosing Patient-Specific Implants Generated from 3D CT data
* Brenton Mar, PhD Thesis work BioE 599 at UIC, 2000, SCAN Project
* Peter Jurek, MAMS, Research for Master of Associated Medical Sciences in Biomedical, Visualization at UIC, 2000-2001, Thesis: Generating 3D Interactive Anatomical Structures
* Phil Kouchoukos, MD, Master’s in Health Information Management at UIC, 2002-2004, Anatomic hierarchies in SNOMED-CT
* Joe Paris, MS, (b) PhD student, 2004, Peer-to-Peer Techniques for Mobile Devices

*(University of Pittsburgh)*

* Lauren Rost – Biomedical Informatics PhD candidate, Committee member 2019-present

**Undergraduate Mentoring**

* Adam Braddock, Undergraduate student at UChicago, 2000, Virtual Reality in the Operating Room, Web-based case log system evaluating work patterns

**Service as Thesis Advisor & Postdoctoral Sponsor**

* Student: Mathias Kaspar, PhD (University of Göttingen, Germany)
* Postdoc: Eugene Sadhu, MD (Chicago)

**RESEARCH**

**Current Grant Support:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grant Number**  **(PI)** | **Grant Title** | **Role in Project**  **% Effort** | **Years Inclusive** | **Source**  **$ Amount** |
| TBCRC AURORA DCC  JHU/BCRF  (Lee) | BCRF Aurora Data Coordinating Center | Co-I  0.12 calendar | 01/01/2019-12/31/2022 | BCRF  $300,774 |
| UL1 TR001857 (Reis) | Biomedical Informatics Core, Clinical and Translational Science Institute | Co-I  1.8 calendar | 07/12/2016-05/31/2026 | NIH/NCATS  $50,309,456 |
| U01TR002393 (Shireman) | Harnessing the power of CTSA-CDRN data networks: Using social determinants of health, frailty and functional status to identify at-risk patients and improve risk adjustment | Co-I  0.6 calendar | 07/25/2018-06/30/2022 | NIH  $3,065,858 |
| OT2OD026675 HuBMAP HIVE (Blood; Silverstein) | Flexible Hybrid Cloud Infrastructure for Seamless Management of HuBMAP Resources | PI  2.4 calendar | 09/21/2018- 9/20/2022  Renewed through 2026 | NIH/OD/HuBMAP  $8,945,779 |
| N/A  (McTigue; Becich) | PaTH to Health: PCORnet Clinical Research Network | Co-I  1.2 calendar | 01/01/2022-12/31/2024 | PCORI  $8,064,974 |
| OT2OD030545 (Blood; Borner; Silverstein) | Amplifying the Value of HuBMAP Data Through Data Interoperability and Collaboration | PI  0.6 calendar | 09/25/2020-09/24/2022 | NIH/OD/CFDE  $1,150,000 |
| NU 38 OT000316-03-02 (Block)CDC The Task Force for Global Health Inc. | COVID-19 Electronic Health Data Initiative | Co-I  0.3 calendar | 10/01/2020-07/31/2022 | CDC/Task Force for Global Health, Inc.  $156,500 |
| N/A  BCRF  (Silverstein) | Breast Cancer Research Foundation Data Coordination Center | PI  1.68 calendar | 01/01/2022-12/31/2023 | BCRF  $2,001,486 |
| 5R34 DA050004-02  Pfizer, Inc.  (Merlin) | Consensus-based algorithms to address opioid misuse behaviors among individuals prescribed long-term opioid therapy: developing implementation strategies and pilot testing | Co-I  0.24 calendar | 06/01/2021–05/31/2023 | Pfizer, Inc.  $720,863 |
| U24CA268108 (Silverstein; Blood; Bar-Joseph) | Cellular Senescence Network (SenNet) Consortium Organization and Data Coordinating Center (CODCC) | Contact PI  2.4 calendar | 09/23/2021–11/30/2026 | NIH/NCI  $17,499,998 |
| U24OD038422 (Taylor; Silverstein) | Uncovering the Shared Genetic Origins of Childhood Cancer and Structural Birth Defects  Through Enhanced Data Integration and Analysis with the CFDE Data Distillery Knowledge  Graph | PI 0.6 Calendar | 9/2024-2027 | NIH/Common Fund Data Ecosystem  $ |

**Pending Grant Support**

|  |  |  |  |
| --- | --- | --- | --- |
| **Grant Number** | **Grant Title** | **Role in Project**  **% Effort** | **Years Inclusive** |
|  |  |  |  |

**Prior Grant Support:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grant Number**  **(funded)** | **Grant Title** | **Role in Project**  **% Effort** | **Years Inclusive** | **Source**  **$ Amount** |
| SRA00001773  Pfizer, Inc.  (McTigue) | Pfizer SHTG/ASCVD Query | Co-I  0.24 calendar | 11/2021–6/2022 | Pfizer, Inc.  $369,894 |
| RI-CRN-2020-006 PCORI PaTH (McTigue; Becich) | Advancement of PCORnet Infrastructure: Clinical Research Network Project | Co-I  1.2 calendar | 01/01/2020-12/31/2021 | PCORI  $1,878,173 |
| 8502471896  Pfizer, Inc.  (McTigue) | Non-Alcoholic Steatohepatitis (NASH) Prevalence Estimation and Risk Stratification using a Multi-System Regional Research Network Database | Co-I  0.1 calendar | 12/03/2019–11/30/2021 | Pfizer, Inc.  $18,041 |
| SPEC-20-009 BCRF  (Silverstein) | Breast Cancer Research Foundation Data Coordination Center (planning grant) | PI  1.2 calendar | 01/15/2021-12/15/2021 | BCRF  $83,334 |
| U24OH009077 (Becich) | Sustaining the Expansion of the National Mesothelioma Virtual Bank (NMVB) | Co-I (removed)  1.2 calendar | 9/30/2006-8/31/2021 | CDC NIOSH  $23,469 |
| OT2OD026554 (Reis) | All of Us Pennsylvania | Co-I (removed)  0.6 calendar | 02/08/2018-01/31/2023 | NIH  $11,897 |
| ACHD (Hacker) | Transitioning Electronic Support for Public Health (ESP) from Lab to Marketplace, Phase II | Co-I  0.6 calendar | 10/01/2018– 09/30/2019 | PA DHS/CMS  $127,796 |
| 3R01NS098023 05S1  (Xia) | INTEGRATING EHR AND GENOMICS TO PREDICT MULTIPLE SCLEROSIS DRUG RESPONSE - Alzheimer's Supplement | Co-I  0.12 Calendar | 08/01/2020-06/30/2021 |  |
| Tobacco funding (Catov; Silverstein) | Severe Maternal Morbidity: precursors and consequences | Co-PI  0.6 calendar | 06/01/2018-11/30/2019 | Commonwealth of Pennsylvania  $68,420 |
| 5 U24 CA180921 (Becich) | Advanced Development of TIES – Enhancing Access to Tissue for Cancer Research | Co-I  0.6 calendar | 09/25/2013 – 07/31/18 | NIH  $11,679 |
| 5 U24 CA180921-04S1 (Becich) | Integrating TIES and Xena to support semantic clinical queries in complex genomic resources | Co-I  0.6 calendar | 08/01/17 – 7/31/18 | NIH  $11,679 |
| PCRF PATH (McTigue; Becich) | A People-Centered Mid-Atlantic Research Network | Co-I  1.2 calendar | 08/01/2018 – 07/31/2020 | PCRF  $25,440 |
| PCORI Sub-award | CAPriCORN: Chicago Area Patient Centered Outcomes Research Network | Site PI | 2015-2017 | PCORI  $500,000 |
| R01 HS024057-01 | Quality Improvement and Practice Based Research in Neurology Using the Electronic Medical Record | Informatics Lead | 2015-2017 | AHRQ  $1.2M |
|  | Automation of CT Measurement of Lean Body Mass | PI | 2015 | Baxter Healthcare Corporation  $85,500 |
|  | Chicago HIT Regional Extension Center (CHITREC) | Site PI | 2014-2015 | DHHS/ONCHIT  Sub-award $409,000 |
|  | CAPriCORN: Chicago Area Patient Centered Outcomes Research Network | Site PI | 2014-2015 | PCORI  Sub-award $500,000 |
|  | Integrated Inpatient/Outpatient Care for Patients at High Risk of Hospitalization | Site PI | 2012-2015 | DHHS/CMS  $49,000 |
|  | Chicago Biomedical Consortium | one of three PIs - “Scientific Director” | 2011-2015 | Searle Funds of The Chicago Community Trust  $25,000,000 |
|  | Chicago Health and Aging Services Exchange | Co-PI - Technical lead | 2010-2012 | NIH Recovery Act Limited Competition (RC4) $100,000 |
|  | Real-Time Community Resource Mapping Project | Co-PI - Technical lead | 2010-2011 | Chicago Community Trust $100,000 |
|  | Chicago HIT Regional Extension Center (CHITREC) | Co-PI - South Side liaison | 2010-2012 | DHHS/ONCHIT Sub-award $26,981 |
|  | Biomedical Informatics Research Network Coordinating Center (BIRN-CC) | Co-PI/Executive Committee | 2009-2014 | NIH/NCRR/USC UChicago Sub-award $4,999,610 |
|  | Re-Engineering Translational Research at The University of Chicago (CTSA) | Informatics Director/Supplement PI | 2009-2011 | ARRA Administrative Supplement in Support of CTSA Translational (T1 and T2)Research - NIH/National Center for Research Resources  $2,000,000 |
|  | Chan Soon-Shiong Scholar Support | one of three PIs | 2009-2010 | Patrick Soon-Shiong $500,000 |
|  | Center for Health Informatics (CHI) | Co-PI | 2008-2009 | St John’s Hospital/USC UChicago Sub-award $750,000 |
|  | Innovative Cryo-STEM for Element-Specific Imaging of Cells and Tissues | one of three PIs | 2009-2012 | Searle Funds of The Chicago Community Trust Chicago Biomedical Consortium Spark Award $380,000 |
|  | Collaboratory for Surgical and Perioperative Innovation (CSPI) | Investigator | 2008-2009 | Provost’s Academic Technology Innovation Program $50,000 |
|  | Re-Engineering Translational Research at The University of Chicago (CTSA) | Informatics Director | 2007-2012 | NIH/National Center for Research Resources $23,000,000 |
|  | Mathematics for Systems Biology | Natalia Maltsev and Jonathan Silverstein, PIs | 2007-2008 | Joint Theory Institute of Argonne National Laboratory and University of Chicago Multidisciplinary Theory Investigations LDRD project  $25,000 |
|  | Immersive simulation team training impact on rescue, recovery, and safety culture | Significant Contributor-Resource Person | 2006-2008 | AHRQ grant. $248,497 |
|  | SPORE in Breast Cancer | Co-Director, Analytic and Informatics Core | 2006-2011 | NIH/NCI grant $2,295,384 |
|  | Quality-Based Surgical Training: The Surgical Training and Assessment Tool | Faculty PI with Oncology Fellow Paul Roach, MD, PI | 2006-2008 | U. Chicago Graduate Medical Education Committee and Dept. of Surgery  $40,000 |
|  | Chicago Biomedical Consortium | one of three PIs - “Scientific Director” | 2006-2010 | Searle Funds of The Chicago Community Trust  $25,000,000 |
|  | National Microbial Pathogen Data Resource Center | Investigator | 2004-2009 | NIH/NIAID contract ~$18,000,000 |
|  | Proteomics-Bioinformatics  Demonstration Project | one of three Principal Investigators | 2004-2006 | Searle Funds of The Chicago Community Trust and Universities: Northwestern, UIC, University of Chicago. $1,950,000 |
|  | Advanced Biomedical Collaboration Testbed in Surgery, Anesthesia, and Emergency Medicine (ABC Testbed) | Principal Investigator | 2002-2007 | NIH/NLM contract. $3,487,139 |
|  | Tele-Immersion: Optimal Virtual Reality Infrastructure for Instruction and Self Study. | Principal Investigator | 2002-2003 | UC Provost’s Program for Academic Technology Innovation $25,000) |
|  | Virtual Reality: Immersive Hepatic Surgery Educational Environment (IHSEE) | Principal Investigator | 2002-2003 | Charles B. Huggins Research Conference award “Most Outstanding Faculty Poster Presentation”  $10,000 |
|  | Distance Learning in Minimally Invasive Surgery | Investigator in 2001 only | 2001-2003 | Ethicon Endosurgery, Inc.  $1,507,000 |
|  | Systematic Combination of Anatomy and Nomenclature; | Principal Investigator | 2000-2005 | R01 NIH/NLM $548,217 |
|  | Development of a Web-based System for Evaluating Laparoscopic Skills of Surgical Residents | Investigator | 2000 | Society of American Gastrointestinal Endoscopic Surgeons (SAGES)  $15,000 |
|  | Biomedical Tele-immersion for the Next Generation Internet | Principal Investigator | 1999-2002 | NIH/NLM Contract $1,040,000 |
|  | Surgical Education Laboratory | Co-Principal Investigator | 1998-2001 | United States Surgical Corporation $1,200,000 |
|  | Biomedical Tele-immersion for the Next Generation Internet | Principal Investigator | 1998-1999 | NIH/NLM Contract $100,000 |

**Other research related activities:**

**Patents (pending)**

1. (Silverstein JC, Parsad NM. Systems and methods for image colorization. US Patent 022411/0558; 2009.)
2. Lipschultz SA, Parsad NM, Silverstein J. Parenteral nutrition diagnostic system, apparatus, and method [Internet]. US Patent. US11623043B2, Issued April 11, 2023. Available from: <https://patents.google.com/patent/US11623043B2/en>

**National Advisory Boards and Study Sections**

1998 Ad Hoc Corresponding Grant Review

National Library of Medicine, National Institutes of Health

2001-2016 Biomedical Informatics Training Programs (T15) Review Committee

National Library of Medicine, National Institutes of Health

2002-2006 Biomedical Library and Informatics Review Committee (BLIRC),

National Library of Medicine, National Institutes of Health

2003 National Aeronautics and Space Administration Peer Review Services

2004-2006 Integrated Advanced Information Management (IAIMS) Review Committee,

National Library of Medicine, National Institutes of Health

2006-2007 Co-Chair HealthGrid: Grid Technologies for Biomedicine Integrated Research

Team. March 1-2, 2006, Frederick, MD. Sponsored and hosted by the U.S. Army Medical Research and Materiel Command’s (USAMRMC) Telemedicine & Advanced Technology Research Center (TATRC). The outcome of this was to formulate a five-year research and development roadmap for the U.S. HealthGrid

2006-2011 Board of Scientific Counselors, Lister Hill Center

National Library of Medicine, National Institutes of Health

2007 Roadmap National Centers for Biomedical Computing Program Review

National Institutes of Health

2008-2011 Clinical and Translational Science Award Review Committee, NCRR, NIH

2010 Insight Toolkit review panel for NLM, NIH

2010 Fermi Research Alliance, LLC Visiting Committee for Fermilab Administrations and Operations Support

2010 Chair, Computational Thinking special emphasis review panel for NLM, NIH

2012 Grant Proposal Review for Alberta Innovates (Alberta, Canada)

2013 Proposal Review for Patient Centered Outcomes Research Institute (PCORI)

2016 NIH Steering Committee Global Rare Disease Patient Registry Data Repository

(GRDR) by NIH’s National Center for Advancing Translational Sciences in conjunction with Harvard Medical School’s DBMI

2020 SEP Review for Brain Initiative Cell Atlas Network (BICAN) for NIMH, NIH

2020 SEP Review for Common Fund Somatic Cell Genome Editing Consortium for NIGMS, NIH

**LIST of CURRENT RESEARCH INTERESTS:**

Clinical Research Informatics

Vocabulary Systems

Federated Data Management

Learning Health Systems

Single Cell Genomics

Imaging Informatics

Surgery Informatics

Clinical Epidemiology

**MANUSCRIPT REVIEWS**

2004 Artificial Intelligence in Medicine

2005, 2006 Future Generation Computer Systems

2006, 2007 Research in Medical Education, Association of American Medical Colleges

2006 MedNet 2006

2006, 2007 Clinical Anatomy

2007 American Medical Informatics Association Annual Symposium

2008 PLOS Medicine

2008-2009 IJCARS

2011 Microscopy and Microanalysis

2011 New England Journal of Medicine (NEJM)

2008-2011 Journal of the American Medical Informatics Association (JAMIA)

2008-2019 Journal of Biomedical Informatics (JBI)

2015-2018 International Journal of Medical Informatics

2016-2020 Associate Editor, Learning Health Systems (Wiley)

**INVITED SEMINARS AND LECTURESHIPS**

1. March 1997 – “An Overview of Medical Informatics” – Guest Lecturer – Rush-Presbyterian-St. Luke’s Department of Surgery Grand Rounds, Chicago
2. November 1997 – “Introduction to The Virtual Reality in Medicine Laboratory” – University of Illinois Board of Trustees Meeting, Chicago
3. March 1998 – “Computer Technology in Assessing Health” – Plenary Session Speech for the 20th Annual Research Forum for the College of Associated Health Professions, UIC, Chicago
4. May 11 and 12, 1999 – “Enriching the Teacher: Linking Teaching, Technology and Creativity” – Faculty Enrichment Days, College of Pharmacy, UIC, Chicago
5. May 26, 1999 – “Web-based Resident Case Log System” – Presented to the Accreditation Council on Graduate Medical Education Committee on CPT as advisory, Chicago
6. May 26, 1999, November 29, 2000 – “The Virtual Reality in Medicine Laboratory” – Presented at the faculty research forum of the UIC Department of Surgery, Chicago
7. October 23, 1999 – “Medical and Surgical Procedures for the Primary Care Office” - CME course under COMPASS Medical Education Network, Chicago
8. April 26, 2000 – “Virtual Reality in the Next Generation of Surgical Education” – Demonstration in the VRMedLab for the Urban Universities Portfolio Project including Provosts of participating Universities, Chicago
9. June 21, 2000 – “The New Virtual Temporal Bone” – Demonstration in the VRMedLab for the Department of Otolaryngology-Head and Neck Surgery Resident Research Symposium, Chicago
10. July 7, 2000 – “The CAVE and Medical Virtual Reality” – Presentation representing UIC campus for a University-wide presentation to the National Science Foundation office for Legislative and Public Affairs, Chicago
11. August 22, 2000 – “Web-based Resident Case Log System” – Educational demonstration given for all general surgery residents at Northwestern University Department of Surgery, Chicago
12. October 17, 2000 – “Computerized Physician Order Entry” – Healthcare Leadership Forum of the Cerner Health Conference 2000
13. October 20-21, 2000 – Faculty for “Course in Advanced Laparoscopic Surgery” – UIC Minimally Invasive Surgery Center
14. October 24, 2000 – “Virtual Reality Surgery: the Future has Arrived” – Invited Address at the American College of Surgeons 86th Clinical Congress Informatics Program – Health Care on the Internet in the New Millennium, Chicago
15. January 17, 2001 – “Virtual Reality Surgery: the Future has Arrived” – Northwestern University Surgery Grand Rounds, Chicago
16. January 31, 2001 – “Biomedical Tele-Immersion” – Research Seminar, UIC Division of Gastroenterology
17. March 13, 2001 – “Biomedical Tele-Immersion for Next Generation Systems” - Workshop on New Visions for Large-Scale Networks: Research and Applications – This was part of a prestigious invited three day event sponsored by the Federal Large Scale Networking Working Group, DARPA, DOE, NASA, NIST, NLM and NSF with the purpose of informing development of long-term research programs within the sponsoring organizations.
18. May 3, 2001 – “Computerized Physician Order Entry at UIC” – Cerner Corporation’s Midwest Regional User Group Meeting in Milwaukee
19. November 2, 2001 – “Virtual Reality in Surgery” – “Brave New World” keynote speaker and panelist - New York State Board for Professional Medical Conduct biennial meeting in Albany
20. April 14, 2002 – “Overview of Medical Informatics and Its Impact on Practitioners” – Postgraduate Course in Informatics – American College of Surgeons Spring Meeting, San Diego
21. April 17, 2002 – “Informatics” – Department of Surgery Grand Rounds – The University of Chicago
22. April 18, 2002 – “Immersive Virtual Reality Environments” - Resuscitation And Bioengineering Science Conference - Argonne National Laboratory, Chicago
23. May 15, 2002 – “Biomedical and Health Informatics” – guest lecture in graduate course: Medical Informatics (CSPP 56425) – University of Chicago Department of Computer Science
24. August 20, 2002 – “Next Generation Biomedical Collaboration Applications” – 2002 Bradley University Conference, Peoria, IL
25. September 20, 2002 – “Surgical Informatics: Tele-Immersion in Medical Education” - Illinois Surgical Society Annual Meeting, Urbana, IL
26. November 20, 2002 – “Advanced Biomedical Tele-Collaboration” – The University of Chicago/Argonne National Laboratories Brown Bag Lunch Series – (also at Supercomputing 2002 Conference through the Access Grid)
27. March 3, 2003 – “Advanced Biomedical Tele-Collaboration” – Case Western Reserve University Internet2 Day, Cleveland, Ohio
28. April 13, 2003 – “Wireless connectivity technologies for handheld computing” – American College of Surgeons Spring Meeting Postgraduate Course “Mobile And Wireless Computing: Practical Applications”, New York, New York.
29. April 16, 2003 – “Advanced Biomedical Collaboration” – Argonne National Laboratory, Keynote at Access Grid Retreat 2003, Argonne, IL
30. June 11, 2003 – “Biomedical and Health Informatics” – guest lecture in graduate course: Medical Informatics (CSPP 56425) – University of Chicago Department of Computer Science
31. June 22, 2003 – “Advanced Biomedical Collaboration” – Seattle, Washington - invited talk at the Workshop on Advanced Collaborative Environments in association with the Global Grid Forum 8 and High Performance Distributed Computing 12 conferences.
32. August 28, 2003 – “Biomedical Tele-Immersion for the Next Generation Internet” – Bethesda, Maryland – National Library of Medicine Next Generation Internet Reverse Site Visit (also simulcast on the Internet).
33. October 21, 2003 – “Wireless connectivity technologies for handheld computing” – American College of Surgeons Clinical Congress Postgraduate Course “Mobile And Wireless Computing: Practical Applications”, Chicago, IL.
34. October 21, 2003 – “Patient Safety Promises of Clinical Information Systems” – American College of Surgeons Clinical Congress - General Session on Patient Safety, Chicago, IL.
35. April 25, 2004 – “Wireless connectivity technologies for handheld computing” – American College of Surgeons Clinical Congress Postgraduate Course “Mobile And Wireless Computing: Practical Applications”, Chicago, IL.
36. May 21, 2004 – Represented Grid Computing in Panel: “Emerging Technologies for Telemedicine and Clinical Decision Support” - “Future Directions for Telemedicine: An International Symposium on Program Evaluation Strategies and Techniques, Emerging Technologies, and Interoperability”, University of Michigan Campus, Ann Arbor, MI.
37. September 16, 2004 – Speaker at the U.S. President’s Information Technology Advisory Committee (PITAC) Subcommittee on Computation Science – Discussed opinions on what is most important for the future of computational science as it relates to biomedical issues, Chicago, IL.
38. October 12, 2004 – Panelist at “Mobile at Hopkins” Conference : “Where Are We Going? Five Information Officers Discuss Mobile Technology And Health Care”, Johns Hopkins Hospital, Baltimore, MD.
39. March 13, 2005 – “Healthcare and Life Sciences Standards Overview and Implications” – Jill Kaufman, PhD from IBM spoke in Seoul Korea at the Life Sciences Grid Research Group with Jonathan Silverstein co-authoring the presentation and presenting via Access Grid from Chicago
40. April 6, 2005 – “Virtual Reality in Surgical Education” – Surgery Department Grand Rounds, The University of Chicago
41. April 18, 2005 – “Wireless connectivity technologies for handheld computing” – American College of Surgeons Spring Meeting Postgraduate Course “Mobile And Wireless Computing: Practical Applications”, Chicago, IL
42. April 25, 2005 – “Virtual Reality for Surgical Education” – Southern Society of Clinical Surgeons, The University of Chicago
43. September 27, 2005 – “Urban Lambda Grids for Advanced Biomedical Collaboration” – in panel: “Bridging the Challenges: Medicine Meets the LambdaGrid” at iGrid 2005, San Diego, CA.
44. January 24, 2006 - “Collaborative Immersive Virtual Environments” - in panel: “Enabling Technologies for Simulation: Impact and Influence on Medical Training and Education” at Telemedicine and Advanced Technology Research Center day of Medicine Meets Virtual Reality conference, Long Beach, CA.
45. June 9, 2006 - “Immersive Virtual Anatomy” - Grand Rounds, Department of Obstetrics and Gynecology, University of Chicago
46. August 1, 2006 - “Intersections of Computation Across the Biomedical Spectrum” - Keynote speaker at fifth annual Great Lakes Bioinformatics Retreat of the Michigan Center for Biological Information.
47. November 12, 2006 - “From Health (Biomedical Chaos) and Grid (Decomposition and Integration) to HealthGrid” - Panel presentation in HealthGrid Workshop of American Medical Informatics Association 2006, Washington D.C.
48. December 5, 2006 - “From Health (Biomedical Chaos) and Grid (Decomposition and Integration) to HealthGrid” - Panel presentation in HealthGrid Workshop of Internet2 Members Meeting 2006, Chicago.
49. February 1, 2007 - “Immersive Virtual Anatomy” - Section of Otolaryngology, Head and Neck Surgery Small Group Research Meeting - University of Chicago Department of Surgery.
50. February 8, 2007 - “From Health (Biomedical Chaos) and Grid (Decomposition and Integration) to HealthGrid” - Panel presentation in HealthGrid Workshop of Medicine Meets Virtual Reality Meeting 2007, Long Beach, CA.
51. February 9, 2007 - “Distributed Medical Visualization” - Panel presentation: 3D Interactive Real-Time Surgical Education on the Web, at Medicine Meets Virtual Reality Meeting 2007, Long Beach, CA.
52. June 7, 2007 - “Globus MEDICUS - Federation of DICOM Imaging Devices into HealthGrids” - GridAsia 2007, Singapore.
53. July 11, 2007 - “Simulation Labs” - Chicago Academic Medicine Program (CAMP), Multicultural Affairs, Pritzker School of Medicine, University of Chicago.
54. September 7, 2007 - “HealthGrid: Grid Technologies for Biomedicine” - 2007 International Brain Mapping and Intraoperative Surgical Planning Society (IBMISPS) Meeting - Washington D.C.
55. September 26, 2007 - “Immersive Virtual Anatomy via Computational Grids” - Department of Surgery research conference - Chicago.
56. October 4, 2007 - HealthGrid.US Alliance: HealthGrid developments in the United States - Keynote and panel discussion at Enabling Grids for E-sciencE (EGEE) - Budapest, Hungary.
57. Oct 9, 2007 – “Wireless connectivity technologies for handheld computing” – American College of Surgeons Clinical Congress Postgraduate Course “Mobile And Wireless Computing: Practical Applications”, New Orleans.
58. Nov 10, 2007 - “HealthGrid Applications” - AMIA 2007 Tutorial “HealthGrids”, Chicago.
59. January 31, 2008 - Workshop on HealthGrids - “Open Grid Standards” - MMVR 2008, Long Beach, CA.
60. February 1, 2008 - Panelist - “Overcoming Leonardo’s Constraint: When Does Stereoscopy Contribute to Medical Visualization?” - MMVR 2008, Long Beach, CA.
61. March, 11, 2008 - Panelist - “HealthGrid: Grid Technologies for Translational Bioinformatics” - 2008 AMIA Summit on Translational Bioinformatics, San Francisco, CA.
62. April 9, 2008 - Panelist - “CIOs: Challenges of Supporting the Research Community” - Clinical Research Forum 2008 IT Roundtable Meeting, Washington D.C.
63. April 9, 2008 - Visiting Lecture Series - “Virtual Reality for Anatomic Education and Surgical Planning” - Lister Hill National Center for Biomedical Communications, NLM, Washington D.C.
64. May 8, 2008 - Panel Moderator - “Clinical Research Informatics and Interoperability” - Re-Engineering the Clinical Research Enterprise Clinical Research Networks Meeting of the NIH Roadmap for Medical Research, NIH, Washington D.C.
65. July 9, 2008 - Guest Lecturer - “ Internet-based real-time communication in the OR” - In: “The next revolution in surgery: imaging, robotics, materials and energy”, Summer Course of Universidad Complutense Madrid, El Escorial, Spain.
66. September 18, 2008 - Keynote Speaker - “Advanced Computation for Personalized Surgical Treatment Planning” - at “pHealth: Perhsonalized Health Technologies and Comparative Effectiveness.” An EU-US Conference and White Paper. Norfork, VA.
67. May 4, 2009 - Speaker - “Approaches to Accelerating Imaging Research” - In: Prevent Cancer Foundation Lung Cancer Workshop VI: Application of High Resolution CT Imaging Data to Lung Cancer Drug Development: Measuring Progress. Washington D.C.
68. July 1, 2009 - Keynote - “HealthGrid Principles for HealthGrid Principals” - HealthGrid 2009, Berlin, Germany.
69. October 20, 2009 - Seminar on Cloud/Grid Computing - National Institutes of Health/National Library of Medicine, Washington D.C.
70. November 18, 2009 - Grid Technology Transforming Healthcare - in Masterworks Session HPC in Modern Medicine - SC 2009, Portland, OR.
71. May 1, 2010 - The South Side of Chicago: Go To Place for Urban Health - at eChicago 2010: Seizing the Broadband Moment - Chicago, IL.
72. May 13, 2010 - Speaker - “Imaging Databases and Infrastructural Developments” - In: Prevent Cancer Foundation Lung Cancer Workshop VII: Application of High Resolution CT Imaging Data to Lung Cancer Drug Development: Measuring Progress. Washington, D.C.
73. July 27, 2010 - Speaker - “Grids, Federation, Clouds, and the Learning Healthcare System” - at ONCHIT/IOM Workshop #1 of Series: Electronic Infrastructure for the Learning Healthcare System: The Road to Continuous Improvement in Health and Health Care. Washington, D.C.
74. August 16, 2010 - Speaker - “Looking forward: the impact Of clinical informatics on quality” - Microsoft Health Solutions Group, Chicago, IL
75. October 18, 2010 - Speaker - “Clinical informatics of the Future” - Workshop on ‘Petascale Computing and Personalized medicine”, NCSA, University of Illinois, Urbana-Champaign, IL
76. May 23, 2011 - Speaker - “Selected User Scenarios of Smntx: A Cloud-based Approach to Medical NLP” - Security Roundtable for Cloud-Deployed Clinical Natural Language Processing, Seattle, WA. Sponsored by ONCHIT SHARP Area 4 - Secondary use of EHR data.
77. May 25, 2011 - Guest Lecturer - “Clinical Informatics of the future” - The Graduate Program in Health Administration and policy” - University of Chicago.
78. July 11, 2011 - Speaker - “Data Warehouses: Utilization and Unique Opportunities” - The Midwest Consortium (MC) for education and research collaboration - University of illinois at Chicago.
79. October 5, 2011 - Lecturer - “Distributed Parallel Medical Volume Visualization” - Computation of Imaging-based Science seminar/Course, Director Gordon Kindleman - University of Chicago.
80. October 12, 2011 - Lecturer - “The Future of Clinical and research informatics” - Biomedical Informatics course of Nitesh Chawla - University of Notre Dame.
81. April 12, 2012 - Invited Speaker - “Medical Informatics Role in Patient Safety and Quality Improvement” - American Academy of Orthopedic Surgery Board of Directors - Portland, OR.
82. April 24, 2012 - Invited Speaker - “Mock Debate: Research Data in Epic” - Epic Research
83. Advisory Council - Verona, WI.
84. October 24, 2012 - Invited Speaker - “Practice-based evidence: using electronic medical records to improve population health” - Institute of Medicine Chicago, Leadership Breakfast - Chicago, IL
85. March 20, 2013 - Accepted Panel Speaker - “Integrating Governance of Research Informatics and Health Care IT Across an Enterprise: Experiences from the Trenches” - AMia 4th Annual summit on clinical research informatics - san francisco, CA.
86. June 26, 2013 - Invited Speaker - “Predictive Modeling for Health Systems” - INFORMS Healthcare 2013, Chicago, Il.
87. November 5, 2013 Invited Speaker - “Big Data and Predictive Modeling for Health Systems” - U.S. News and World Report “Hospitals of Tomorrow” summit - Washington, D.C.
88. December 4, 2013 - Invited Speaker - “Predictive Modeling for Health Systems” - National Predictive Modeling Summit - Washington D.C.
89. April 2, 2014 - Invited Speaker - “Structured Clinical Documentation System” - Epic Research Advisory Council - Verona, WI.
90. April 10, 2014 - Invited Speaker - “Big Data and Predictive Modeling for Health Systems” - UIUc computational science and engineering annual meeting - Urbana, IL.
91. May 6, 2014 - Invited speaker - “Healthcare Informatics: The Living Laboratory” - XLDB-Healthcare workshop - Stonybrook, NY.
92. June 2, 2014 - Invited Speaker - “Using Predictive Analytics to Drive Improvements in Health and Costs” - Predictive Analytics: Providing Novel Approaches to Enhance Outcomes Research Leveraging Big and Complex Data (sponsored by IMS health) - ISPOR annual meeting - Montreal, Ca.
93. June 11, 2014 - Invited speaker - “3D Printing for Surgery” - Chicago Innovation Mentors - Chicago, Il.
94. June 26, 2014 - Invited Speaker - “Big Data, Optimization, and Individualized Medicine at NorthShore“ - Baxter Healthcare - IL.
95. September 19, 2014 - Invited Panelist - “Patient Portals: Effective Approaches and Future Trends” - HIT Connect Accountable Care and Health IT Strategies Summit - Chicago, IL.
96. November 11, 2014 - Invited Speaker - “Health system and data use: big problems, big ideas” - Big Problems, Big Ideas, and the Polsky Center at Booth School of Business, University of chicago - Chicago, IL.
97. November 18, 2014 - Invited Debater - “against: The lack of interaction and collaboration between health IT vendors and academic clinical informatics units is stifling innovation and will continue to have a detrimental effect on the evolution of commercial products.” - ACmi debate - amia annual symposium - Washington, Dc.
98. March 13, 2015 - Invited Speaker - “Leadership Conference: Connecting the Accomplishments toward the Learning Health System and Accelerating our Progress Together in 2015” - Webinar hosted by Joseph H. Kanter Family Foundation - Miami, FL.
99. March 18, 2015 - Invited Speaker - “Structured Clinical Documentation System” - Epic Expert Group Meeting - Verona, Wi.
100. May 18, 2015 - Invited Speaker - “The Power in Patterns: How Big Data is Improving Patient Care” - NorthShore Next: Innovations in Medicine series - MATTer - Chicago, IL
101. November 8, 2015 - Invited speaker - “Learning Health Systems Consortia: Maximizing Shared Data Using Electronic Health Records” - NHRI-ToMMo Conference: Genomics, Biobanking and Learning Health Systems - Taipei, Taiwan.
102. March 24, 2016 - Invited Speaker - “Consistent and Complete Data at Scale” - 2016 Kanter Health Annual Meeting - Miami, FL.
103. April 6, 2016 - Invited Guest and Speaker - “Creating the Future of Medicine at NorthShore: What, Why, and How?” - Aurora Research Institute - Milwaukee, WI
104. April 20, 2016 - Invited Capricorn panelist - “Building a Patient Centered Research Network” - iBio Index - Evanston, IL
105. August 4, 2016 - Invited Speaker - “Predictive Modeling Integrated in Healthcare, Toward the Learning Health System” - Big Data in Health Workshop, Computation Institute &

Center for Health Administration Studies - Chicago, IL

1. August 29, 2016 - Panelist - “Short Talks and Discussion: Three Domains; Health, Education, and Communities” - Computing Community Consortium Cyber-Social Learning Systems Workshop 1 - Seattle, WA.
2. March 13, 2018 – Panelist – “The Future of Evidence Synthesis” – AMIA 2018 Informatics Summit – San Francisco, CA.
3. May 16, 2018 – Panelist – “Future Compute: A Celebration of the Computation Institute” – Future Intelligence Panel – Computation Institute – Chicago, IL.
4. May 17, 2018 – Panelist – “Improving the Efficiency of Outcome Validation in the Sentinel System: Novel Technologies and Methods for Identifying Cohorts and Outcomes” – Duke-Margolis Center – Washington, DC.
5. May 24, 2018 – Tool Demonstration “Text Information Extraction System (TIES/TCRN)” – NCI Informatics Technology for Cancer Research (ITCR) Annual Meeting, Bethesda, MD.
6. June 12, 2018 – Plenary Speaker – “Cancer Registries are Bedrock for Building Learning Health Systems and Precision Medicine” – North American Association of Central Cancer Registries (NAACCR) 2018 Annual Conference – Pittsburgh, PA.
7. June 14, 2018 – Keynote Speaker – “Biomedical Data Sharing to Enable Learning Health Systems” – Security Assured Cyberinfrastructure in Pennsylvania (SCA-PA2 Workshop) – Pittsburgh, PA.
8. October 1, 2018 – Invited Speaker – “Biomedical data sharing to enable Learning Health Systems” – University of Pittsburgh Graduate School of Public Health, Public Health Dynamics Laboratory – Pittsburgh, PA
9. November 5, 2018 – Panelist – “Automatic Text De-Identification: How and When is it Acceptable?” – AMIA Annual Symposium – San Francisco, CA
10. December 7, 2018 – Invited Speaker – “Center for Clinical Research Informatics and Research Informatics Office” – University of Pittsburgh Department of Biomedical Informatics Training Program Lecture Series – Pittsburgh, PA
11. October 27, 2021 – Invited Speaker – “Convergence at scale among health care, data, and open science: Can secure, liquid, data drive precise decision-making and practice?” – McGill University and Pittsburgh Supercomputing Center Precision Convergence Webinar Series – Montreal, Canada

**SERVICE**

**University and Medical School Service**

1996-2005 Interviewer for medical student Match to surgery residency

1998 Member, Admitting Infrastructure Team (UIC Medical Center)

1998-1999 Member, Technology Study Group of UIC College of Medicine CCIA Committee

1999 Represented the American College of Surgeons at the American Medical Student Association and discussed career plans with medical students

1999-2001 Quality Improvement Representative, UIC Department of Surgery

1998-2000 Member, Gemini Executive Implementation Committee (UIC clinical systems)

2000-2001 Member, UIC Department of Surgery Research Committee

2000-2001 Member, UIC Medical Center Group on Advanced Systems Planning

2002-2006 Member, Optime Steering Committee, University of Chicago Hospitals

2003-2006 Member, Performance Improvement Council, U. of Chicago Hospitals

2003-2006 Member, Medication Safety Task Force, U. of Chicago Hospitals

2003-2004 Directed the ad hoc “Biomedical Informatics Group” at The University of

Chicago and Argonne - included activities related to planning an informatics core

to support research, managing the group meetings, its listserv, website design,

coding, and server.

2003-2011 Member, Executive Committee, Computation Institute

University of Chicago and Argonne National Laboratory

2003-2007 Member and Chair, University of Chicago Board of Computing

Activities and Services (Chair 2005-2007)

2005-2008 Co-Chair, Biological Sciences Division IS Faculty Advisory

2006 Ad hoc member, Committee on Appointments and Promotions, BSD

University of Chicago

2005-2006 Member, Committee on Research Resources, Biological Sciences Division,

University of Chicago

2007 Member, Animal Imaging Working Group of Imaging Initiative of RAC

Research Advisory Committee, Biological Sciences Division, U. of Chicago

2007-12 Informatics Director University of Chicago Institute for Translational Medicine (CTSA)

2017-present Founder, University of Pittsburgh Research Informatics Office including creating Health Research Records Request (R3): clinical data provisioning from UPMC for research (RIO.pitt.edu)

2020-present Member, Information Technology Advisory Committee (ITAC) for University of Pittsburgh IT (CIO), Data Governance and Information Security subcommittees.

**Regional Service**

2003-2011 Founding Scientific Director, Chicago Biomedical Consortium.

**National Service**

2015-present Board (Chair 2015-2021), Learning Health Community

2016-2020 Associate Editor, Learning Health Systems

2018-2020 Co-Chair of the Steering Committee of the HuBMAP

*National Conference Organizing Activities*

2000 Mini-Track Co-Chair for Information Technology, Health Care Track of Hawaii International Conference on System Sciences

2002 Panel Moderator, American College of Surgeons Congress General Session: “Knowledge at the point of care: Hand-held computing for surgeons”

2008 Co-Chair Global HealthGrid: e-Science Meets Biomedical Informatics, the 6th Annual International HealthGrid conference, Chicago (first held outside Europe)

2009 Panel Moderator, American Medical Informatics Association Summit on

Translational Research: “Informatics Concepts, Tools and Techniques to Enable Integrative Translational Research”

2010 Sessions Chair, Upper Midwest Informatics CTSA Consortium, Madison, WI: “Unconference”

2010 Session Moderator, HealthGrid 2010, Paris: “Applications”

2010 Planning Committee: ONCHIT/IOM Workshop Series: Electronic Infrastructure for the Learning Healthcare System: The Road to Continuous Improvement In Health and Health Care

2011 Conference General Co-Chair for 27th Annual IEEE Computer Based Medical Systems (CBMS) Symposium, Bristol, UK

2011 Co-Organizer and Program Committee: Workshop on Data Mining for

Medicine and HealthCare, held in conjunction with ACM SIGKDD Conference On Knowledge Discovery & Data Mining (KDD 2011), San Diego, CA.