OMB No. 0925-0001 and 0925-0002 (Rev. 10/2021 Approved Through 09/30/2024)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Mary Morrison Saltz, M.D

eRA COMMONS USER NAME (credential, e.g., agency login): MSALTZ

POSITION TITLE: Associate Professor of Clinical Radiology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
McGill University, Montreal, Canada	B.Sc.	12/1978	Human Genetics
Duke University School of Medicine, Durham, NC	M.D.	06/1983	Medicine
St. Elizabeth's Hospital, Boston, MA	Intern	06/1984	Internal Medicine
Brigham & Women's Hospital, Boston, MA	Resident	06/1985	Clinical Pathology
Boston University Medical Center, Boston, MA	Resident	06/1989	Diagnostic Radiology
Massachusetts General Hospital, Boston, MA	Fellow	06/1990	Abdominal Interventional Radiology

A. Personal Statement

I am a physician and board-certified radiologist with subspecialty boards in informatics. I have served on IRBs for 14 years at Emory, Georgia Tech and Stony Brook where I currently serve as an IRB chair. At the national I level play a leading role in CTSA N3C governance, I chair the publication committee, which meets to ensure that publications that use N3C datasets get approved appropriately, patient privacy is preserved, and that authorship credit is properly allocated.

I served as a Chief Quality Officer at Emory with responsibilities for ensuring the achievement of target Quality Metrics spread across both the Emory outpatient and inpatient arena. In this context, I led quality improvement projects involving hospital readmission, timely administration of pre-procedure antibiotics, monitored iatrogenic complications and worked to improve flu and pneumococcal vaccination rates. To support these activities, I played a key role in design of the Emory data analytics infrastructure as I have done at Stony Brook.

Since the start of the COVID-19 pandemic in spring 2020, I have headed the Stony Brook COVID-19 Data Commons. This Data Commons lead directly to Stony Brook's early leadership involvement with the N3C.

I have led multiple efforts to disseminate informatics at Stony Brook, on Long Island, in the New York region and on a national level. I have taught informatics in medical school, graduate and undergraduate courses. I have presented the curricula developed by my Stony Brook team at national informatics meetings. I have also educated clinical researchers and physicians though formal courses and boot camps. These courses and bootcamps, some with active involvement from the Mt. Sinai CTSA, have been carried out at Stony Brook, and in Manhattan. I have been active participant in Long Island community health coalitions and provided education to underserved Long Island high school students. My team created a public facing BOT in spring 2020, as Covid swept across New York, with frequently updated content, in both Spanish and English, to combat misinformation in the community. This BOT had over 10,000 visits in its first year.

Ongoing and recently completed projects that I would like to highlight include:

7/2020-6/2022 CD2H National Covid Cohort Collaborative (N3C) U24TR002306 – Supplement Name of PI: Melissa Haendel Role on the project Co-Investigator Sponsor: Subcontract from Oregon Health and Science University

Role: Co-investigator; leadership role in governance including authorship attribution, policies for data access and data publication, chair of publication committee, governance, clinical domain expert in imaging

7/2021-6/2023 National Institutes of Health RECOVER initiative. Headed by New York University, subcontract from U. Colorado, PI Melissa Haendal. Role: Co-investigator – leadership role in governance, clinical domain expert in imaging, leads Stony Brook effort to train and validate NLP algorithms extraction of post-acute COVID syndrome phenotype information.

2019-04/2020 SUNY Research Seed Grant Program RFP#20-03-COVID Characterization of AKI and testing the use of Losartan in Hospitalized patients with COVID19 Proposal Number: COVID202009 SUNY Institution: Stony Brook University Role: Co-investigator, clinical expert, directed extraction and mapping of EHR data to support project.

Citations:

S Rashidian, K Abell-Hart, J Hajagos, R Moffitt, V Lingam, V Garcia, C Tsai, F Wang, X Dong, S Sun, J Deng, R Gupta, J Miller, J Saltz, **M Saltz**; Detecting Miscoded Diabetes Diagnosis Codes in Electronic Health Records for Quality Improvement: Temporal Deep Learning Approach; JMIR Med Inform 2020 (Dec 17); 8(12):e22649

Wong, R; Hall, M; Vaddavalli, R; Anand, A; Arora, N; Bramante C.T.; Garcia, V; Johnson, S; **Saltz, M**; Tronieri, J.S.; Yoo, Y.J.; Buse, J.B.; Saltz, J; Miller, J; Moffitt, R. for the N3C Consortium; Glycemic Control and Clinical Outcomes in U.S. Patients With COVID-19: Data From the National COVID Cohort Collaborative (N3C) Database; American Diabetes Association Research Article February 24 2022

JS Almeida, J Hajagos, JH Saltz, and **MM Saltz**: Serverless OpenHealth at data commons scale—traversing the 20 million patient records of New York's SPARCS dataset in real-time, Peer J. 2019; 7: e6230, Published online 2019, 15, Jan doi: 10.7717/peerj.6230

MM Saltz, J Almeida, C Beverley, V Lingam, J Hajagos, C Pomeroy, Y Sprecklels; Integrating Population Health Informatics into the Medical School Curriculum AMIA 2019 Informatics educators Forum Poster; June 2019

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2022-Present Associate Clinical Professor Radiology, Stony Brook University, Stony Brook NY
2013-Present Chief Integration Officer for Community Practice Initiatives, Stony Brook Medicine, Stony Brook, NY
2014-Present Chief Medical Information Officer, Stony Brook Cancer Center, Stony Brook, NY
2014-Present Affiliated Faculty Department of Biomedical Informatics, Renaissance School of Medicine Stony Brook NY
2019-Present Chair, Stony Brook Institutional Review Board
2013-Present Member, Stony Brook Institutional Review Board
2013-2022 Assistant Professor of Clinical Radiology, Renaissance School of Medicine, Stony Brook, NY
2014-2020 Chief Clinical Lead DSRIP, Stony Brook Medicine, Stony Brook NY
2012-2013 Chief Medical Officer, Radiology Hospital Partners-Jackson Healthcare, Atlanta GA
2011-2013 IRB Member and Designated Reviewer Emory, Atlanta GA
2011-2012 Advance Brain Imaging IRB member, Georgia Institute of Technology, Atlanta GA
2008-2010 Chief Quality Officer-Community Practice Initiatives Radiologist, Emory Health Care, Atlanta, GA
2008-2010 Division Chief Community Radiology, Emory University School of Medicine, Atlanta GA
2008-2010 Chair Radiology Department, Emory Health Care, Johns Creek Hospital, Johns Creek, GA
2007-2008 Chair Radiology Department, New Albany Surgical Hospital, Columbus, OH
2004-2008 Radiologist, Radiology Incorporated, Columbus, OH
2002-2004 Radiologist, Riverside Radiological Associates, Columbus, OH
1997-2001 Chair Radiology Department, Coral Springs Medical Center, Coral Springs, FL
1990-2001 Radiologist, North Broward Radiologists, Pompano Beach, FL

Honors

2014 & 2019	Certificate of Appreciation for Community Service; Participation and support of Stony Brook University Hospital's Community
2017	Marco Ramoni Distinguished Paper Award American Medical Informatics Association
1981-1983	Engel Society – Duke University School of Medicine

C. Contributions to Science

1. Tools to carry out interactive analyses and visualizations to depict clinical and healthcare utilization patterns of patient populations. The results of these analyzes are used in research and clinician education and have been employed in clinical population health care initiatives such as the targeting of outpatient interventions for the Medicaid Delivery System Reform Incentive Payment (DSRIP) program and in analysis of geospatial distribution and predictors of COVID 19 mortality.

Almeida, J.S., Hajagos, J., Saltz, J. and **Saltz, M.,** 2019. Serverless OpenHealth at data commons scale—traversing the 20 million patient records of New York's SPARCS dataset in real-time. Peer J, 7, p.e6230.

Almeida, J.S., Hajagos, J., Crnosija, I., Kurc, T., **Saltz, M**. and Saltz, J., 2015. OpenHealth platform for interactive contextualization of population health open data. In AMIA Annual Symposium Proceedings (Vol. 2015, p. 297). American Medical Informatics Association.

Mallipattu, S.K., Jawa, R., Moffit, R., Hajagos, J., Fries, B., Nachman, S., Gan, T.J., **Saltz, M.,** Saltz, J., Kaushansky, K. and Skopicki, H., Geospatial Distribution and Predictors of Mortality in Hospitalized Patients with COVID-19: A Cohort Study. In Open Forum Infectious Diseases.

Chen, X., Wang, Y., Schoenfeld, E., **Saltz, M**., Saltz, J. and Wang, F., 2017. Spatio-temporal analysis for New York State SPARCS data. AMIA summits on translational science proceedings, 2017, p.483.

2. Informatics research targeting the opioid crisis encompassing geographic hotspot mapping, machine learning based predictions. Development and evaluation of models to predict Opioid Use Disorder for patients on opioid medications using electronic health records and deep learning methods. Development of deep learning model that can predict the patients at high risk for opioid overdose and identify predictive features. The study included the information of 5,231,614 patients from the Health Facts database with at least one opioid prescription between January 1, 2008 and December 31, 2017. Discovery of trends and patterns of opioid poisoning and the demographic and regional disparities through analysis of New York State patient visits. Demographic, spatial, temporal and correlation analyses were performed for all opioid poisoning patients extracted from the claims data in the New York Statewide Planning and Research Cooperative System (SPARCS) from 2010 to 2016. Informatics methods to evaluate the temporal trends and risk factors of inpatient opioid overdose.

Dong, X., Deng, J., Hou, W., Rashidian, S., Rosenthal, R.N., **Saltz, M.,** Saltz, J.H. and Wang, F., 2021. Predicting opioid overdose risk of patients with opioid prescriptions using electronic health records based on temporal deep learning. Journal of biomedical informatics, 116, p.103725.

Deng, J., Hou, W., Dong, X., Hajagos, J., **Saltz, M**., Saltz, J. and Wang, F., 2021. A large-scale observational study on the temporal trends and risk factors of opioid overdose: Real-world evidence for better opioids. Drugs-real world outcomes, 8(3), pp.393-406.

Chen, X., Hou, W., Rashidian, S., Wang, Y., Zhao, X., Leibowitz, G.S., Rosenthal, R.N., **Saltz, M**., Saltz, J.H., Schoenfeld, E.R. and Wang, F., 2021. A large-scale retrospective study of opioid poisoning in New York State with implications for targeted interventions. Scientific reports, 11(1), pp.1-10.

Dong, X., Deng, J., Rashidian, S., Abell-Hart, K., Hou, W., Rosenthal, R.N., **Saltz, M**., Saltz, J.H. and Wang, F., 2021. Identifying risk of opioid use disorder for patients taking opioid medications with deep learning. Journal of the American Medical Informatics Association, 28(8), pp.1683-1693.

3. Application of machine learning/deep learning (ML/DL) methods in medicine requires clinical motivation and clinical context. I have provided both and played crucial roles in the development and validation of ML/DL methods in computational phenotype characterization, integration of imaging and clinical data and in generation of synthetic clinical data.

Saltz, J., Almeida, J., Gao, Y., Sharma, A., Bremer, E., DiPrima, T., **Saltz, M.**, Kalpathy-Cramer, J. and Kurc, T., 2017. Towards generation, management, and exploration of combined Radiomics and Pathomics datasets for cancer research. AMIA Summits on Translational Science Proceedings, 2017, p.85.

Rashidian, S., Hajagos, J., Moffitt, R.A., Wang, F., Noel, K.M., Gupta, R.R., Tharakan, M.A., Saltz, J.H. and **Saltz, M.M**., 2019. Deep learning on electronic health records to improve disease coding accuracy. AMIA Summits on Translational Science Proceedings, 2019, p.620.

Rashidian, S., Wang, F., Moffitt, R., Garcia, V., Dutt, A., Chang, W., Pandya, V., Hajagos, J., **Saltz, M.** and Saltz, J., 2020, August. SMOOTH-GAN: towards sharp and smooth synthetic EHR data generation. In International Conference on Artificial Intelligence in Medicine (pp. 37-48). Springer, Cham.

Rashidian S, Abell-Hart K, Hajagos J, Moffitt R, Lingam V, Garcia V, Tsai CW, Wang F, Dong X, Sun S, Deng J, Gupta R, Miller J, Saltz J, **Saltz M.** Detecting Miscoded Diabetes Diagnosis Codes in Electronic Health Records for Quality Improvement: Temporal Deep Learning Approach. JMIR Med Inform. 2020 Dec 17;8(12):e22649. doi: 10.2196/22649. PMID: 33331828; PMCID: PMC7775195.

4. Assessment of pioneering interventional radiology procedures carried out at the Massachusetts General Hospital. This work was carried out during my Interventional Abdominal Radiology fellowship under Dr. Joseph Ferrucci. The studies included: 1) analysis of experience with radiologically guided percutaneous tube gastrostomy in 125 patients by using a gastropexy technique in which the anterior gastric wall is non-surgically sutured to the anterior abdominal wall with percutaneously placed T-fasteners before catheter insertion, 2) Pleural sclerosis after drainage with a small-bore catheter was performed in 21 patients with malignant pleural effusions, 3) series studying efficacy of percutaneous cholecystostomy performed in 24 patients in the intensive-care unit with persistent, unexplained sepsis after a complete clinical, laboratory, and radiologic search showed no alternative source of infection and 4) clinical follow-up of percutaneous gastrostomy (PG) with gastropexy carried out for relief of malignant small bowel obstruction in patients with extensive ascites.

Saini, S.A.N.J.A.Y., Mueller, P.R., Gaa, J., Briggs, S.E., Hahn, P.F., Forman, B.H., Tung, G.A., Silverman, S.G., Lee, M.J. and **Morrison, M.C.**, 1990. Percutaneous gastrostomy with gastropexy: experience in 125 patients. AJR. American journal of Roentgenology, 154(5), pp.1003-1006.

Morrison, M.C., Mueller, P.R., Lee, M.J., Saini, S., Brink, J.A., Dawson, S.L., Cortell, E.D. and Hahn, P.F., 1992. Sclerotherapy of malignant pleural effusion through sonographically placed small-bore catheters. AJR. American Journal of Roentgenology, 158(1), pp.41-43.

Lee, M.J., Saini, S., Brink, J.A., Hahn, P.F., Simeone, J.F., **Morrison, M.C**., Rattner, D. and Mueller, P.R., 1991. Treatment of critically ill patients with sepsis of unknown cause: value of percutaneous cholecystostomy. AJR. American journal of roentgenology, 156(6), pp.1163-1166.

Lee, M.J., Saini, S., Brink, J.A., **Morrison, M.C.,** Hahn, P.F. and Mueller, P.R., 1991. Malignant small bowel obstruction and ascites: not a contraindication to percutaneous gastrostomy. Clinical radiology, 44(5), pp.332-334.