Andrew C. Rausch, MD

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Medical Training

2018-2021 **Fellowship –** Maternal-Fetal Medicine – Northwell Health / Hofstra University, *Manhasset, NY*
Anticipated thesis: Fetal weight estimation using neural networks.

2014-2018 **Residency –** Obstetrics & Gynecology – Stamford Hospital / Columbia University, *Stamford, CT*

Education

2010-2014 **MD Degree** – Tufts University School of Medicine – *Boston, MA*

2004-2008 **BA Degree** – Carleton College – Cum laude, Physics & Astronomy – *Northfield, MN*

Licensure & Certification

2018-2021 Medical License. New York State.

Publications and Presentations

Rausch AC, Segal O, Speicher A, Dimijian D, Rochelson B. Fetal weight estimation using neural networks. 2020 AIUM Annual Meeting. – *Invited for oral presentation but not given due to COVID-19 related cancellation*

Meirowitz N, Sharma R, **Rausch, AC**. Antenatal care for postbariatric women, in Mahmood T, Arulkumaran S & Chervenak FA (2nd ed) *Obesity and Obstetrics*. pp 105-115

Blitz MJ, Rochelson B, **Rausch AC**, Solmonovich R, Shan W, Combs A, Nimaroff M. Universal testing for coronavirus disease 2019 in pregnant women admitted for delivery: prevalence of peripartum infection and rate of asymptomatic carriers at four New York hospitals within an integrated healthcare system. *American Journal of Obstetrics & Gynecology MFM*. 2020;2(3):100169.

Ploran EJ, Soni S, Snellings JT, **Rausch A**, Rochelson B. The effect of perceptual decision-making on the interpretation of twin fetal heart rate tracings. *The Journal of Maternal-Fetal & Neonatal Medicine*. Published online June 29, 2020:1-6.

Wieland D, Burke M, **Rausch A**, Bowman D, Bobby P. Impact of a Quality Improvement Initiative on the Episiotomy Rate at a Community Hospital. *Journal of Reproductive Medicine*. 2017;62(6):615-620.

Ohtani T, Bouix S, Hosokawa T, Saito Y, Eckbo R, Ballinger T, **Rausch AC**, Melonakos E, Kubicki M. Abnormalities in white matter connections between orbitofrontal cortex and anterior cingulate cortex and their associations with negative symptoms in schizophrenia: A DTI study. *Schizophrenia Research*. 2014;157(1-3):190-197.

Rao M, Concannon TW, Iovin R, Yu W, Chan J, Lypas G, Terasawa T, Gaylor J, Kong L, **Rausch AC**, Lau J, Kitsios G. Identification of topics for comparative effectiveness systematic reviews in the field of cancer imaging. *Journal of Comparative Effectiveness Research*. 2013;2(5):483-495.

Whitford TJ, Savadjiev P, Kubicki M, O'Donnell L, Terry D, Bouix S, Westin CF, Schneiderman J, Bobrow L, **Rausch AC**, Niznikiewicz M, Nestor P, Pantelis C, Wood S, McCarley R, Shenton M. Fiber geometry in the corpus callosum in schizophrenia: Evidence for transcallosal misconnection. *Schizophrenia Research*. 2011;132(1):69-74.

Whitford TJ, Mathalon DH, Shenton ME, Roach BJ, Bammer R, Adcock RA, Bouix S, Kubicki M, De Siebenthal J, **Rausch AC**, Schneiderman J, Ford JM. Electrophysiological and diffusion tensor imaging evidence of delayed corollary discharges in patients with schizophrenia. *Psychological Medicine*. 2011;41(5):959-969.

Awards and Memberships

2020 40 Featured Voices in MFM – *2020 SMFM Annual Meeting* (@rauscha on Twitter)

2018 SMFM Residency Program Award for Excellence in Obstetrics – *Stamford Hospital Ob/Gyn Residency*

2016 Gold Foundation Humanism and Excellence in Teaching Award – *Columbia University College of Physicians & Surgeons*

2015, 2016 Junior Resident Teacher of the Year – *Stamford Hospital Ob/Gyn Residency*

Current Society for Maternal-Fetal Medicine – *Member*

Current American College of Obstetricians and Gynecologists – *Junior Fellow*

Current Massachusetts Medical Society – *Member*

Ongoing Research & Career Interests

Fellow and Resident Education – My passion for education led to the receipt of multiple teaching awards throughout residency, and that passion continues through fellowship, both informally at daily rounds, and through invited lectures for the medical students, residents, and advanced care practitioners at Hofstra and Northwell Health.

Advanced technology in obstetrics – I believe new technology can dramatically simplify and improve the provision of health care, and intelligent implementation has long been lacking in obstetrics. With a background in computational physics and imaging, I have found a niche in connecting these interests to great effect. I plan to continue this research through my future career, and am currently working on the following projects, among others:

Artificial Intelligence – In collaboration with Dr. Oren Segal, a professor of computer science at Hofstra University, I'm exploring applications of artificial intelligence, neural networks, and other forms of machine learning to clinical problems in maternal-fetal medicine. Current avenues of research include estimation of fetal weight and identification of fetal growth restriction, prediction of latency between diagnosis and delivery in severe preeclampsia, and anomaly detection in ultrasound.

3D Printing – Working with Dr. Todd Goldstein in the Department of 3D Printing and Innovation at Northwell Health, we're pioneering 3D printing pathways to automate the creation of personalized medical devices, and print 3D models from ultrasound volumes for patient and trainee education.

Prior Research & Work Experience

Research Scholarship
Jun-Aug 2011

Tufts Evidence-based Practice Center (EPC), *Boston, MA*
Harold Williams Scholarship funded research with Dr. Joseph Lau
Examined intravascular cardiac diagnosis techniques with systematic review & meta-analysis
Prototyped and published a new pipeline for Topic Identification in Comparative Effectiveness Reviews for the Agency for Healthcare Research and Quality. This lab has since been moved to Brown University.

Research Assistant
Jan 2009 – Aug 2010

Psychiatry Neuroimaging Laboratory, *Boston, MA*
A Brigham & Womens Hospital advanced imaging laboratory under Prof. Martha Shenton
Image processing and analysis of MRI and diffusion-tensor MRI data involving brain registration, streamline tractography analysis and clustering, and stochastic tractography projects using MATLAB & Python.