

Daniel (Dan) J. Kats

EDUCATION

Brandeis University, Waltham, MA

Bachelor of Science in Biochemistry

May 2016

- Summa cum laude with high honors, GPA 3.85
- Thesis: “Inosine 5’-monophosphate dehydrogenase: A collection of mysterious binding sites and regulation”

Case Western Reserve University, Cleveland, OH

Doctor of Medicine

May 2020

- With Honors and Distinction in Research
- Thesis: “Lung cancer risk stratification, Down syndrome, and epileptic spasms: A journey through informatics, healthcare disparities, and quality improvement”

POSTDOCTORAL TRAINING

Massachusetts General Hospital for Children, Boston, MA

Resident Physician, Pediatrics

June 2020 – June 2023

APPOINTMENTS AT HOSPITALS/AFFILIATED INSTITUTIONS

Harvard Medical School, Boston, MA

Clinical Fellow in Pediatrics

June 2020 – June 2023

HONORS AND AWARDS

- MassGeneral Hospital for Children Teaching Award, PGY-1 June 2021
- American Thoracic Society Abstract Scholarship May 2019
(see BIBLIOGRAPHY #10, 13, 14, 15)
- Phi Beta Kappa honor society May 2016
- NIH Computational Neuroscience Training Fellowship (R90DA033463) May 2014 – May 2016

TEACHING

Case Western Reserve University School of Medicine, Cleveland, OH

Pediatric Clerkship

March – April 2020

- Re-organized the third year core clerkship curriculum into an online format to be compatible with the COVID-19 pandemic

RESEARCH EXPERIENCE

Sickle Cell Organized Outpatient Transition, MassGeneral Hospital, Boston, MA

PI: Sharl Azar, MD

December 2021 – Present

- Developing a digital platform to aid adolescents with sickle cell disease transitioning from pediatric to adult care

Amoxicillin-clavulanate Dosing Calculator, MassGeneral Hospital, Boston, MA

Co-Principal Investigator (Co-PI: Iman Moawad, PharmD, BCPPS) May 2021 – Present

- Created a dosing calculator to assist clinicians in prescribing amoxicillin-clavulanate by ensuring proper dosing of both component drugs

Down Syndrome Program, Massachusetts General Hospital *for* Children, Boston, MA

Co-Investigator (PI: Brian Skotko, MD, MPP)

June 2020 – Present

Research Assistant (PI: Brian Skotko, MD, MPP)

October 2018 – June 2020

- Created a world map of quality of life for people with Down syndrome
 - Co-led a group of international Down syndrome experts to create the first worldwide quality of life survey for people with Down syndrome (that could be adapted to all groups of developmental/intellectual disabilities)
- Performed a literature review of infantile spasms in Down syndrome
 - Publication: see BIBLIOGRAPHY #2
- Project: Interviews with parents of children with Down syndrome and infantile spasms
 - Publication: see BIBLIOGRAPHY #3

Clinical Informatics, The MetroHealth System, Cleveland, OH

Researcher (PI: Yasir Tarabichi, MD, MSCR)

May 2017 – July 2019

- Studied the effects of smoking history variability in electronic health records (EHRs) on the ordering of lung cancer screening tests
 - Publications: see BIBLIOGRAPHY #1, 4, 5
 - Presentations: see BIBLIOGRAPHY #10, 11, 12, 13, 14, 15, 16

Hedstrom Laboratory, Brandeis University, Waltham, MA

Undergraduate Researcher (PI: Lizbeth Hedstrom, PhD)

September 2013 – May 2016

Computational Neuroscience Fellow

May 2014 – May 2016

- Studied the interactions among inosine 5'-monophosphate dehydrogenase (IMPDH), RNA polymerase, and ribosomes in *Escherichia coli*
- Designed and wrote Python scripts to analyze IC₅₀ data of hundreds of inhibitors used with IMPDH from different organisms

BIBLIOGRAPHY

Peer-Reviewed

1. **Kats, D.J.**, Adie, Y., Tlimat, A., Greco, P.J., Kaelber, D.C., Tarabichi, Y.. Assessing Different Approaches to Leveraging Historical Smoking Exposure Data to Better Select Lung Cancer Screening Candidates: A Retrospective Validation Study. *Nicotine Tob Res.* 2020.
2. **Kats, D.J.**, Roche, K.J., Skotko, B.G. Epileptic Spasms in Individuals with Down Syndrome: A Review of the Current Literature. *Epilepsia Open.* 2020, 5: 344–353.
3. **Kats, D.J.**, Patsiogiannis, V., Skotko, B.G. Epileptic Spasms in Patients with Down Syndrome: Experiences from Caregivers. *J Child Neurol.* 2020, 35(12): 813–819.
4. Adie, Y., **Kats, D.J.**, Tlimat, A., Perzynski, A., Dalton, J., Gunzler, D., Tarabichi, Y. Neighborhood Disadvantage and Lung Cancer Incidence in Ever-Smokers at a Safety-Net

Healthcare System: A Retrospective Study. *CHEST*. 2020, 157(4): 1021–1029.

5. Tarabichi, Y., **Kats, D.J.**, Kaelber, D.C., Thornton, J.D. The Impact of Fluctuations in Pack-Year Smoking History in the Electronic Health Record on Lung Cancer Screening Practices. *CHEST*. 2018, 153(2): 575–578.

Lectures/Workshops

6. [Hospital] **Kats, D.J.**, Miozzo, P., Kung, E. Hospitalist Journal Club. Massachusetts General Hospital *for* Children. Boston, MA. May 2021.
7. [Hospital] **Kats, D.J.**, Miozzo, P., Schwartz, K., Kao, A. Hospitalist Journal Club. Massachusetts General Hospital *for* Children. Boston, MA. April 2021.
8. [Hospital] **Kats, D.J.**, Zanger, K., Vakharia, J., Misra, M. Chief of Service: 14 year old with growth restriction and pituitary mass. Massachusetts General Hospital *for* Children. Boston, MA. 2021.
9. [National] **Kats, D.J.**, Mieso, B., Singh, M., Gullett, H., Koopman Gonzalez, S. Patient Navigation: Pre-Clinical Medical Students Experiencing Longitudinal Patient Relationships. Accelerating Change in Medical Education Consortium Student-Led Conference on Health Systems Science; Hershey, PA. 2018.

Oral Presentations

10. [International] **Kats, D.J.**, Adie, Y., Tlimat, A., Tarabichi, Y. Providers at an Academic Safety-Net Hospital System Tend to Refer Patients for Lung Cancer Screening Based on Patient Risk, but Demographic Disparities Persist. American Thoracic Society International Conference; Dallas, TX. 2019.
11. [Local] **Kats, D.J.**, Tarabichi, Y., Kaelber, D.C., Thornton, J.D. The Impact of Smoking History EHR Fluctuations on Lung Cancer Screening Practices. Lepow Day; Cleveland, OH. 2017.

Poster Presentations

12. [International] Tlimat, A., O. Adeoye, **Kats, D.J.**, Tarabichi, Y. Could Patients at a Safety-Net Healthcare Systems Be Too Sick to Be Screened for Lung Cancer? American Thoracic Society International Conference; Philadelphia, PA. 2020.
13. [International] **Kats, D.J.**, Tlimat, A., Adie, Y., Tarabichi, Y. Can Historical Electronic Health Record Smoking Data Be Leveraged to Improve the Selection of Patients for Lung Cancer Screening? American Thoracic Society International Conference; Dallas, TX. 2019.
14. [International] Adie, Y., Tlimat, A., **Kats, D.J.**, Perzynski, A., Tarabichi, Y. Neighborhood Disadvantage and Lung Cancer Incidence in an Electronic Health Record Cohort. American Thoracic Society International Conference; Dallas, TX. 2019.
15. [International] Tlimat, A., **Kats, D.J.**, Perzynski, A., Tarabichi, Y. A Temporal Analysis of Variation in Smoking Intensity in the Cleveland Area by Strata of Neighborhood Socioeconomic Deprivation. American Thoracic Society International Conference; Dallas, TX. 2019.
16. [International] **Kats, D.J.**, Thornton, J.D., Kaelber, D.C., Tarabichi, Y. Structured Smoking Exposure Variability in the Electronic Health Record Hurts Lung Cancer

Screening Practices. American Thoracic Society International Conference; San Diego, CA. 2018.

17. [Local] **Kats, D.J.**, Gollapalli, D., Dang, Y., Hedstrom, L. Moonlighting Interactions of IMPDH Affect *Escherichia coli* Growth. SciFest V; Waltham, MA. 2015. (Poster #2015.421)
18. [Local] **Kats, D.J.**, Gollapalli, D., Dang, Y., Hedstrom, L. Moonlighting Interactions of *Escherichia coli* IMPDH. SciFest IV; Waltham, MA. 2014. (Poster #2014.311)

Non-Peer-Reviewed

19. **Kats, D.J.**, Lie, S. Sexually Transmitted Infections. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
20. **Kats, D.J.** EKG Basics. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
21. **Kats, D.J.** Arrhythmias: Bradycardia. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
22. **Kats, D.J.** Arrhythmias: Wolff-Parkinson White. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
23. **Kats, D.J.** Cardiac Infection and Inflammation: Kawasaki Disease. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
24. **Kats, D.J.**, Olshan, K. Constipation. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
25. Diacovo, N., **Kats, D.J.** Nausea. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
26. **Kats, D.J.** COVID-19. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
27. **Kats, D.J.** Multisystem Inflammatory Syndrome in Children. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
28. **Kats, D.J.** Multi-Drug Resistant Organisms. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
29. **Kats, D.J.** Table of Common Infections. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
30. **Kats, D.J.** Altered Mental Status. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
31. **Kats, D.J.** Examination of the Newborn. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
32. **Kats, D.J.** Hyperbilirubinemia of the Newborn. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
33. **Kats, D.J.** Pain Management: Opioids. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.
34. **Kats, D.J.** Other Symptom Management: Nausea, Constipation, Dyspnea. Massachusetts General Hospital *for* Children Resource Book Pediatric Housestaff Manual. 2021.

35. **Kats, D.J.** Lung cancer risk stratification, Down syndrome, and epileptic spasms: A journey through informatics, healthcare disparities, and quality improvement [MD thesis]. Cleveland, OH: Case Western Reserve University School of Medicine. 2020.
36. **Kats, D.J.** Inosine 5'-monophosphate dehydrogenase: A collection of mysterious binding sites and regulation [BS honors thesis]. Waltham, MA: Brandeis University. 2016.

CURRENT LICENSURE AND CERTIFICATION

- USMLE Step 1, Passed (240, 1 attempt) April 17, 2018
- USMLE Step 2 CS, Passed (1 attempt) November 1, 2019
- USMLE Step 2 CK, Passed (235, 1 attempt) November 30, 2019
- USMLE Step 3, Passed (221, 1 attempt) December 22 & 29, 2020
- American Academy of Addiction Psychiatry MAT Waiver Course (8 hours) April 11, 2020
- [Middlesex Children's Advocacy Center's Mandated Reporter Training](#) April 16, 2021
- [Massachusetts Chapter 260 Training](#) March 4, 2022

INSTITUTIONAL SERVICE

Pediatric Rapid Response Team Quality Improvement Project,

Massachusetts General Hospital *for* Children

Member, Resident Representative

December 2021 – Present

Housestaff Quality & Patient Safety Committee, Massachusetts General Hospital

Pediatrics Representative

August 2021 – Present

- Nominated by the Pediatrics Program Director, Quality Chair, and Chief Residents

Wards Redesign Process Improvement, Massachusetts General Hospital *for* Children

PGY-1 Representative

March – August 2021

- Represented the PGY-1 residents' interests during the Wards Redesign improvement project together with Nursing, PT, OT, SLP, Pharmacy, and Case Management

Advocacy Committee, Massachusetts General Hospital *for* Children

Member

2020 – 2022

- Organized residency-wide advocacy events, culminating in [Residents and Fellows Day at the State House](#)

Interpreter Accessibility, Massachusetts General Hospital

November 2020 – Present

- Worked with Interpreter Services, the Chief Medical Information Officer, and the Director of Health Information Services
- Was the lead clinician for implementing a new interpreter mobile application

Advocacy Cause of the Month, Massachusetts General Hospital *for* Children

Organizer

November – February 2020

- Planned the “Reproductive Health and Teen Pregnancy” Cause of the Month
- Organized a noon conference: “The History, Current Status, & Future Directions of Family Planning/Abortion Laws in Massachusetts” by Jen Childs-Roshak, MD, MBA

Student Committee on Admissions, Case Western Reserve University School of Medicine
Co-Chair January 2017 – January 2018

Peer Handoff, Case Western Reserve University School of Medicine
Volunteer July 2017

Diversity Planning Committee, Case Western Reserve University School of Medicine
Member June – July 2017

EDUCATION OF PATIENTS AND COMMUNITY

Lectures/Workshops

1. [Local] **Kats, D.J.** Clinical Hospital Jobs. Boston International Newcomers Academy. Boston, MA. November 2021.
2. [Local] **Kats, D.J.** A Day in the Life of a Resident Physician. Boston International Newcomers Academy. Boston, MA. November 2021.
3. [Local] **Kats, D.J.** Human Papillomavirus. Boston International Newcomers Academy. Boston, MA. May 2021.

Patient Education Materials

4. **Kats, D.J.** www.KatsMD.com. 2020 – Present.
5. **Kats, D.J.**, Smith, M. Autoimmune Neutropenia. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
6. **Kats, D.J.**, Smith, M. Bleeding Disorders. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
7. **Kats, D.J.**, Smith, M. Immune Thrombocytopenic Purpura. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
8. **Kats, D.J.**, Smith, M. Inherited Thrombophilia. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
9. **Kats, D.J.**, Smith, M. Iron Deficiency. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
10. **Kats, D.J.**, Smith, M. Thalassemia Trait. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
11. **Kats, D.J.**, Smith, M. von Willebrand Disease. Massachusetts General Hospital *for* Children Hematology & Oncology Patient Education. 2021.
12. **Kats, D.J.** www.DanceKats.com. 2019.

LEADERSHIP AND COMMUNITY SERVICE

Boston International Newcomers Academy, Boston, MA
Volunteer May, November 2021

- Lectures: see EDUCATION OF PATIENTS AND COMMUNITY #1, 2, 3

Prison Book Program, Quincy, MA

Volunteer

October 2019

- Selected and packaged books for prisoners around the U.S., according to their requests

Southwest Corridor Park Conservancy, Boston, MA

Volunteer

October 2019

Youth Build Boston, Roxbury, MA

Volunteer

April 2019

- Tutored out-of-school youth studying for a high school equivalency exam

American Red Cross of Eastern Massachusetts Food Pantry, Boston, MA

Volunteer

December 2018

X-Cel Education, Dorchester, MA

Volunteer

December 2018

- Tutored math to adults studying for a high school equivalency exam

Greater Boston Food Bank, Boston, MA

Volunteer

December 2018

Tech Goes Home, Dorchester and Roxbury, MA

Volunteer

December 2018 – January 2019

- Assisted adults learning fundamental computer skills

Fairfax Four Corner Program, Cuyahoga County Juvenile Detention Center

Coordinator

September 2018 – October 2018

- Helped develop a community service program in which medical students run weekly lessons for children in the Juvenile Detention Center as a formal class through the Cleveland Metropolitan School District

Sex Education, Cuyahoga County Juvenile Detention Center

Volunteer

October 2017 – February 2018

- Taught a three-day sex education curriculum to children in a juvenile detention center

Anatomy Camp, Case Western Reserve University School of Medicine

Volunteer

October – November 2017

- Taught Cleveland middle and high school students general principles of biology related to the healthcare field

Student Run Health Clinic, Case Western Reserve University School of Medicine

Volunteer

June 2017 – February 2018

Doc Opera (Fundraiser), Case Western Reserve University School of Medicine

Dancer (1 performance)

August – December 2017

Dancer (3 performances)

August – December 2016

- Danced in three performances during 2016: cha-cha, Bollywood fusion, and hip-hop
- Danced in one performance during 2017: fusion dance consisting of Bhangra, Bharatanatyam, and Kathak

Sex Education, American Medical Women's Association

Volunteer

November 2016 – December 2017

- Taught a three-day sex education curriculum to underserved Cleveland middle school students
- Helped incorporate education on consent into the curriculum

SPECTRUM, Waltham Group, Brandeis University, Waltham, MA

Coordinator

November 2014 – May 2016

Volunteer

September 2012 – November 2014

- Ran weekly tutoring, mentoring, and playgroup (with parent social group) programs
- Received [Waltham Special Education Parent Advisory Council's Rising Star](#) (2015) and [Kelly Beaumont-Mazzarini Inclusion](#) (2016) awards
- Received [Greater Waltham Arc's "Rags" LaCava Community Service Award](#) (2015)
- Grew volunteer base from thirty to sixty members

SKILLS

- Programming in R, Python, Java, and MATLAB
- Basic web development: HTML, CSS, and JavaScript
- Document typesetting: \LaTeX

LANGUAGES

- Russian: fluent (certified as Qualified Bilingual Staff at MGH)
- Spanish: can moderately understand, but speech is limited
- American Sign Language: brief exposure, very limited vocabulary

INTERESTS

Bollywood films and dance, ballroom dancing, computer programming, baseball, cycling, hiking, and skiing