
Kasthuri Kannan

Assistant Professor of Pathology, New York University

<https://kannan-kasthuri.github.io/>

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Professional Interests

Genomics/Epigenomics (cancer), Mathematical Modeling, Teaching ([Data science](#))

Appointments

Start	End	Position	Employer
Nov. 2013	-	Assistant Professor of Pathology	New York University, New York
		Investigator, Genome Technology Center	New York University, New York

Previous

Start	End	Position	Employer
Apr. 2011	Nov. 2013	Research Fellow/Associate	Memorial Sloan-Kettering Cancer Center, New York
Oct. 2010	Apr. 2011	Research Associate	Pennsylvania State University, State College
Jan. 2008	Oct. 2010	Research Specialist	Stowers Institute for Medical Research, Kansas City
Jan. 2007	Dec. 2007	Internship	Knowledge Based Systems, Inc. College Station

Education

Period	Degree	Institution
2002-2008	PhD Computer Science	Texas A&M University, College Station
2000-2002	MS Mathematics	Texas A&M University, College Station
1998-2000	MSc Mathematics	Indian Institute of Technology, Madras
1995-1998	BSc Mathematics	University of Madras, Chennai

Skills Summary

Applied	Software
Genomics, Computational Biology	Python, Scripts(Perl/Bash), C/C++, PHP, HTML, SQL, LaTeX
Algorithms, Programming	Matlab, IDL, OpenOffice, Visual Studio
Mathematical Modeling, Statistics	MySQL, PostgreSQL, MS Access
Image Processing, Data Science	Unix, Linux variants, Windows (all versions)

Invited Talks

CancerCon 2018. Feb. 1-Feb. 3, 2018

Institute of Mathematical Sciences, Chennai. Feb. 8, 2018 (with honorarium)

Publications (blue - equal contribution/senior/first author)

- [19] **Matija Snuderl, Kasthuri Kannan** et al. (corresponding author: Matthias A. Karajannis). Recurrent homozygous deletion of DROSHA and microduplication of PDE4DIP containing the ancestral DUF1220 domain in pineoblastoma. *Nature Communications* (accepted, to appear).
- [18] **Daniel Friedman, Kasthuri Kannan**, Arline Faustin, Seema Shroff, Cheddi Thomas, Adriana Heguy, Jonathan Serrano, Matija Snuderl, Orrin Devinsky. Cardiac Arrhythmia and Neuroexcitability Gene Mutations in resected brain tissue from patients with Sudden Unexpected Death in Epilepsy. *Nature Genomic Medicine*. Mar. 2018 (to appear).
- [17] Carla Danussi, Promita Bose, Prasanna Parthasarathy, Pedro Silberman, John Van Arnem, Mark Vitucci, Oliver Tang, Adriana Heguy, Yuxiang Wang, Timothy Chan, Gregory Riggins, Erik Sulman, Frederick Lang, Chad Creighton, Benjamin Deneen, C Miller, David Picketts, **Kasthuri Kannan**, and Jason Huse. Atrx inactivation drives disease-defining phenotypes in glioma cells of origin through global epigenomic remodeling. *Nature Communications*. Mar. 2018. [PMID: 29535300]
- [16] David Capper et al. *somewhere in the middle* **Kasthuri Kannan**, (corresponding author: Stefan M. Pfister). DNA methylation-based classification of human central nervous system tumors. *Nature*. Mar. 2018. [PMID: 29539639]
- [15] Fanok, Melania H; Sun, Amy; Fogli, Laura K; Narendran, Vijay; Eckstein, Miriam; **Kannan, Kasthuri**; Dolgalev, Igor; Lazaris, Charalampos; Heguy, Adriana; Laird, Mary E; Sundrud, Mark S; Liu, Cynthia; Kutok, Jeff; Lacruz, Rodrigo S; Latkowski, Jo-Ann; Aifantis, Iannis; Odum, Niels; Hymes, Kenneth B; Goel, Swati; Koralov, Sergei B. Role of dysregulated cytokine signaling and bacterial triggers in the pathogenesis of Cutaneous T Cell Lymphoma. *Journal of Investigative Dermatology*. Nov. 2017. [PMID: 29128259]
- [14] **Kasthuri Kannan** and Adriana Heguy. Why do mutant allele frequencies in oncogenes peak around .40 and rapidly decrease? *Letters In Biomathematics*. Sept. 2016. [Link]
- [13] Snyder A, Makarov V, Merghoub T, Yuan J, Zaretsky JM, Desrichard A, Walsh LA, Postow MA, Wong P, Ho TS, Hollmann TJ, Bruggeman C, **Kasthuri Kannan**, Li Y, Elipenahli C, Liu C, Harbison CT, Wang L, Ribas A, Wolchok JD, Chan TA. Genetic basis for clinical response to CTLA-4 blockade in melanoma. *N Engl. J Med*. Dec. 2014. [PMID: 25409260]
- [12] Marsha Reyngold, Sevin Turcan, Dilip Giri, **Kasthuri Kannan**, Logan A. Walsh et al. Remodeling of the Methylation Landscape in Breast Cancer Metastasis. *PLoS One*. Aug. 2014. [PMID: 25083786]
- [11] Gerber NK, Goenka A, Turcan S, Reyngold M, Makarov V, **Kasthuri Kannan**, Beal K, Omuro A, Yamada Y, Gutin P, Brennan CW, Huse JT, Chan TA. Transcriptional diversity of long-term glioblastoma survivors. *Neuro Oncol*. Sept. 2014. [PMID: 24662514]
- [10] **Allen S. Ho, Kasthuri Kannan**, David Roy, Luc G.T. Morris, Nora Katabi, Stephanie Eng, et al. The Mutational Landscape of Adenoid Cystic Carcinoma. *Nature Genetics*. July 2013. [PMID: 23685749]
- [09] Ian Ganly, Julio Ricarte Filho, Stephanie Eng, Ronald Ghossein, Luc G. T. Morris, Yupu Liang, Nicholas Socci, **Kasthuri Kannan**, Qianxing Mo, James A. Fagin, and Timothy A. Chan, Genomic Dissection of Hurthle Cell Carcinoma Reveals a Unique Class of Thyroid Malignancy. *The Journal of Clinical Endocrinology & Metabolism*. May 2013. [PMID: 23543667]
- [08] Luc G.T. Morris, Andrew M. Kaufman, Yongxing Gong, Deepa Ramaswami, Logan A. Walsh, Sevin Turcan, Stephanie Eng, **Kasthuri Kannan**, Yilong Zou, et al., Frequent mutation of the Drosophila tumor suppressor-related gene FAT1 in multiple human cancers leads to aberrant Wnt activation. *Nature Genetics*. Mar. 2013. [PMID: 23354438]
- [07] **Kasthuri Kannan**, Akiko Inagaki, Joachim Silber, Daniel Gorovets, Jianan Zhang, et al. Whole exome sequencing identifies ATRX mutation as a key molecular determinant in lower-grade glioma. *Oncotarget*. Oct. 2012. [PMID: 23104868]
- [06] **Daniel Gorovets, Kasthuri Kannan**, Edward R Kasthuber, Nasrin Islam- doust, Carl Campos, et al. IDH Mutation and Neuroglial Developmental Features Define Clinically Distinct Subclasses of Lower-Grade Diffuse Astrocytic Glioma. *Clinical Cancer Research*. May 2012. [PMID: 22415316]
- [05] Amitabha Majumdar, Wanda Colón Cesario, Erica White-Grindley, Huoqing Jiang, Fengzhen Ren, Mohammed “Repon” Khan, Liying Li, Edward Man-Lik Choi, **Kasthuri Kannan**, Fengli Guo, Jay Unruh, Brian Slaughter, Kausik Si. Critical Role of Amyloid-like Oligomers of Drosophila Orb2 in the Persistence of Memory. *Cell*. Feb. 2012. [PMID: 22284910]
- [04] Yan Hao, Ningyi Xu, Andrew Box, Laura Schaefer, **Kasthuri Kannan**, et al. Nuclear cGMP-Dependent Kinase Regulates Gene Expression via Activity-Dependent Recruitment of a Conserved Histone Deacetylase Complex. *PLoS Genetics*. May 2011. [PMID: 21573134]
- [03] **Kasthuri Kannan** and Vivek Sarin, A Treecode for Potentials of the Form $r^{-\lambda}$, *International Journal of Computer Mathematics*. 84, 1249-1260, Jan. 2007.
- [02] **Kasthuri Kannan** and Vivek Sarin, A Treecode for Accurate Force Calculations. *Lecture Notes in Computer Science*. 3991, pp. 92-99, May 2006.
- [01] **Kasthuri Kannan**, Hemant Mahawar and Vivek Sarin, A Multipole Based Treecode using Spherical Harmonics for the Potentials of the Form $r^{-\lambda}$. *Lecture Notes in Computer Science*. 3514, pp. 107-114, May 2005.

Teaching (Course Director)

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1. [Programming for Data Analysis](#)
 2. [Methods in Quantitative Biology](#)
 3. [Machine Learning](#)
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Reference

Upon request

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