

Kamala Visweswaran
OH Th 2-3:30
Mandeville Cafe

ETHN 102: Science and Technology: Race/Gender/Class

TuTh 1230-150p

Mandeville B-104

Since the facebook and Cambridge Analytica scandals emerging from of the 2016 U.S. elections, issues of privacy, surveillance, and security have come to the forefront of public debates about machine learning and artificial intelligence. At the same time, advances in gene editing biotechnologies have yielded “CRISPR babies” and raised a series of ethical questions about ownership, consent, eugenics, and editing the human genome. This course explores these debates through the scholarship on biocapital, surveillance capitalism, and the “informatization” of society, as well the scientific and policy literature. It offers an interdisciplinary and transnational examination of scientific practice and knowledge with a particular emphasis on case studies from India, China, and the U.S. where debates about digitization, algorithmic fairness, and gene editing have been playing out. We will examine how science and technology is both shaped by and influences social differences, including race, class, gender, and sexual orientation. A central goal of this course is to understand scientific and technical knowledge and practices as forms of knowledge that are situated within the social spheres of difference. We think through notions like scientific objectivity and technological neutrality by examining how research is planned and conducted, and how different applications of scientific and technical knowledge in diverse fields like public health, pharmaceuticals, reproductive technologies, policing and criminology, relate to access and outcomes in different populations and communities. The course develops skills to think critically about ethics debates as they appear in the popular press and scientific literature.

Course Philosophy and Pedagogy

Our class is a space for sincere discussion, respectful dialogue and for the expression of views which may be new and unfamiliar. All class participants are expected to engage in constructive and considerate exchange in the classroom; please avoid disrespectful or harsh language. These ground rules are reflected in the UCSD Principles of Community which we will respect (see <http://wwwvcba.ucsd.edu/principles.htm>).

This class is intended to work as a discussion-intensive seminar and **there may be 60-80 pages of reading in a given week**. The course may be challenging for those who have not yet been introduced to ethnic studies and/or critical gender studies in high school or otherwise. It may also be challenging for those whose study time is juggled between parenting, work, activist and other obligations. However, every student invested in regularly attending class and keeping up with reading assignments can earn a high grade.

ESL Needs: Some students will need to utilize office hours in order to get extra background and direction on the material. ESL students are highly encouraged to consult the resources at the OASIS center (858)534-3760 in order to earn full points on assignments. Please seek out and utilize these resources as the need arises.

Undocumented Student Needs: For students who may be undocumented or from mixed status families, I am available to have confidential discussions about your circumstances and to make adjustments to class assignments to accommodate your needs. Please also seek out and utilize resources at the Undocumented Student Resource Center (858) 822-6916 <https://students.ucsd.edu/sponsor/undoc/>

ADA Accommodation: If you have a disability or condition that compromises your ability to complete the requirements of this course, please inform me within one week of joining the class of your needs. I will make all reasonable efforts to accommodate you. If, as a result of a disability, you are unable to work with the content or terms of this syllabus, you will need to notify me in writing within one week of receiving it. Please also visit the Office of Students with Disabilities: <https://students.ucsd.edu/well-being/disability-services/index.html>
Student Veteran Needs: Students who are veterans are encouraged to let me know of their needs and to visit the Student Veteran Resource Center: <https://students.ucsd.edu/sponsor/veterans/>

Cheating and Plagiarism: All students are expected to uphold academic integrity, and your particular responsibilities can be found at this link: <http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2> . If you are found plagiarizing someone's assignment or use the internet inappropriately, your infraction will be referred to the Office of Academic Integrity for disciplinary action as per policy at the above link.

Email communication etiquette: Your course instructor can respond to emails addressed with an appropriate greeting and closing between 9am-5 pm M-F. I may not be able to respond to email sent over the weekend or after hours. If you need to be absent for a class please let me know. If you have any questions about the readings we didn't get to in class, please visit me during office hours!

Electronic Devices: Unless you have an ADA accommodation, you will be expected to turn off your computers and other electronic devices while in class except when the instructor asks you to use them for an in-class activity or assignment. Studies show use of these devices and other forms of "multi-tasking" may inhibit retention and distract from your ability to learn new material efficiently.

Course Format

The course is structured so that each week we will be reading about a contemporary debate from different perspectives. Students are required to come to class having read the readings.

Class Assignments and Grading

30% Class participation (10% pop quizzes; 20% discussion and facilitation)

35% In class exam on May 7, 2019

35% Take home final essay exam due June 13, 2019 by 5 pm.

Note: Graduate students or advanced undergraduates may elect a 12-15 pg. research paper option to count for 70% of their grade upon consultation with the instructor. Those electing the research

paper option should let the instructor know well before the mid-term what topic they will be writing on. Students are encouraged to submit possible essay questions for the exams.

Participation: Attendance is mandatory and constitutes your participation grade. A maximum of 2 excused absences (with note) is permitted.

Pop quizzes: A correct answer passes and an incorrect answer does not. Pass=retaining your participation points. No pass=one point removed from participation grade at end of course for each no pass.

Extra Credit: Students may attend HDSI, Science Studies or other lectures approved by the instructor to make up for missed quizzes. EC will be applied to your class participation grade.

Discussion leaders: During the course, each student must prepare to lead discussion once during the quarter on a given week's readings. Each class meeting will have 1-2 facilitators; the discussion leader/s will share their discussion questions that connects to that day's assigned readings.

Midterm Exam: Available 24 hr ahead; due in class; short answer and short essay questions

Final Take-Home Exam: Short essays OR 1,500 word research essay on topic related to course material. Exam distributed on June 7, 2019.

Scheduled Readings

I. Digitalization, Biometrics, Privacy and Surveillance Debates

Ap. 2 (T)

Introduction: What is Critical Science Studies?

(Haraway, Latour, Omi and Winant)

Safiya Noble, Algorithms of Oppression

<https://www.youtube.com/watch?v=Q7yFysTBpAo>

Ap. 4 (Th) What is the QInformation Civilization and Surveillance Capitalism?

recommended:

Soshana Zuboff. 2015. "Surveillance Capitalism and the Prospects of an Information Civilization" *Journal of Information Technology*. 30:75-89

<https://www.lrb.co.uk/v39/n16/john-lanchester/you-are-the-product>

Ap. 9 (T) Data Technology and Racial Profiling

Cathy O'Neil, Ch. 5 "Civilian Casualties: Justice in the Age of Big Data" in *Weapons of Math Destruction*. NY: Broadway Books/Penguin.

“Machine Bias” Pro/Publica Report <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>

Julia Dressel and Hany Farid. “The accuracy, fairness, and limits of predicting recidivism”
Sci. Adv. 2018;4:5580 17 January 2018

recommended:

<https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm>

EXTRA CREDIT:

Decolonising Knowledge and the Internet: The Dalit Bahujan Experience

In this conversation between Thenmozhi Soundararajan ([Equality Labs](#)), Anasuya Sengupta ([Whose Knowledge?](#)), and Lilly Irani ([UC San Diego Communication](#)), we will explore notions and practices of decolonising knowledge, specifically in centering the knowledges of marginalised communities online. Marking April as Dalit History Month, Thenmozhi will define and locate debrahminization, and detail debrahminizing processes undertaken by the Dalit Bahujan communities in India and the United States. Anasuya will offer a framework of allyship and solidarity practices that supports this work and other forms, on Wikipedia, in oral archives, and beyond. Lilly will facilitate a discussion between them that looks at the political and emotional economies of these battles against epistemic injustice, and invite the audience to think seriously about our individual and collective actions towards epistemic justice.

Apr 9, 2019 at 5:00 pm [Geisel Library, Seuss Room](#)

Ap. 11 (Th) Data Technology and Sexuality Profiling

Yilun Wang and Michal Kosinski “Deep neural networks are more accurate than humans at detecting sexual orientation from facial images” *Journal of Personality and Social Psychology* Vol. 114, No. 2; February 2018. <https://psyarxiv.com/hv28a/>

<https://greggormattson.com/2017/09/09/artificial-intelligence-discovers-gayface/>
https://motherboard.vice.com/en_us/article/mg9vvn/how-our-likes-helped-trump-win

Recommended:

<https://www.economist.com/science-and-technology/2017/09/09/advances-in-ai-are-used-to-spot-signs-of-sexuality>

<https://theoutline.com/post/2228/that-study-on-artificially-intelligent-gaydar-is-now-under-ethical-review-michal-kosinski?zd=1&zi=wo23it6v>

<https://www.nbcnews.com/feature/nbc-out/controversial-ai-gaydar-study-spawns-backlash-ethical-debate-n801026>

<https://www.psychologytoday.com/us/blog/your-online-secrets/201709/can-ai-detect-sexual-orientation-photos>

[https://datasociety.net/wp-content/uploads/2018/09/AI-Systems-and-Research-Revealing-Sexual-Orientation Case-Study Final.pdf](https://datasociety.net/wp-content/uploads/2018/09/AI-Systems-and-Research-Revealing-Sexual-Orientation_Case-Study_Final.pdf)

Ap. 16 (T) What Happened in the US 2016 Elections?

“ALGORITHMIC ACCOUNTABILITY: Applying the concept to different country contexts” Report of the World Wide Web Foundation, July 2017

- I. <https://www.scientificamerican.com/article/the-internet-knows-you-better-than-your-spouse-does/>
<https://www.theatlantic.com/technology/archive/2018/03/the-cambridge-analytica-scandal-in-three-paragraphs/556046/>
<https://arstechnica.com/tech-policy/2018/03/facebooks-cambridge-analytica-scandal-explained/>
<https://www.wired.com/story/cambridge-analytica-facebook-privacy-awakening/>
- II. <https://www.newknowledge.com/articles/the-disinformation-report/>
https://cdn2.hubspot.net/hubfs/4326998/ira-report-rebrand_FinalJ14.pdf

Recommended:

<https://cdn2.hubspot.net/hubfs/4326998/SSCI%20Presentation%20final.pdf>

Ap. 18 (Th) What Happened in India: Unique ID (UID)

Reetika Khara and K. Muralidharan podcast Feb 14, 2019

<https://podcast.ucsd.edu/Podcasts/Default.aspx?PodcastId=5627&l=30&v=1>

Reetika Khara, “Impact of Aadhaar on Welfare Programs;” “Aadhaar and Privacy” Jean Dreze, “A Unique Identity Dilemma” and Usha Ramanathan, “Aadhaar from Welfare to Profit” in *Dissent on Aadhar* Delhi: Oreint/Blackswan

Recommended: A. Yadav, “On the Margins of Aadhar” and S. Bej, “Is Aadhaar like the Social Security Number?”

<https://whoseknowledge.org/wp-content/uploads/2018/11/OurStoriesOurKnowledges-Part1.pdf>

Ap. 23 (T) Digitalization and Bioinformatics

PETER A. CHOW-WHITE “The Informationalization of Race: Communication, Databases, and the Digital Coding of the Genome” in *Genetics and the Unsettled Past: The Collision of DNA, Race, and History* Keith Wailoo, et. al (eds). Rutgers University Press.

Recommended

Ruha Benjamin, "The Emperor's New Genes: Science, Public Policy and the Allure of Objectivity" *ANNALS, AAPSS*, 661, September 2015

Ap. 25 (Th)

Kaushik SundarRajan. "Introduction" *Biocapital*. Duke University Press.

Ap. 30 (T) Genetic Ancestry Testing

Nelson, Alondra. 2008. "Bio Science: Genetic Genealogy Testing and the Pursuit of African Ancestry." *Social Studies of Science* 38:759-783.

<https://www.scmp.com/news/hong-kong/health-environment/article/3007160/hong-kong-gene-test-companies-under-probe-after>

May 2 (Th)

Jenny Reardon and Kim TallBear "Your DNA Is Our History": Genomics, Anthropology, and the Construction of Whiteness as Property" *Current Anthropology*, Vol. 53, No. S5:S233-S245

May 7 (T) MIDTERM EXAM

II. Biomedical Subjects, Objects, and Ethics

May 9 (Th) Before and After the Nuremberg Code

James Jones, "The Tuskegee Syphilis Experiment." in Sandra Harding, *The Racial Economy of Science*. Indiana Univ. Press, 1993. Pp. 275-286

Lara Marks. 2008. "Human guinea pigs? The history of the early oral contraceptive clinical trials" *History and Technology* 15:4, 263-288.

Recommended:

<https://www.nejm.org/doi/full/10.1056/NEJM199711133372006>

https://www.washingtonpost.com/news/retropolis/wp/2017/05/16/youve-got-bad-blood-the-horror-of-the-tuskegee-syphilis-experiment/?utm_term=.21480d4b0d28

https://www.washingtonpost.com/news/retropolis/wp/2017/05/09/guinea-pigs-or-pioneers-how-puerto-rican-women-were-used-to-test-the-birth-control-pill/?noredirect=on&utm_term=.5053451f84ed

<https://www.thecrimson.com/article/2017/9/28/the-bitter-pill/>

<https://www.pbs.org/wgbh/americanexperience/features/pill-puerto-rico-pill-trials/>

May 14 (T)

Kaushik Sundarrajan. 2017 “HPV Vaccines, Public Scandal and Experimental Subjectivity” in *The Scandal of the Trial*. Duke university Press.

Recommended:

“Conducting Clinical Trials in India.” Samiran Nundy, M.Chir., and Chandra M. Gulhati, M.D., D.T.M.&H. *New England Journal of Medicine*. 2005; 352:1633-1636.

<https://www.nejm.org/doi/full/10.1056/NEJMp048361>

May 16 (Th) The History of HeLa

Film: “The Immortal Life of Henrietta Lacks” (HBO; 2017) 93 min.

May 21 (T)

Hannah Landecker. 2000. “Immortality in Vitro; A History of the HeLa Cell Line” in Paul Brodwin (ed). *Biotechnology and Culture*. Indiana University Press. Pp. 52-73

Recommended:

Lisa H. Weasel “Feminist Intersections in Science: Race, Gender and Sexuality through the Microscope” *Hypatia*. vol. 19, no. 1 (Winter 2004) 83-103.

https://www.washingtonpost.com/news/retropolis/wp/2017/04/22/when-henrietta-lacks-was-diagnosed-with-cervical-cancer-it-was-a-death-sentence-her-cells-would-help-change-that/?utm_term=.f4d74cc158b0

May 23(Th)

Priscilla Wald. 2012. “[Cells, Genes, and Stories: HeLa’s Journey from Labs to Literature](#)” (pp. 247-265) in *Genetics and the Unsettled Past: The Collision of DNA, Race, and History* Keith Wailoo, et. al (eds). Rutgers University Press.

Recommended:

<http://www.bio-itworld.com/2013/08/07/henrietta-compromise-nih-announces-hela-data-use-agreement.html>

https://www.washingtonpost.com/news/retropolis/wp/2018/06/25/can-the-immortal-cells-of-henrietta-lacks-sue-for-their-own-rights/?utm_term=.bdca24fd455c

<https://www.reuters.com/article/us-science-hela/for-henrietta-lacks-famous-cells-new-and-unique-protection-idUSBRE9760YD20130807>

May 28 (T) CRISPR Editing of Human Genome

Eric Lander. 2016. "The Heroes of CRISPR" *Cell* 164: 18-27, January 14, 2016

<https://www.scientificamerican.com/article/first-crispr-babies-6-questions-that-remain/>

<https://www.nature.com/articles/d41586-019-00726-5>

<https://phys.org/news/2019-03-crispr-gene-science.html>

<https://www.technologyreview.com/s/612997/the-crispr-twins-had-their-brains-altered/>

<https://www.wired.com/story/he-jiankui-crispr-babies-bucked-own-ethics-policy/>

Recommended:

<https://www.theatlantic.com/science/archive/2018/12/15-worrying-things-about-crispr-babies-scandal/577234/>

<https://www.youtube.com/watch?v=tLZufCrjrN0>

Hong Ma, et.al. 2017. "Correction of a pathogenic gene mutation in human embryos" *Nature*, August 2017. doi:10.1038/nature23305

Pricilla Song, 2018. *Biomedical Odysseys Fetal Cell Experiments from Cyberspace to China*. Princeton University Press. Introduction

May 30 (Th)

Film: DNA Dreams (VPRO Documentary, 2015) 54 min

<https://www.youtube.com/watch?v=1dVv5RMwzuo>

June 4 (T)

Aiwha Ong, "The Athlete Gene in China's Future" in *Fungible Life: Experiment in the Asian City of Life*, Duke University Press, 2016.

June 6 (Th)

Winnie Wong, **Speculative Authorship in the City of Fakes**, *Current Anthropology* [Volume 58, Number S15 | February 2017](#)

Final Exams Due June 13, 5 pm