

## VAYU HILL-MAINI (FORMERLY MAINI REKDAL)

Vayu [dot] mr [at] gmail [dot] com | <http://vayuhillmaini.com>

### EDUCATION

2020

**Ph.D, Biochemistry, Harvard University**

Dissertation title: *Discovery and Characterization of Gut Microbial Enzymes Involved in Xenobiotic Metabolism* (research performed in lab of Emily Balskus)

- Dissertation awarded the International Birnstiel Award for Doctoral Studies in Molecular Life Sciences, as one of a handful winners from hundreds of nominees from around the world

2015

**B.A, Biology and Chemistry, *summa cum laude*, Carleton College**

### RESEARCH EXPERIENCE

2020-present

**University of California Berkeley**

**Fall 2023-present: Postdoctoral Fellow, laboratory of Jay Keasling**

Continuing to build synthetic biology tools for edible fungi to improve the food system; culinary R&D with restaurant partners for waste-to-food upcycling

**Fall 2020-2023: Miller Fellow**

Main faculty host: prof. Jay Keasling. Harnessing filamentous fungi for sustainable food production; CRISPR/Cas9 to engineer the texture and flavor of mycelium; fungal fermentation of food waste; gastronomic innovation with fungi

Spring of 2023

**Visiting Researcher, University of Tsukuba, Japan**

Visiting researcher in Japan learning about fermentation using the koji mold *A. oryzae*: from traditional foods to modern meat alternatives

Spring of 2022

**Cultured Pickle Shop, Berkeley**

Trained as stage in traditional fermentation of plants, focused mainly on Japanese techniques and approaches

Winter of 2022

**Blue Hill at Stone Barns, New York**

Invited as the first-ever visiting scholar to the interdisciplinary food and agriculture center Stone Barns working in partnership with 2-Michelin-star restaurant Blue Hill. Taught classes on fungi and food to farmers, chefs, food producers, and the public. Led work with preservation lab on fungal food waste transformation and initiated cross-disciplinary research collaborations

Fall of 2021

**Alchemist Restaurant, Copenhagen**

Worked with R&D team of 2-Michelin star restaurant to create new fungal flavors and textures, including two new dishes for menu.

Built microbiology capacity and infrastructure in the restaurant and trained staff in basic techniques, including solid state fermentation and bioreactor growth

2016-2020

**Laboratory of Emily Balskus, Department of Chemistry and Chemical Biology, Harvard University**

- Combined chemistry and microbiology to elucidate gut microbial metabolism of host neurotransmitters, pharmaceutical drugs, and dietary plant molecules
- Fall of 2019 **bCulinaryLab, Basque Culinary Center**  
Research project on microbial fermentation of food waste and wild plants into culinary products
- Summer of 2014 **Laboratory of Emily Balskus, Department of Chemistry and Chemical Biology, Harvard University**  
Research project on microbial metabolism of isoflavones from diet
- Summer, Winter 2013 **Laboratory of Joe Szurszewski, Department of Physiology & Biomedical Engineering, Mayo Clinic**  
Research on interactions between gut microbiota, diet, and host physiology
- Winter 2012 **Laboratory of Amy Rowat, Department of Integrative Biology, UCLA**  
Research project on aroma extraction from culinary herbs
- Summer 2012 **Department of Research, Alicia Foundation**  
Molecular gastronomy recipe development and testing for a book on culinary texturizers, conducted at institute founded by world-renowned chef Ferran Adria

#### **OTHER RELEVANT PROFESSIONAL EXPERIENCE**

- 2023-present **Food Innovation Consultant**  
Advising for Fortune-500 companies, start-ups, Michelin-starred restaurants, on fermentation-focused solutions for sustainability, nutrition, and flavor
- Summer of 2018 **Strategies and Techniques for Analyzing Microbial Populations course, Woods Hole Oceanographic Institution**  
Course on computational analysis and identification of microbial communities
- 2014-2022 **Science and Cooking Columnist, ChopChop Magazine**  
Contributed quarterly articles on science and cooking, reaching three million families annually.
- 2011-2015 **Private Chef, Northfield Kitchen (<http://northfieldkitchen.wordpress.com>)**  
Hosted cooking classes and catered events for 10-200 guests
- Summer 2012 **Sous Chef, Abbekas Hamnkrog (Abbekas, Sweden)**
- 2010-2011 **Head of Culinary Product and Concept Development, A Strange Matter (NYC)**  
Developed new menu for Tiny's Giant Sandwich Shop, Increasing Sales 200% and earning favorable reviews in New York Times ("Best Veggie Burgers in Manhattan", Serious Eats.
- Fall 2010 **Prep Cook, Red Rooster Harlem (Chef Marcus Samuelsson) (NYC)**
- 2009-2010 **Founder and Cookery Coach, MatRatt (Stockholm, Sweden)**

## AWARDS AND HONORS

- **Price for best poster (post-doc), International Fungal Genetics Conference (2022)**
- **International Birnstiel Award for Doctoral Studies in Molecular Life Sciences**, Birnstiel Foundation (2020)
- **Miller Fellowship**, University of California Berkeley (2020)
- **Keystone Future of Science Scholarship (2019)**
- **HHMI Gilliam Fellowship for Advanced Study (2017)**
- **Peralta Award for Outstanding Candidacy Exam Proposal and Defense**, Department of Molecular and Cellular Biology, Harvard University (2017)
- **Ardis and Robert James Fellowship**, Harvard University (2017)
- **Public Service Grant**, COOP of Harvard and MIT (2017)
- **Student Initiative Award**, Harvard Integrated Life Sciences (2016, 2017, 2018)
- **Derek Bok Center Excellence in Teaching Award**, Harvard University (2017)
- **National Science Foundation Graduate Research Fellowship (2015)**
- **James Mill Pierce Fellowship (top incoming Ph.D students in STEM)**, Harvard University (2015)
- **Outstanding Scholar**, NorthStar STEM Alliance (2015)
- **Dean's list (top 10% of class)**, Carleton College (2011-2015)
- **Franz Ezner Award for Excellence in Chemistry**, Carleton College (2015)
- **Second Century Student Award**, Carleton College (2015)
- **Social Justice Fellowship**, Carleton College (2015)
- **Barry M. Goldwater Scholarship (2014)**
- **Patricia V. Damon Scholarship for Excellence (top 1% of junior class)**, Carleton College (2014)
- **Parent's Fund for Academic Excellence**, Carleton College (2014)
- **Class of 1966 Diversity of Achievement Scholarship**, Carleton College (2013, 2014)
- **Summer Science Fellowship**, Carleton College (2013, 2014)
- **Kolenkow-Reitz Fellowship for Research**, Carleton College (2012, 2013)
- **C.R.E.D.O Fellowship**, Carleton College (2012)
- **Student Leadership and Involvement Grant**, Carleton College (2012, 2014)

## PUBLICATIONS (name highlighted in bold; last name was formerly Maini Rekdal)

**Vayu Maini Rekdal**, José Manuel Villalobos-Escobedo, Nabila Rodriguez-Valeron, Mikel Olaizola Garcia, Diego Prado Vásquez, Alexander Rosales, Pia M. Sørensen, Edward E. K. Baidoo, Ana Calheiros de Carvalho, Robert Riley, Anna Lipzen, Guifen He, Mi Yan, Sajeet Haridas, Christopher Daum, Yuko Yoshinaga, Vivian Ng, Igor Grigoriev, Rasmus Munk, Christofora Hanny Wijaya, Lilis Nuraida, Isty Damayanti, Pablo-Cruz Morales, Jay D. Keasling. Multi-omics analysis of a traditional fermented food reveals a byproduct-associated subpopulation of *Neurospora intermedia* for waste-to-food upcycling. *Under Revision (Nature Microbiology)*.

**Vayu Maini Rekdal**, Nabila Rodriguez-Valeron, Mikel Olaizola Garcia, Diego Prado Vásquez, Pia M. Sørensen, Rasmus Munk, Jay D. Keasling. From lab to table: expanding gastronomic possibilities with fermentation using the edible fungus *Neurospora intermedia*. *International Journal of Gastronomy and Food Science* **34** (2023).

**Vayu Maini Rekdal**, Casper R.B. van der Luijt, Yan Chen, Ramu Kakumanu, Edward E. K. Baidoo, Christopher J. Petzold, Pablo Cruz-Morales, Jay D. Keasling. Edible mycelium bioengineered for enhanced nutritional value and sensory appeal using a modular synthetic biology toolkit. *Nature Communications* **15**, 2099 (2024). Research covered by CBS San Francisco, Newsweek, Daily Mail, Discovery Magazine, El Mundo (Spain), and others.

L.J Jahn, **Vayu Maini Rekdal**, M.O.A Sommer. Microbial Foods for improving human and planetary health. *Cell*, S0092-8674(22)01515-X (2023)

**Vayu Maini Rekdal**, P.N Bernadino, M.U Luescher, S. Kiamehr, P.J Turnbaugh, E.N Bess, E.P Balskus. A widely distributed enzyme class enables gut microbial metabolism of plant-and host-derived catechols. *eLife* **9**, e50845 (2020).

**Vayu Maini Rekdal**, E.N Bess, J.E Bisanz, P.J Turnbaugh, E.P Balskus. Discovery and inhibition of an interspecies pathway for gut microbial Levodopa metabolism. *Science* **364**, eaau6323 (2019). *Selected research highlights include:* R. Hitchings and L. Kelly. Drug metabolism as a community effort. *Cell Metabolism* (2019); C. O'Neil. Gut microbes metabolize Parkinson's drug. *Science* (2019); M. Cully. Microbiome therapeutics go small molecule. *Nature Reviews Drug Discovery* (2019); Gut-dwelling bacterium consumes Parkinson's drug. *NIH Director's blog* (2019), Research of the Year. *C&E news* (2019). How microbes shape our response to drugs. *Scientific American* (2020).

R.N Carmody, J.E Bisanz, B.P Bowen, C.F Maurice, S. Lyalina, K.B Louie, D. Treen, K.S Chadaideh, **Vayu Maini Rekdal**, E.N Bess, P. Spanogiannopoulos, Q.Y Ang, K.C Bauer, T.W Balon, K.S Pollard, T.R Northen, P.J Turnbaugh. Cooking shapes the structure and function of the gut microbiome. *Nature Microbiology* (2019). **My specific contribution – designing the menus and cooking for the human intervention study – was featured and discussed in The New York Times:** <https://www.nytimes.com/2019/10/23/health/microbiome-raw-food.html>

E.J Battaglioli, V.L Hale, J. Chen, P. Jeraldo, C. Ruiz-Mojica, B. A Schmidt, **Vayu Maini Rekdal**, L.M Till, L. Huq, S. A Smits, W. J Moor, Y. Jones-Hall, T. Smyrk, S. Khanna, D.S Pardi, M. Grover, R. Patel, N. Chia, H. Nelson, J.L Sonnenburg, G. Farrugia, P.C Kashyap. *Clostridioides difficile* uses amino acids associated with gut microbial dysbiosis in a subset of patients with diarrhea. *Science Translational Medicine* **464**, eeam7019 (2018).

J.E. Bisanz, P. Soto-Perez, C. Noecker, A. A. Aksenov, K.N. Lam, G. E. Kenney, E.N. Bess, H.J. Haiser, T.S. Kyaw, F.B. Yu, **Vayu Maini Rekdal**, C. W. Y. Ha, S. Devotka, E.P. Balskus, P.C. Dorrenstein, E. Allen-Vercoe, P.J. Turnbaugh. A Genomic Toolkit for the Mechanistic Dissection of Intractable Human Gut Bacteria. *Cell Host Microbe* (2020).

**Vayu Maini Rekdal**, E.P Balskus. Gut microbiota: rational manipulation of bacterial metalloenzymes provides insights into dysbiosis and inflammation. *Biochemistry* **57**, 2291-2293 (2018).

N. Koppel, **Vayu Maini Rekdal**, E.P Balskus. Chemical transformation of xenobiotics by the human gut microbiota. *Science* **356**, eaag2770 (2017).

**Vayu Maini Rekdal**, M.F Alnahhas, J.F. Rainey, C.S Reigstad, S. Khanna, M. Grover, M.D.F Devine, N. Chia, E.V Loftus, L.A Boardman, D.A Ahlquist, D.S. Pardi, G. Farrugia, P.C. Kashyap. Diarrhea in subset of patients with IBS and IBS is associated with altered microbiota. *Gastroenterology* **146**, S-83 (2014).

## **Books**

Alicia Foundation. A Chef's Guide to Gelling, Thickening, and Emulsifying Agents. *CRC Press* (2014).

I contributed original research and writing to this book, along with other members of the Alicia Foundation team

## **PATENTS**

PCT/US22/42816; Filed: Sep 07, 2022; Conf. 6722 (provisional). EXPRESSION OF HEME BIOSYNTHESIS AND HEME PROTEINS IN EDIBLE FILAMENTOUS FUNGI. By University of California, Berkeley. Inventors: **V. Maini Rekdal**, J.D Keasling

US20220226269A1.METHODS AND COMPOSITIONS FOR MODULATION OF AN INTERSPECIES GUT BACTERIAL PATHWAY FOR LEVODOPA METABOLISM. By Harvard College. Inventors: **V. Maini Rekdal**, E.P. Balskus.

## **RESEARCH PRESENTATIONS**

### **Talks**

- 2024** Fungal Genetics Conference (invited as speaker in Sustainable Food Session) (CA, USA)
- 2023** Stanford University Fermented Food and Health Speaker Series (invited) (CA, USA)
- 2023** Stone Barns Center for Food and Agriculture (invited) (NY, USA)
- 2023** Good Food Conference, Farming Hope Lunch (invited) (CA, USA)
- 2023** SV LatAm Capital Annual Retreat (invited) (CA, USA)
- 2023** UC Davis, Food Science and Technology / IIFH special seminar (invited) (CA, USA)
- 2023** NCSU Ferment seminar (invited) (virtual)
- 2023** Geodesic Capital Event: Future of Food (invited keynote) (Tokyo, Japan)
- 2023** University of Tokyo special seminar (invited) (Tokyo, Japan)
- 2023** Tsukuba University seminar (invited) (Tsukuba, Japan)
- 2023** Stanford University, Bioengineering Seminar (invited) (CA, USA)
- 2023** UCSB, Bioengineering Seminar (invited) (CA, USA)
- 2023** Boston University, Biological Design Center Seminar (invited) (MA, USA)
- 2022** Pennsylvania State University Food Science Department Seminar (invited) (PA, USA)
- 2022** Beyond the Plate – gastronomical creativity, disruption, regeneration, science, and art (invited) (National Museum of Denmark)
- 2022** DTU Biosustain Seminar (invited) (Copenhagen, Denmark)
- 2022** The Fermentation Association Conference (invited) (IL, USA)
- 2022** Kingdom Supercultures (invited) (NY, USA)
- 2022** Asperfest, Fungal Genetics Conference (CA, USA)
- 2022** Blue Hill at Stone Barns (invited) (New York, USA)

- 2021 Center For Biosustainability Special Seminar (invited) (Copenhagen, Denmark)
- 2021 DTU Microbial Foods Seminar (virtual, Copenhagen, Denmark)
- 2020 MIT Microbiome Club seminar (invited) (Cambridge, MA)
- 2019 Basque Culinary Center (San Sebastian, Spain)
- 2018 Cellular Dynamics Department Seminar, Department of Molecular and Cellular Biology at Harvard University (Cambridge, MA)
- 2018 Molecules, Cells, and Organisms Program Retreat (Boston, MA)
- 2018 American Chemical Society National Conference (Boston, MA)
- 2018 Solving Biological Problems with Chemistry at HHMI Janelia (Ashburn, VA)
- 2017 MIT Center for Informatics and Therapeutics (Cambridge, MA)

### **Posters**

- 2024 International Fungal Genetics Conference
- 2022 International Fungal Genetics Conference (awarded best poster, postdoc category)
- 2020 Investigator Meeting (HHMI Janelia)
- 2019 Gilliam Fellowship Annual Meeting (HHMI headquarters)
- 2019 Molecules, Cells, and Organisms Program Retreat (Cambridge, MA)
- 2019 Dr. Samuel M. Nabrit conference for early career scholars (Providence, RI)
- 2019 Chemical Tools for Complex Biological Systems II (HHMI Janelia)
- 2019 Keystone Conference on Microbiome: Chemical Mechanisms and Biological Consequences (Montreal, CA)
- 2018 International Human Microbiome Congress (Killarney, Ireland)
- 2018 Gilliam Fellowship National Meeting (HHMI Janelia)
- 2018 Department of Molecular and Cellular Biology Retreat (Nantasket, MA)
- 2018 Microbial Sciences Symposium (Cambridge, MA)
- 2018 CCB Symposium at Harvard University (Cambridge, MA)
- 2018 Molecules, Cells, and Organisms Program Retreat (Boston, MA)
- 2017 Molecules, Cells, and Organisms Program Retreat (Boston, MA)
- 2017 Gilliam Fellowship National Meeting (HHMI Janelia)
- 2014 Digestive Diseases Week (Chicago, IL)
- 2014 Leadership Alliance National Conference (Stamford, CT)
- 2014 Harvard Undergraduate Summer Research Symposium (Cambridge, MA)
- 2014 Carleton College Research Symposium (Northfield, MN)
- 2013 Northstar STEM Alliance Conference (Minneapolis, MN)

## **UNIVERSITY TEACHING AND MENTORING EXPERIENCE**

### **Classes**

**Science of the Physical Universe 27: The Science of Cooking**, taught by prof. David Weitz and Dr. Pia Sorensen, Harvard University (Fall 2016). Class uses cooking to teach general concepts in soft matter physics, biology, and chemistry to Harvard Undergraduates to satisfy their General Education requirement. As a Teaching Fellow, I co-taught a weekly lab section for 30 students, taught one main lecture for 200 students, wrote and graded problem sets and exams, and mentored students in final research projects on the science of cooking. My student group won best research project out of 200 students at the end of the semester. I obtained a

4.5/5 student rating in overall effectiveness, earning distinction for excellence in teaching from the Harvard Bok Center.

**Human and Evolutionary Biology 1410: Gut Microbiome & Human Health**, taught by prof. Rachel Carmody, Harvard University (Fall 2017). Literature seminar and laboratory research class exploring the role of the gut microbiome in human health and disease. As a Teaching Fellow, I worked with head instructor to design the syllabus, select weekly readings, and design the semester-long research project exploring effects of dietary spices on gut microbial physiology. I facilitated weekly discussions about primary literature and was responsible for planning and executing weekly lab experiments. I obtained a 5/5 student rating in overall effectiveness.

### ***Mentoring***

Alex Rosales (Chemical Engineering Undergraduate, UC Berkeley): project on fungal conversion of byproducts into human food (fall 2023-present). Student awarded Senior Undergraduate Research Award as one of five winners at UC Berkeley. Work resulted in publication.

Nathan Lapp (Molecular Environmental Biology Undergraduate, UC Berkeley); co-mentoring in project on CRISPR-Cas9 and synthetic biology tool development in filamentous fungi (fall 2023-present).

Casper van der Luijt (Visiting PhD student, from DTU Biosustain): mentored in project on synthetic biology tool development and genetic engineering in edible fungus. Project led to second-author publication for student (fall 2022-winter 2023).

Minwoo Bae (PhD student, Balskus lab, Harvard University): mentored in project on gut microbial enzyme discovery and characterization. Project led to several first-author publications for student (2019-2020).

Xueyang Dong (PhD student, Balskus lab, Harvard University): mentored in project on characterization of novel microbial regulators based on my thesis work. Project led to first-author publication of student (2019-2020).

Chip Le (Postdoctoral Fellow, Balskus Lab, Harvard University): mentored in project on characterizing and discovering a group of newly discovered molybdenum enzymes. Postdoc received multiple fellowships to support the work and contributed to several manuscripts (2019-2020).

Sina Kiamehr (Chemistry and Chemical Biology Undergraduate, Balskus Lab, Harvard University): mentored in project on gut microbial metabolism. Student won multiple fellowships to support their work and contributed to several publications, culminating in a senior thesis (2019-2020).

Peer Mentor (MCO Program, Harvard University, and other roles): supporting minoritized PhD students in transition to PhD program; editing and revising fellowship applications. Several students received prestigious science fellowship to pursue their PhD work, including the NIH F32 and HHMI Gilliam Fellowship (2019-present).

## SCIENCE OUTREACH AND COMMUNICATION

### Programming

- 2015-present **STEAM Chefs: From Cooking to Science** (Visionary Advisor)  
(<http://steamchefs.org>)
- Established web-based platform for science and cooking education, reaching students in >1500 different locations across the world, including immigrant social services, afterschool programs, and public-school classrooms
  - Developed science-cooking curriculum available through website, which has reached >50,000 learners to date
  - Managed advisory board and oversaw strategic planning, lesson plan development, website design
- 2017 **STEAMeD, Harvard University** (Co-founder)
- Program to train teachers from elementary school through high school in using cooking to reach diverse audiences in STEM
  - Recruited and led team of volunteers in hands-on workshops
  - Worked with National Institute for STEM Evaluation and Research to develop qualitative and quantitative assessment of teacher outcomes and perceptions
  - In collaboration with HarvardX, produced short, informative videos on cooking and science experiments available to the public
- 2017 **East Boston YMCA** (Consultant/Organizer)
- Consulted in the organization of a 10-week science and cooking afterschool program in East Boston taught in Spanish and English
  - Recruited volunteers, provided curricula, led weekly class
- 2015, 2016 **NYC STEM Institute** (Organizer/Teacher)
- Invited by the NYC Department of Education to lead workshops for public school STEM teachers in science and cooking curriculum
  - Developed hands-on classes that used cooking to communicate concepts and methods in STEM. Collaboration with Bill Yosses, former White House Pastry Chef
- 2015, 2017 **Native American Summer Science High School Program, Harvard University** (Organizer/Teacher)
- Organized and led hands-on workshops on the science of indigenous foods
  - Led team of volunteers and collaborated with reservation community leaders and Harvard University faculty to develop curricula
- 2015 **Science and Cooking for kids, Harvard University** (Organizer/Teacher)
- Co-organized and led two summer camps for elementary school and middle school children in the science of cooking

- 2012-2015 **Young Chefs: From Cooking to Science** (Founder and Director)
- Afterschool program using cooking to teach essential life skills as well as concepts in biology, chemistry, and physics, to immigrant middle school youth
  - Raised \$10,000 in grants and established partnerships with local grocery store and college administration to establish a sustainable program
  - Developed an independent study course with Chemistry and Education faculty, working with college students to develop and implement hands-on cooking science curriculum adapted to the Next Generation Science Standards
  - Recruited and managed team of 20 college volunteers working in two independent school districts

### ***Conferences organized***

- 2018 **Approaches to Using Cooking to Reach Diverse Audiences in STEM, American Chemical Society National Conference, Boston, MA**
- Co-organized a daylong symposium bringing together educators from diverse backgrounds (college faculty, high school teachers, college students, graduate students, private sector)
  - Recruited speakers, read abstracts, facilitated discussions

### ***Talks and presentations***

- 2023 UC Berkeley: Alt Meat Class (guest lecture) (Berkeley, CA)
- 2022 New York Times event: A New Climate (invited as a leader in food and sustainability to facilitate discussion at the event) (San Francisco, CA)
- 2022 UCLA science and food class (virtual): self-assembly and fermentation
- 2022 Midday Science Café (UC Berkeley): Fungi and Seaweed: changing the way we think about meat (virtual, Berkeley, CA)
- 2022 Blue Hill New York (New York, NY)
- 2021 BostonTalks by WGBH: The Science of Food (virtual, Boston, MA)
- 2021 Miller Institute workshop on the science of fermentation (Berkeley, CA)
- 2021 Miller Institute El Cerrito High School Outreach Program (El Cerrito, CA)
- 2021 Cambridge Camping Association Youth Enrichment Program (virtual, Cambridge, MA)
- 2021 LBNL Live Science seminar (virtual, Berkeley, CA)
- 2021 LBNL STEM Career Panel (virtual, Berkeley, CA)
- 2020 Miller Institute El Cerrito High School Outreach Program (El Cerrito, CA)
- 2020 LAUSD cooking and science summer enrichment program (virtual, Los Angeles, CA)
- 2019 Museum of Science (Boston, MA)
- 2018 American Chemical Society National Conference (Boston, MA)
- 2017 Harvard Science and Cooking Public Lecture Series (Cambridge, MA)
- 2017 Harvard Science and Cooking Class (Cambridge, MA)
- 2017 Keynote Address at Science Museum (Boston, MA)
- 2016 Harvard Science and Cooking Public Lecture Series (Cambridge, MA)
- 2016 Harvard Science and Cooking Class (Cambridge, MA)

2016	South by South Lawn at The White House (Washington D.C)
2016	Genius Week Festival (NYC, NY)
2015	Life Science Outreach Program Teacher Seminar (Cambridge, MA)
2015	Harvard Department of Molecular and Cellular Biology retreat (Woods Hole, MA)
2015	Harvard Ed Portal (Boston, MA)
2015	New York Times Travel Show (NYC, NY)
2014	TEDxCarleton College ( <a href="http://youtu.be/NuJg8auo7FE">http://youtu.be/NuJg8auo7FE</a> ) (Northfield, MN)
2014	Carleton College Center for Teaching and Learning (Northfield, MN)
2014	Minnesota Association for Alternative Learning Conference
2014	National Science Teacher's Association (NSTA) MN annual conference

## WRITING AND MEDIA CONTRIBUTIONS AND COVERAGE

***BostonTalks: The Science of Food*** one of two speakers at virtual WGBH event, March 2021

***JBEI Scientists in Action: Vayu Maini Rekdal*** video produced for JBEI, March 2021

***How microbes shape our response to drugs*** Scientific American, January 2020

***When the menu turns raw, your gut microbes know what to do*** New York Times, October 2019

***Gut microbes eat our medication*** Science Daily, June 2019

***Gut microbes eat our medication*** Harvard University Gazette, June 2019

***Gut bacteria can EAT medication*** Daily Mail, June 2019

***Gut bacteria can eat our medication*** Reddit.com front page, Jun 16<sup>th</sup> 2019 (30k upvotes)

***Welcome to the microbiome*** Feature on America's Test Kitchen Podcast "Proof", May 2019

***Food Special*** Feature on Veritalk Podcast, May 2019

***Does food cool faster when cooking in the microwave?*** WGBH, January 2019

***What does emulsified mean?*** ChopChop Magazine, January 2019

***Why does oil make latkes crispy?*** ChopChop Magazine, October 2018

***What happens if you overmix batter?*** ChopChop Magazine, October 2018

***Why do hot potatoes absorb more dressing than cold potatoes?*** ChopChop Magazine, July 2018

***Measuring pH with Red Cabbage*** produced with HarvardX, May 2018 (<https://bit.ly/2EdIPZp>)

***Elastic Properties of Tortilla Dough*** produced with HarvardX, May 2018 (<https://bit.ly/2zGGO3c>),

***Heat Diffusion with Chocolate Lava Cakes*** produced with HarvardX, May 2018 (<https://bit.ly/2RB111g>)

***The Spicy Science of Chili Peppers*** video produced with HarvardX, May 2018 (<https://bit.ly/2AOP8O2>)

***Why does the dutch baby rise?*** article written for ChopChop Magazine, March 2018

***When it comes to snowflakes and popcorn kernels, is it true that no two are alike?*** WGBH, January 2018

***Why do vegetables turn brown when you roast them*** ChopChop Magazine, December 2017

***Gourmet Investigator*** Nature Magazine, November 2017

***How much alcohol remains after cooking?*** Naked Scientists Podcast, September 2017

***Salty Choices*** ChopChop Magazine, August 2017

***Why does salad wilt?*** ChopChop Magazine, May 2017

***La cocina no solo es para comer*** El Pais, March 2017.

***The Secret Ingredient*** Feature on Harvard Graduate School of Arts and Sciences, February 2017

***De la nevera inteligente a la encimera con televisión*** El Pais, February, 2017

***The New Afterschool Science: Ice Cream Special*** Feature on Cook's Science website, April 2017

***Why do egg whites turn white?*** ChopChop Magazine, December 2016

***Young Chefs Educates and Entertains*** Feature on Harvard MCB Website, November 2016

***How does milk turn in to cheese*** ChopChop Magazine, September 2016

***The Phases of Melon*** ChopChop Magazine, July 2016

***Why do avocados turn brown*** ChopChop Magazine, May 2016

***Young Chefs: MCO student offers science through cooking***, Harvard MCB website, March 2016

***Nature's FARMacy: Inspiring Scientific Geniuses Through the Kitchen***, The Huffington Post, March 2016.

***How Browning Makes Things Better*** ChopChop Magazine, November 2015

***Ice Cream with a Twist***, Harvard Community Blog, August 2015

***Science to Chew On***, Harvard Gazette, August 2015

***Off the Menu***, CBS Radio Minnesota, March 2015

***The Science of Pear Sauce*** ChopChop Magazine, August 2015

***The Science of Cooking Eggs*** ChopChop Magazine, May 2015

***Mixing Oil and Vinegar: The Science of Dressing*** ChopChop Magazine, December 2014

***Carleton Student Teaches Science by Cooking***, NBC Minnesota, October 2014

***Cooking as Kitchen Science*** TEDxCarletonCollege, October 2014

***Social Life Heats up in New Kitchens*** The Chronicle of Higher Education, April 2013

***A Sandwich a Day: Halloumi at Tiny's*** Serious Eats, January 2013

***Veggie Burgers of Note Around Manhattan*** The New York Times, March 2011