




# 2020 Program for Scientifically-Inspired Leadership (PSIL)

in Imphal, India

Program Handbook

MCB   
Department of Molecular  
and Cellular Biology



HARVARD UNIVERSITY  
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**The Program for Scientifically-Inspired Leadership (PSIL)** brings together three groups of students to create the PSIL community: Harvard undergraduates, prospective teachers in the state of Manipur, and high school students from various schools in Manipur. While high school students are developing leadership skills, Harvard undergraduates and prospective teachers from Manipur are learning how to be effective teachers. By interacting with one another, all three groups gain a deeper understanding of teaching and learning as well as expand their worldviews as they share experiences with people from many different backgrounds. PSIL is structured with the scientific method as its central theme. This is because the scientific method ensures unbiased and objective investigations in the pursuit of knowledge. PSIL focuses on the scientific method rather than concepts one learns in science classes and applies this scientific method towards the development of soft skills critical for growth.

By no means is this a one-way transaction of ideas and thoughts. Through their interactions with you, PSIL teachers will hone their teaching skills and get an opportunity to immerse in and absorb the rich cultural heritage of Manipur.

## Director's Welcome

Welcome to the PSIL '20! The first offering of PSIL in Jan 2019 was a huge success and provided us with valuable experiences and feedback to improve future iterations of the program. Participants of PSIL '19 unanimously commented that the program should be of a longer duration. For this reason, PSIL '20 has been converted to a residential format, which will give you four full days of learning with the teaching team! Our local partner, *Bosco Mangaal*, has been instrumental in making this possible and will be taking care of residential logistics during the program.

We would like to thank our funding sources whose contributions enabled us to keep the program **completely free for all participants**.

**Dominic Mao, Ph.D.**  
**Program Director**



## Program Director



**Dominic Mao** is the Assistant Director of Undergraduate Studies for Molecular and Cellular Biology and Chemical and Physical Biology, two of Harvard's life science concentrations, and a lecturer in the Department of Molecular and Cellular Biology at Harvard. He earned his PhD from the University of Cincinnati in microbial molecular genetics studying genome stability in archaea. He worked with Matthew Meselson at Harvard University for his postdoctoral work studying aging and radiation resistance.

Dominic was born in Imphal, Manipur and lived there for 16 years during which he attended Don Bosco, Chingmeirong. Looking back at his journey so far, he remembers a handful of people who genuinely cared and steered him in the right direction. He loves photography and music (there is a special place in his heart for rock music!). He also loves to cook!

## Associate Director



**Chris Li** is a research assistant at Harvard's Belfer Center for Science and International Affairs, where he focuses on Chinese foreign policy, Asia-Pacific security, and technology. He works on the Avoiding Great Power War Project, which examines US-China strategic competition, and also former Secretary of Defense Ash Carter's Technology and Public Purpose Project, which studies how emerging technologies are developed and managed in ways that serve the overall public good.

Prior to joining Belfer, Chris was special assistant for life sciences strategy in the Office of the Provost at Harvard. He previously worked as a legislative intern for Senator Mazie Hirono and as an editorial researcher for former *New York Times* Executive Editor Jill Abramson. A 2018 Hertog Fellow at the Institute for the Study of War, Chris received his A.B. with high honors in Human Developmental and Regenerative Biology from Harvard University.



**Allison Pao** returns to PSIL this year as the Head Teacher on the Harvard team. She is a junior (third year) at studying Social Studies (an interdisciplinary area of study which includes sociology, anthropology, government, economics, and history). She grew up in New York City, Tennessee, and Switzerland, and she now calls all three places her home. A passionate educator, Allison spent her most recent summer teaching 7th grade social studies. As a research assistant for the Harvard Democratic Knowledge Project, she is helping to develop the new 8th grade civics curriculum for a local school district. She is the President of WHRB (Harvard Radio Broadcasting, Inc), and loves music of all genres!



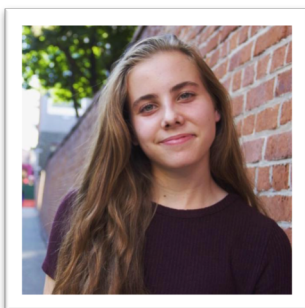
**Shivani Aggarwal** is a junior (third year) studying Integrative Biology. She has exchanged living by the Hudson River in Edgewater, New Jersey for the Charles River in Cambridge, Massachusetts. At Harvard, she mentors youth living in the local community at the Harvard Ed Portal and advocates for improvements to the academic experience as a representative on the Harvard Undergraduate Council. She is the stage manager for Ghungroo, a massive campus production celebrating South Asian dance and music. In her free time, she loves to read and is an avid fan of all boardgames.



**Katelyn Li** is a junior (third year) studying neuroscience. She is interested in biological research, global health, and public policy. She does neuroscience research and helps teach an introductory life sciences course. Passionate about disability rights, Katelyn works as an intern at the Harvard Law School's Project on Disability (HPOD) and directs a public service program dedicated to creating friendships between individuals with and without intellectual/developmental disabilities. She also loves mentoring high school students from around the world for the Harvard Global Health and Leadership Conference. She enjoys long-distance running, journalism, and exploring the outdoors.



**Jeffrey Prince** is a sophomore (second year) from Massachusetts studying molecular and cellular biology and education. He has pursued these interests both inside and outside of the classroom. He advises first year students at Harvard, helps teach an introductory cell biology class, directs a hospital volunteering program, and directs the sports department of Harvard's student radio station, WHRB. He has also taught lessons and designed activities for local 5th and 6th students in the community. When not at Harvard, Jeff lives with 2 siblings, 3 step-siblings, and 3 dogs. He loves playing video games, snowboarding, and enjoying great food and laughs with his family and friends.



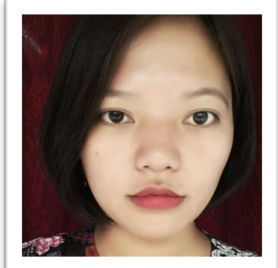
**Charlotte Ruhl** is a sophomore (second year) studying Psychology from New York City. As a research assistant at the Harvard Decision Science Lab, she investigates decision science and behavioral economics. At home, Charlotte works with autistic children and serves as a tutor, camp counselor, and coach. On campus, as part of Harvard's Boston Youth Refugee Enrichment Tutoring program, she helps refugee and immigrant kids with homework. She is involved in Harvard Model United Nations and writes for the Harvard College Law Review. For fun, Charlotte is a sports broadcaster for the Harvard radio station WHRB and plays intramural sports. She enjoys traveling, trying new foods, and dancing.



**Mutum Kunjarani Devi** returns to PSIL as the Head Teaching Fellow. She completed her M.Sc. degree in Environmental Science from Manipur University. Kunjarani grew up in one of Manipur's most underprivileged places in terms of education. She was determined to educate herself, and her belief in the transformative power of education led her to devote time to mentor 13-15 year old students in a temporary coaching center. She cares about the future of students from similar underrepresented places in Manipur. One of her initiatives involves bringing together and mentoring promising students from nearby localities. She is very interested in and excited to pursue teaching as a career, and plans to pursue a Ph.D. degree towards that end.



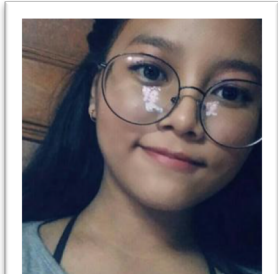
**Jyosita Elangbam** is Master of Science final year (3rd semester) student at Ghanapriya Women's College studying Zoology. She was born in Keishamthong Elangbam Leikai, Imphal, Manipur. She considers herself an introvert yet is very social with people whom she finds comfortable to be with. She is a child scientist awardee. She is passionate about education and in her free time she tutors high school students in her locality. She loves listening to music, dancing and reading wisdom books. She also has an inner passion for adventure.



**Chinboihing Steffi Haokip** graduated with a B.Sc. degree from Dhanamanjuri College of Science Imphal in 2016 and completed her M.Sc. in Environmental Science in 2018. She successfully cleared the National Eligibility Test (NET) conducted by Central Board of Education (CBSE). She possesses great interest in teaching and loves learning new things through experiences. Currently, she is preparing for the Junior Research Fellowship (JRF) examination in order to pursue her Ph.D. degree.



**Cyrus Lairikyengbam** is a second-year Bachelor of Business Administration student at Dhanamanjuri University, Manipur. Outside of his classes, he likes exploring remote places on his motorcycle, swimming, and learning about new cultures.



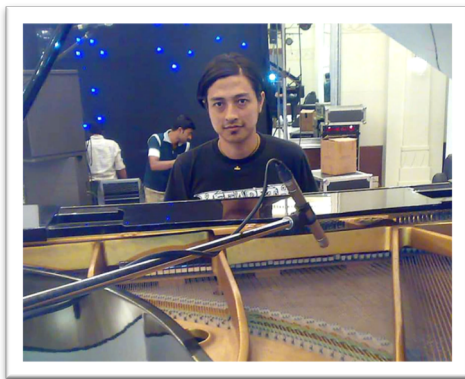
**Rashmi Elangbam**, a participant from PSIL '19, returns as a teaching assistant for PSIL '20! Rashmi Elangbam is currently in the 9th grade at Heritage Convent, Uripok, Imphal. She is very passionate about poetry. In her free time, she loves to read books, listen to music, write articles, and cook with her mother. Rashmi wants to help people by becoming a doctor.



**Martha Golmei** is a Project Coordinator in Bosco Mangaal with over 15 years of service working with the Salesians of Don Bosco. She love exploring and engaging new environments! She has a Masters degree and a B.Ed. Martha brings with her extensive experience in the field of training the youth, especially in areas where service is most required. Training underprivileged youth has become a passion for her and she truly believes it is her calling. According to Martha, the experience of working with the youth has proven to be a great teacher and has filled her life with many sweet memories!



**Bernard Phaomei** attended Don Bosco School, Nungnang, graduated with a Bachelors degree from Don Bosco College, Maram, and a Masters degree in Social Work from Loyola College, Chennai. He was engaged as a Soft Skills Trainer in Don Bosco Tech – Skills mission for Manipur under the Don Bosco Chingmeirong for 3 years. Currently, Bernard is a Social Worker and Trainer at Gyan Jyoti foundation, Imphal. Their goal is inspiring and giving hope to the youth by equipping them with real life skills. Bernard constantly strives to explore, learn new things, and overcome challenges.



**Akham Reuben** graduated from S.A.E Institute of Audio Engineering in Auckland NZ. He is a music producer and you can often find him surrounded by tunes in his recording studio.



	1/14	1/15	1/16	1/17	1/18
	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00 AM		BREAKFAST			
8:30 AM		BREAKFAST			
9:00 AM	REGISTRATION	LECTURE 2: Allison	LAB 3	LAB 4	GOODBYES
9:30 AM					
10:00 AM	OPENING CEREMONY	LAB 2	LECTURE 4: Katelyn	LECTURE 5: Jeff	
10:30 AM	LAB 0 / PARENT SESSION				
11:00 AM		EXTRACURRICULAR A2	EXTRACURRICULAR B2	EXTRACURRICULAR C2	
11:30 AM		EXTRACURRICULAR A2	EXTRACURRICULAR B2	EXTRACURRICULAR C2	
12:00 PM		LUNCH			
12:30 PM	LUNCH				
1:00 PM	EXTRACURRICULAR / PROJECT INTRO	LECTURE 3: Shivani	LAB 4	LAB 5	
1:30 PM	LECTURE 1: Charlotte				
2:00 PM		EXTRACURRICULAR B1	EXTRACURRICULAR C1	SYMPOSIUM PREP	
2:30 PM	EXTRACURRICULAR A1	STUDENT PROJECT WORK TIME	CAPSTONE PROJECT SYMPOSIUM		
3:00 PM	LAB 1				
3:30 PM					
4:00 PM					
4:30 PM	LAB 1	STUDENT PROJECT WORK TIME	CAPSTONE PROJECT SYMPOSIUM		
5:00 PM	OFFICE HOURS / JOURNAL TIME			DINNER	
5:30 PM	OFFICE HOURS / JOURNAL TIME			DINNER	
6:00 PM	DINNER			TALENT SHOW PREP	
6:30 PM	DINNER			TALENT SHOW PREP	
7:00 PM	FIRESIDE CHAT	CAREER SESSION	TEACHING PANEL	TALENT SHOW	
7:30 PM					
8:00 PM	CAMPFIRE SOCIAL			CLOSING CEREMONY	
8:30 PM	CAMPFIRE SOCIAL				
9:00 PM	CURFEW			CLOSING CEREMONY	
9:30 PM	CURFEW			CURFEW	



## **Get Psyched to Learn about Social Psychology**, Charlotte Ruhl

This lecture will introduce students to key concepts in social psychology and provide them with a foundation of knowledge about the way thoughts, feelings, and behaviors are influenced by the presence of others. We will focus on the role social psychology plays in behavior, persuasion, conformity, and bias, and in so doing, students will learn how to: judge others' actions more effectively; identify when they are being manipulated; resist conformity; and recognize and tackle their own biases. This lecture draws from a wide variety of famous experiments. Through this hands-on learning, students will gain a practical understanding of how these psychological concepts play out in the real world. At the end of the lecture, students will have formed greater insights about their own day-to-day actions and those of their peers. Social psychology is a unique field of social science that will enhance your appreciation for how humans think and act!

## **The Theory of Knowledge: How Do We Know What We Know?**, Allison Pao

How do we know what we know? In this lecture, we'll explore an area of philosophy called epistemology which examines that critical question. As students, it's easy to take for granted all the knowledge that we are asked to learn. How exactly has our species discovered, gathered, and created all of that knowledge? We'll discuss the nature of knowledge, the ways of knowing, and how different areas of knowledge utilize the ways of knowing in particular ways.

## **Applied Ethics: A Leader's Toolkit**, Shivani Aggarwal

When difficult decisions arise, how do we choose what action to take? Ethics is a branch of moral philosophy that wrestles with the determination of right versus wrong and good versus bad. In this lecture, students will be exposed to major frameworks in ethical reasoning, including utilitarianism, justice, and autonomy. By assessing the strengths and limitations of different approaches, students will practice identifying potential outcomes and salient stakeholders. Through this structure, students will be better equipped to anticipate and reason through ethical dilemmas in their own life as well as in society. In the process, they will be able to consider the available evidence and then articulate and defend an opinion that is consistent with their values.

## **Cell City: The World Around Us, the World Within Us**, Jeff Prince

Every one of us is made up of more than 37 trillion tiny cells. Careful analysis reveals that these cells--small worlds within us--are not so different from the world around us. Every cell has a natural barrier, a postal system for importing and exporting essential goods, power plants, street cleaners, highways, libraries, criminals, a police force, construction workers, and much more. This lecture will connect the world around us to the one within us, elucidating latent features in both.

## **Speaking Truth to Power: Journalism and its Impact**, Katelyn Li

We live in a media-driven world. News stories have given voice to the voiceless, exposed injustice, held those in power accountable, informed the public of important issues, bridged communities across cultures and nationalities, and changed the very face of history. At its very core, journalism is driven by an indefatigable commitment to truth. The skill of investigating and researching a topic -- and communicating it in a clear, unbiased way -- is one that is extremely valuable and widely applicable to many career trajectories. This lecture will provide an inside look into the world of journalism and the process and ethical considerations behind the writing of a news story, while also analyzing examples of impactful news stories throughout history.



## **The Art of Improv**, Shivani Aggarwal

There is a reason why improv has become so popular with groups ranging from doctors to business professionals – the art of spontaneous communication and character building is both fun, and helps one to improve self-expression, listening, cooperation, and flexibility. Through this club, students will engage in various confidence-building acting and improv exercises.

## **Building Towers, Breaking Barriers**, Jeff Prince

Learning to effectively communicate and collaborate opens up a world of opportunity for any student. The most successful and meaningful projects in public service, the professional world, and academia require teamwork. Although easy in principle, working effectively within a team of diverse individuals with differing skill sets, personalities, and life philosophies is challenging. True collaboration fundamentally requires sacrifice, compromise, unification, and ultimately the development of personal relationships. This extracurricular will challenge students' conceptions of what it means to collaborate and work with one another.

## **Super Soccer Stars!**, Charlotte Ruhl

Students will be able to not only develop strong soccer skills that will allow them to organize competitive pickup games whenever free time allows, but they will also develop strong leadership and teamwork skills that can be utilized both on and off the soccer field. Through rigorous drills, team building exercises, and friendly competitive scrimmages, members of PSIL will come away as more experienced soccer players, confident leaders, and better collaborators, all of which will greatly aid them in the academic setting. Soccer enrichment serves as a great way to escape the classroom, get exercise, and have fun!

## **Lights, Camera, Action — the Spotlight's on You!**, Katelyn Li

We've all watched movies, plays, or music videos from the perspective of an audience member — yet, not many of us have had the chance to take a look behind-the-scenes from the point of view of an actor, director, or producer. In this extracurricular, students will have the unique opportunity to design and perform their very own productions and to gain experience navigating the creative process from start to finish.

## **Finding Your Voice Through Singing**, Allison Pao

In this extracurricular, you will learn simple musical elements (music notation, harmony, rhythm, pitch), basic singing techniques (vocal warm-ups, vocal projection), gain self-confidence, cultivate collaboration, practice persistence, and have fun! You will get the chance to learn popular songs of your choosing and prepare a group performance for the closing ceremony.



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# Sponsors

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# MCB

Department of Molecular  
and Cellular Biology

**Christ Jyoti School generously provided their classrooms**