



SING

SING ARIZONA 2017

Summer internship for INDigenous peoples in Genomics

July 9-15, 2017

Tucson, Arizona



**THE UNIVERSITY
OF ARIZONA**

Proclamation
by Ofelia Zepeda
[excerpt]

...

The true story of this place
recalls people walking
deserts all their lives and
continuing today, if only
in their dreams.

The true story is ringing
in their footsteps in a
place so quiet, they can hear
their blood moving
through their veins.

Their stories give shape to the
mountains encircling this place.

Wa:k is the story of
water memories of this desert.

Citizens gravitate to Sabino Canyon.

The humming, buzzing, clicking of water life,
the miracle of desert streams
on smooth boulders.

Rocks, sediment older than life itself
serve as reminders.

It should be unnecessary for sticky notes
to remind us what a desert place is.

A place dependent on rains of summer,
light dusting of snow,
the rarity of dry beds as rebel rivers.

It is real desert people who lift their faces
upward with the first signs of moisture.

They know how to inhale properly.

Recognizing the aroma of creosote in the distance.

Relieved the cycle is beginning again.

These people are to be commended.

...

Notes:

Wa:k is the O'odham place name marking reference to natural water sources. *Wa:k* is also the place for San Xavier del Bac, near Tucson.

Ofelia Zepeda, "Proclamation" from *Where Clouds Are Formed*. (University of Arizona Press, 2008)

WELCOME to SING ARIZONA 2017

Welcome to the 5th Annual SING workshop! First of all, we would like to acknowledge the original peoples of the land we are on (the Tohono O'odham, Pascua Yaqui, and indigenous ancestors), and thank them for allowing us to learn and be inspired this week.

Over the last decade, genomics has developed an increasingly powerful set of tools that are helping to advance disciplines as diverse as evolutionary biology, anthropology, bioengineering, biomedical science, environmental science, and earth science. Because of its broad reach and the excitement around genomics, the Summer internship for INdigenous peoples in Genomics (SING) was developed in 2011 as a short course to train Indigenous students/community members in genomics, computational analyses, bioinformatics, and bioethics, and to build capacity for scientific research with Native American/Indigenous communities. When the week is over, you will be a part of a rapidly expanding network of SING alumni who are engaged in active research and critical dialogue surrounding genomics research with Indigenous communities.

We encourage you to immerse yourself fully into this week of training. Ask questions, participate in the discussions, be understanding and respectful of others, and network! We are fortunate to have a wide-range of participants this year, including local tribal leaders, tribal IRB members, community members, undergraduate and graduate students, faculty, and Maori guests from Aotearoa.

We would also like to thank this year's host of our workshop, the University of Arizona, and all of our sponsors.

SING ARIZONA ORGANIZERS

Ripan Malhi, PhD (*University of Illinois, Urbana-Champaign*)

Francine C. Gachupin, PhD, MPH (*University of Arizona, Tucson*)

Deborah Bolnick, PhD (*University of Texas at Austin*)

Katrina Claw, PhD (*University of Washington, Seattle*)

SCHEDULE

SUNDAY, JULY 9

TIME	TOPIC	SPEAKER	LOCATION
3:00 - 7:00 pm	Check into rooms		Aloft Tucson University, 1900 East Speedway Boulevard, Tucson, AZ, 85719
7:00 - 10:00 pm	Welcome/reception dinner	Ripan Malhi, PhD & Francine Gachupin, PhD	Native American Research and Training Center, 1642 E. Helen St.
	SING international panel	Maui Hudson, MHSc, Kim TallBear, PhD, Jessica Bardill, PhD, Keolu Fox, PhD	

MONDAY, JULY 10

MODERATOR: Francine Gachupin, PhD

TIME	TOPIC	SPEAKER	LOCATION
8:00 - 10:00 am	Morning welcome	Francine Gachupin, PhD	University of Arizona (UA) Cancer Center, 1515 N. Campbell Ave, Bldg. 222, Room 2920
	Welcome, purpose and expectations of SING	Ripan Malhi, PhD	
	Welcome from local hosts	Andrew Kraft, MD & Myra Muramoto, MD, MPH	
	Introductions	Faculty and participants	
10:00 - 10:15 am	BREAK		
10:15 - 12:00 pm	SING Jeopardy: concepts in genomics, ethics, and Indigeneity	Katrina Claw, PhD & Keolu Fox, PhD	UA Cancer Center, Room 2951
12:00 - 1:00 pm	LUNCH (<i>on your own</i>)		
1:00 - 3:00 pm	Bioethics and informed consent	Nanibaa' Garrison, PhD	UA Cancer Center, Room 2920
3:00 - 3:15 pm	BREAK		
3:15 - 5:00 pm	Panel	Karen Francis-Begay, MA & Claudia Nelson	UA Cancer Center, Room 2951
5:10 - 6:00 pm	Debrief and evaluations	Moderator	
6:00 pm	Closing words	Karen Francis-Begay, MA	
7:00 pm	DINNER (<i>on your own</i>)		

TUESDAY, JULY 11		MODERATOR: Katrina Claw, PhD	
TIME	TOPIC	SPEAKER	LOCATION
9:00 - 9:05 am	Morning welcome	Rene Begay, MS	DNA and Koffler labs, 1340 E. University, Bldg. 113, Room 410
9:05 - 9:45 am	Basic DNA background	Rene Begay, MS	
9:45 - 12:00 pm	Safety and DNA extractions	Deborah Bolnick, PhD, Ripan Malhi, PhD & Rene Begay, MS	
12:00 - 1:00 pm	LUNCH (<i>on your own</i>)		
1:00 - 2:00 pm	PCR amplification of mtDNA HVSI	Deborah Bolnick, PhD, Ripan Malhi, PhD & Rene Begay, MS	DNA and Koffler labs, Room 410
2:00 - 3:30 pm	Cancer genomics Part 1	Christina Laukaitis, PhD & Monica Yellowhair, PhD	
3:30 - 3:45 pm	BREAK		
3:45 - 5:25 pm	Debrief in Talking Circles, mentoring groups, & evaluations	Moderator	DNA and Koffler labs, Room 410
5:25 - 5:30 pm	Closing words	Monica Yellowhair, PhD	
6:00 pm	Mentoring group dinners (<i>dinner with per diem</i>)		

WEDNESDAY, JULY 12		MODERATOR: Ripan Malhi, PhD	
TIME	TOPIC	SPEAKER	LOCATION
9:00 - 9:05 am	Morning welcome	Jessica Bardill, PhD	Arizona Health Sciences Library, 1350 N. Warren Ave, Bldg. 201A, Room 2102
9:05 - 12:00 pm	Bioinformatics Lab	Emilia Huerta-Sanchez, PhD & Jeff Long, PhD	
12:00 - 12:15 pm	Walk to UA Cancer Center		
12:15 - 12:45 pm	LUNCH (<i>provided</i>)		UA Cancer Center, Room 2951
12:45 - 1:45 pm	Lunch talk - Guidelines for genomic research with Maori people	Maui Hudson, MHSc	
2:00 - 3:30 pm	Cancer genomics Part 2	Margaret Briehl, PhD	
3:30 - 3:45 pm	BREAK		
3:45 - 5:00 pm	Precision medicine/ All of Us research program	Akinlolu Ojo, MD, MPH, PhD, MBA	UA Cancer Center, Room 2951
5:00 - 6:25 pm	Debrief & evaluations	Moderator	
6:25 - 6:30 pm	Closing words	Maui Hudson, MHSc	
7:00 pm	Dinner (<i>on your own</i>)		
8:00 - 10:00 pm	Networking event with faculty - current research topics	<i>Optional</i>	Aloft Hotel bar

THURSDAY, JULY 13		MODERATOR: Matt Anderson, PhD	
TIME	TOPIC	SPEAKER	LOCATION
9:00 - 9:05 am	Morning welcome	Nanibaa' Garrison, PhD	Arizona Health Sciences Library, Room 2102
9:05 - 10:30 am	Bioinformatics lab wrap-up	Jeff Long, PhD	
10:30 - 11:00 pm	Walk to UA Cancer Center		
11:00 - 12:00 pm	Cultural and academic considerations of genetics	Jennie Joe, PhD	UA Cancer Center, Room 3978
12:00 - 1:00 pm	LUNCH (<i>provided</i>)		
1:00 - 2:30 pm	Genetic variation in the Americas and ancient DNA	Ripan Malhi, PhD, Deborah Bolnick, PhD & Jeff Long, PhD	UA Cancer Center, Room 2951
2:30 - 2:45 pm	Closing words	Naomi Lee, PhD	
	Evaluations	Moderator	
2:45 - 6:00 pm	AFTERNOON BREAK		
6:00 - 7:00 pm	Dinner hosted by NPTAO	Claudia Nelson	Native American Research and Training Center
7:00 - 8:00 pm	Indigenous data sovereignty: research, ethics, and genetics	Host: Stephanie Carroll Rainie, DrPH, MPH Discussants: Maui Hudson, MHSc & Nanibaa' Garrison, PhD	

FRIDAY, JULY 14		MODERATOR: Nanibaa' Garrison, PhD	
TIME	TOPIC	SPEAKER	LOCATION
8:30 - 8:35 am	Morning welcome	Keolu Fox, PhD	UA Cancer Center, Room 2951
8:35 - 10:30 am	mtDNA bioinformatics lab and dangers of reductionism/health implications discussion	Deborah Bolnick, PhD & Jessica Bardill, PhD	
10:30 - 10:45 am	BREAK		
10:45 - 12:30 pm	Decolonizing science and technology	Kim TallBear, PhD, Keolu Fox, PhD, & Katrina Claw, PhD	UA Cancer Center, Room 2951
12:30 - 1:00 pm	LUNCH (<i>provided</i>)		UA Cancer Center, Kiewit Auditorium
1:00 - 2:00 pm	Lunch talk - Reducing HPV associated cancers in Indigenous communities	Naomi Lee, PhD	
2:00 - 2:15 pm	BREAK		
2:15 - 3:30 pm	Genetic basis of disease in health-disparity research	Nathan Ellis, PhD & Matt Anderson, PhD	UA Cancer Center, Room 2951
3:30 - 3:45 pm	BREAK		

FRIDAY, JULY 14		MODERATOR: Nanibaa' Garrison, PhD	
TIME	TOPIC	SPEAKER	LOCATION
3:45 - 5:00 pm	Professionalization module	Jessica Bardill, PhD & Katrina Claw, PhD	UA Cancer Center, Room 2951
5:00 - 5:25 pm	Debrief & evaluations	Moderator	
5:25 - 5:30 pm	Closing words	Kim TallBear, PhD	
7:00 pm	Dinner (<i>on your own</i>)		

SATURDAY, JULY 15		MODERATOR: Kim TallBear, PhD	
TIME	TOPIC	SPEAKER	LOCATION
9:00 - 9:05 am	Morning welcome	Ripan Malhi, PhD	UA Cancer Center, Room 2951
9:05 - 12:00 pm	Social and legal implications of genomics with indigenous communities	Pilar Ossorio, PhD, JD & Francine Gachupin, PhD	
12:00 - 1:00 pm	LUNCH (<i>on your own</i>)		
1:00 - 3:00 pm	Ethical, legal, and social Implications of genomics research roleplay	Jessica Bardill, PhD & Nanibaa' Garrison, PhD	UA Cancer Center, Room 2951
3:00 - 3:15 pm	BREAK		
3:15 - 4:00 pm	Post-test and final evaluations	Moderator	UA Cancer Center, Room 2951
4:00 - 4:55 pm	Week debrief	Moderator	
4:55 - 5:00 pm	Closing words	Katrina Claw, PhD	
6:30 - 8:30 pm	Last Day Dinner Reception and future of SING discussion		Native American Research and Training Center

SUNDAY, JULY 16	
Departures	

Many thanks to our sponsors!

Ahéhee' T'éí k'anóomp'áh



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