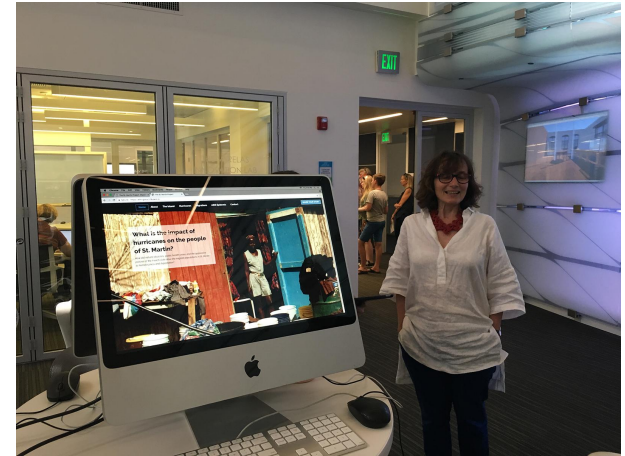
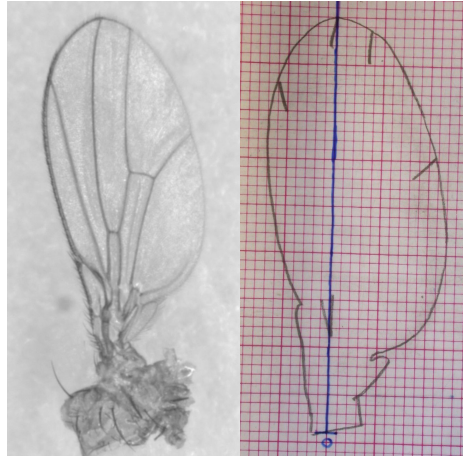


# Collaborative Intelligence: Building a Community of Practice in Digital Scholarship at Connecticut College



**Lyndsay Bratton**, Assistant Director for Digital Scholarship  
**Phillip Barnes**, Associate Professor of Biology  
**Catherine Benoît**, Professor of Anthropology  
**Sufia Uddin**, Associate Professor of Religious Studies





# CONNECTICUT COLLEGE



## ***Building on Strength***

A NEW PLAN FOR CONNECTICUT COLLEGE

### **Goal 2: Research**

Open new channels for groundbreaking research, scholarship, and creative work.

#### **OBJECTIVES**

- ❑ *Enhance funding, spaces, and technology for knowledge creation*
- ❑ *Multiply opportunities for student/faculty collaboration*
- ❑ *Enrich campus intellectual dialogue*

#### **SPECIFIC ACTIONS**

- Develop new resources for student and faculty scholarship and conference travel
- Establish high-profile scholar-in-residence program
- Upgrade research facilities, labs, and other spaces in which faculty and students conduct their work
- Create new program in digital scholarship
- Raise funds for new endowed chair positions
- Improve conditions for obtaining external grant funding
- Expand resources for research computing and scientific instrumentation

# CONNECTICUT COLLEGE



## ***Building on Strength***

A NEW PLAN FOR CONNECTICUT COLLEGE

### **Goal 1: Education**

Become a recognized leader in integrative education promoting the intellectual, social, professional, and civic development of every student.

#### **OBJECTIVES**

- ❑ *Ensure the success of Connections*
- ❑ *Advance and strengthen the College's centers for interdisciplinary scholarship, teaching, and learning*
- ❑ *Deepen faculty and student engagement off campus and around the world*
- ❑ *Broaden educational opportunities through new institutional partnerships*

#### **SPECIFIC ACTIONS**

- Increase resources and staffing for continued development of Connections
- Create Global Commons to integrate world languages, off-campus learning, and local and global engagement opportunities
- Develop new resources to support departments in their work toward full participation
- Clarify curricular requirement for learning about social difference
- Enrich STEM opportunities by establishing a program in engineering in partnership with U.S. Coast Guard and Worcester Polytechnic Institute
- Expand opportunities for interdisciplinary teaching and learning, including potential precollege and master's programs
- Enhance support for the five centers for interdisciplinary scholarship and consider new centers of distinction (e.g., in informatics)
- Extend educational partnerships with the city of New London
- Develop exchange programs with new global partners (e.g., Universidad de la Tierra in Mexico, Ashesi University College in Ghana)

# Digital Scholarship Fellows Program at Connecticut College

- Partnership between the Office of the Dean of Faculty and Information Services
- Supports the development of research projects involving some combination of digitization, computational analysis, and/or online publishing
- Entails a commitment to:
  - Experiment with new technologies in research and in the classroom
  - Developing pedagogical methods of scaffolding collaborative research projects with students and other partners
  - Sharing results with the campus community
- Each cohort of three faculty is supported for one year with:
  - DS and library staff project liaisons
  - Travel funding to speak at a conference
  - \$1000 stipend
  - \$2000 project funds



digital scholar

# Digital Scholarship & Pedagogy in the Liberal Arts Symposium

November 12, 2018

[dscs.digital.conncoll.edu](http://dscs.digital.conncoll.edu)

@ConnCollDSCC

#dspla2018

ds digital scholarship

<http://dscs.digital.conncoll.edu/symposium/>

## Digital Scholarship and Pedagogy in the Liberal Arts Symposium

Monday, November 12, 2018  
9:00 am - 6:30 pm

### Schedule of Events

- |                    |                                                                                                             |
|--------------------|-------------------------------------------------------------------------------------------------------------|
| 9:15 am - 11:45 am | Connecticut College<br>Digital Scholarship Panel<br>Presentations<br>Chu Room, Shain Library                |
| 1:00 pm - 3:15 pm  | Trinity College and UConn<br>Greenhouse Studios Panel<br>Presentations<br>Chu Room, Shain Library           |
| 4:30 pm - 5:30 pm  | Keynote Lecture by Dr.<br>Nicholas Bauch (University of Minnesota): "Digital<br>Geo-Humanities"<br>Olin 014 |
| 5:30 pm - 6:30 pm  | Reception<br>Olin Lobby                                                                                     |

The symposium features presentations by faculty, technologists, and librarians on methods and outcomes of collaborative digital scholarship in the liberal arts. Learn about the possibilities of using digitization, mapping, crowdsourcing, and online publishing to conduct and share your research in exciting new ways. Keynote speaker Dr. Nicholas Bauch published the first project, *Enchanting the Desert* (2016), in Stanford University Press's digital scholarship series. The born-digital multimodal project integrates his scholarship on the Grand Canyon with interactive GIS mapping and historical images by photographer Henry G. Peabody.



# **The St. Martin Project**

**An expanding collaborative intelligence community from  
the classroom to New London, CT, Miami, FL and St.  
Martin (for now...)**

**Catherine Benoît  
Anthropology Department  
Connecticut College**



Catherine Benoît

# Au cœur des ténèbres de la *friendly island*

*Migrations, culture et sida à Saint-Martin*





---

## View of Marigot

Views of Marigot Popo (French side)

**Tags:** [1996](#), [French Side](#), [Hurricane](#), [Luis](#), [Marigot](#), [Popo](#), [SXM](#)



---

## View of Marigot

View of Marigot - Saint-James

**Tags:** [1996](#), [French Side](#), [Marigot](#), [Saint James](#), [SXM](#)



---

## Lady Liberty, Agreement

Statue sculpted by Theodore Bonev. It was unveiled in 2007 for the celebration of the 159th anniversary of the abolition of slavery in the French Caribbean colonies (Located at the Agreement roundabout).

**Tags:** [Agrément](#), [Emancipation](#), [Memorial](#), [slavery](#), [Statue](#), [SXM](#)





# On Hurricanes and Migrations in St. Martin

ALL

AIDS EPIDEMIC

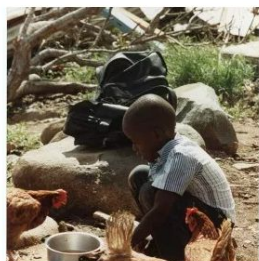
BORDERS

HURRICANE LUIS

MIGRATIONS

TAX HAVEN

THE ISLAND



# ≡The St. Martin Project: Migrations, AIDS and Hurricanes in a Time of Deportations

## Cité Popo

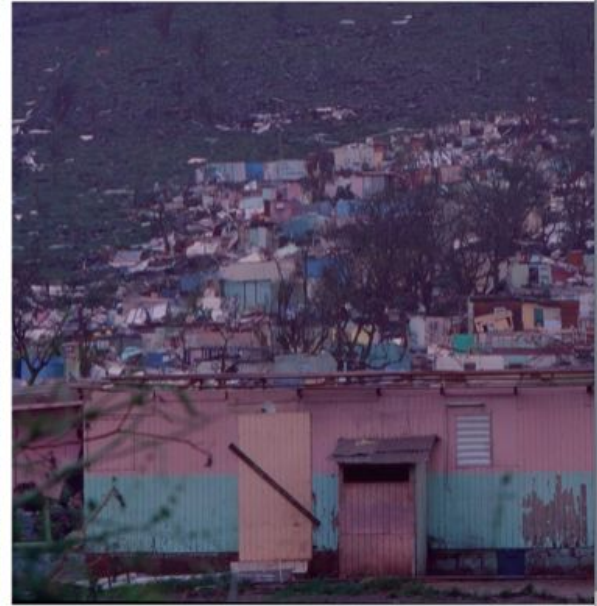
---

[Hurricane Luis](#) was an opportunity for the French government and the municipality of Saint-Martin to raze Cité Popo, a shantytown that was inhabited by approximately one thousand Haitian nationals who lived in 400 makeshift homes. A [delegation of lawyers](#) who visited the island in December 1995 concluded that the destruction of these homes was illegal. Several French tribunals recognized the responsibilities of the municipality and the French government, but appeals slowed down the procedures leading to compensation.

These lawyers were members of several French and Caribbean associations for the protection of the rights of foreigners (Groupe d'information et de soutien des immigrés, GISTI and the Association Solidarité Karayib, ASSOKA) or members of the unions of magistrates and lawyers of France (*Syndicat de la magistrature*, *Syndicat des*



Boys playing with chickens





## What is the impact of hurricanes on the people of St. Martin?

*How did natural disasters, public health crises, and the oppressive policies of the French state drive the migrant populations in St. Martin to homelessness and deportation?*





# Migrations

Migrations have shaped the demography, the economy, and the governance of St. Martin. Beginning in 1848 with the abolition of slavery in the French side, and into the 1970s the people of St. Martin migrated across the Caribbean, often temporarily for seasonal labor contracts. In 1863 slavery was abolished on the Dutch side, sparking more Caribbean migrations. Many migrated to the United States to settle down permanently, largely beginning in the 1930s, as in the case of Staten Island, NY and New London, CT.

Since the 1970s the construction and exploitation of the tourism infrastructure that launched the economic development of the island has relied on a labor force who came from the poorest Caribbean islands such as Haiti and the Dominican Republic. From 1970-1990 the population increased by a factor of five and went from 14,000 in the 1970s to more than 80,000 at the end of the 1990s. These laborers were employed in construction and in the very lowest positions in the service industry and they lived in substandard, dangerous conditions.

In 1999, the year of the last census of the entire population of Saint Martin, French of metropolitan origin or from Guadeloupe, a French overseas department, constituted just over 65 percent of the total population, with those said to be originally from Saint Martin prior to European colonization estimated at 15 percent of the total population. The proportion of foreign born people was about 32 percent of the population, with a majority from the Caribbean, in particular from Haiti, Dominica and the Dominican Republic. The population of foreign-born inhabitants on Saint Martin decreased by 38 percent over the 1990s. Whereas it represented 53 percent of the population in 1990, it was no more than 32 percent in 1999. The reduction in the number of foreigners on Saint Martin is directly related to a policy of deportations implemented by the French government. From 1992 to 1997, this policy led to the deportation of 3,275 foreigners; this was the highest number of deportations in regards to the total population of any French overseas

18 / 18 Images

FILTER BY CATEGORY:

FILTER BY SUBJECT:













# Hindu and Muslim fisherfolk & honey collectors in a shrinking Sundarbans

Sufia Uddin

Student collaborators: Avatar Simpson and  
Julia Neumann



- My research topic
- Why the digital platform?
- Why collaborate with students?
- Future direction of the project

**project goal:**

Making visible the impact of privileging  
modern systems of knowledge over  
Non-modern systems of knowledge in the  
Sundarbans



**The struggles of the Sundarbans  
mangrove community**

Growing social inequality

Environmental crisis--forest destruction

Climate change refugees of the future





# LIFE IN THE SUNDARBANS MANGROVE FOREST

Cultural Beliefs, Religious Practices, and Environmental Degradation

## GLOBAL

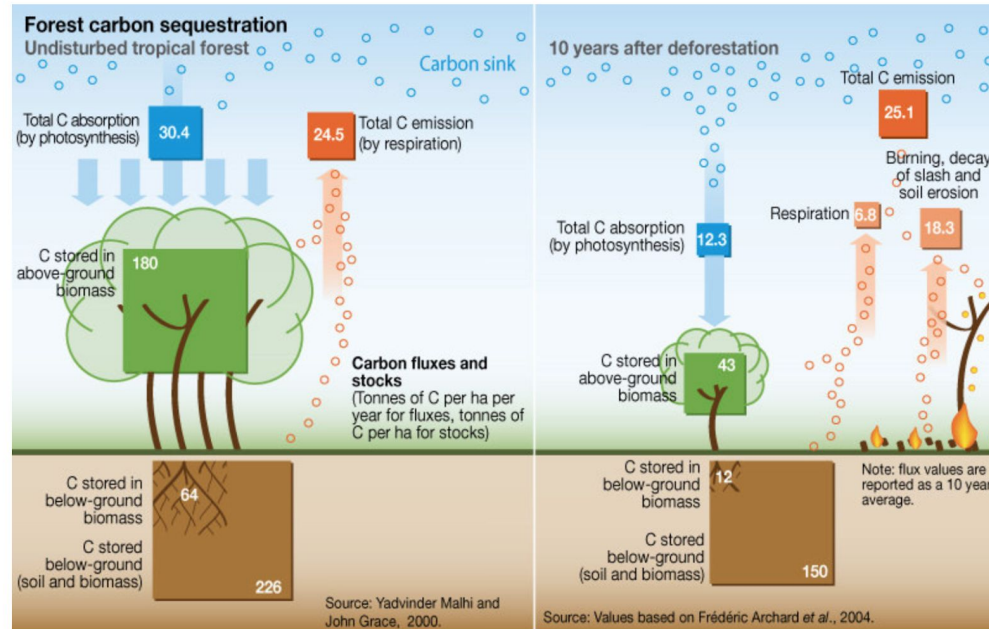
Environmental degradation on a global scale drastically impacts the Sundarbans, as this mangrove forest is one of the most delicate and complex ecosystems in existence.



# CARBON SEQUESTRATION

Carbon Sequestration is the process of capturing and storing atmospheric carbon dioxide. Areas that are able to store large amounts of carbon are known as “carbon sinks” and primarily include oceans and forests. These carbon sinks are crucial in combating both climate change and the current global rise in temperatures. On top of storing carbon, the flora within forests convert carbon dioxide into oxygen through the process of photosynthesis.

According to a study conducted entitled *Carbon Sequestration in Mangrove Forests*, by Daniel Alongi from the Australian Institute of Marine Science, mangrove forests have the “highest area rates of carbon sequestration compared with any other ecosystem, terrestrial or marine.” This makes mangroves one of the most carbon rich biomes worldwide. To put this in perspective, mangrove forests only account for 0.5% of the total coastal ocean area, but are responsible for 14% of carbon sequestration by the global ocean. Mangroves are able to store more carbon due to their extensive root system. Most of the carbon stored below ground, either in the roots, as soil carbon, or as peat (organic

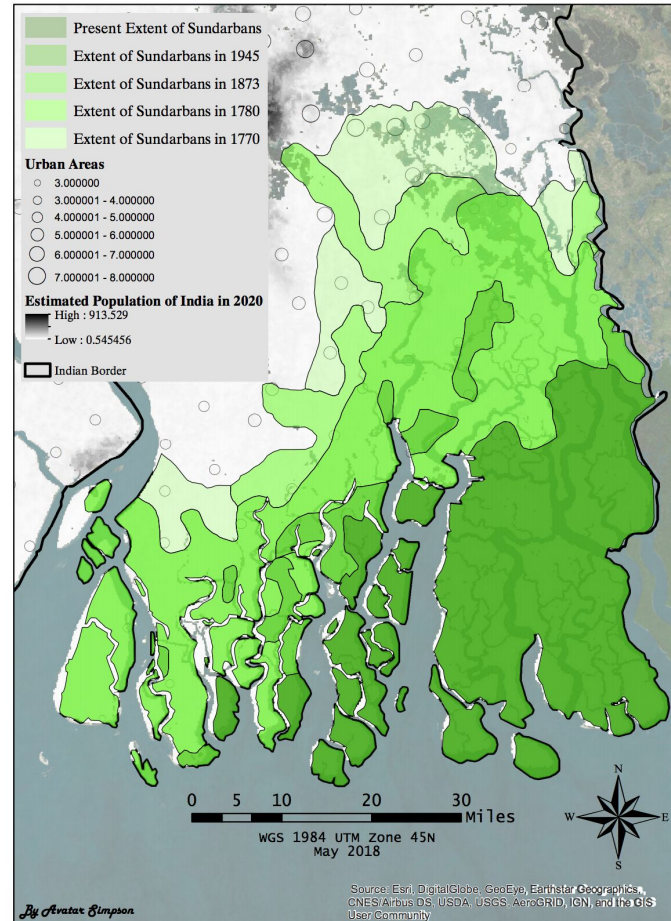


Changes in carbon sequestration before and after deforestation.

## Collaboration with students

- Learning for the sake of learning
- Agency
- Create knowledge

## Environmental Degradation of the Indian Sundarbans Mangrove Forest 1770-1780



# Future of the project

- Animated map demonstrating the rapid destruction of the forest and its inhabitants.
- Inclusion of my translation of the 19th-century origin poem of Bonbibí with recitation and hyperlink annotations to text.
- Video of drama performance and commentary from individuals.

Digital Database of *Drosophila* Wings  
for Quantitative Analysis:  
A Community of Users

Phillip Barnes



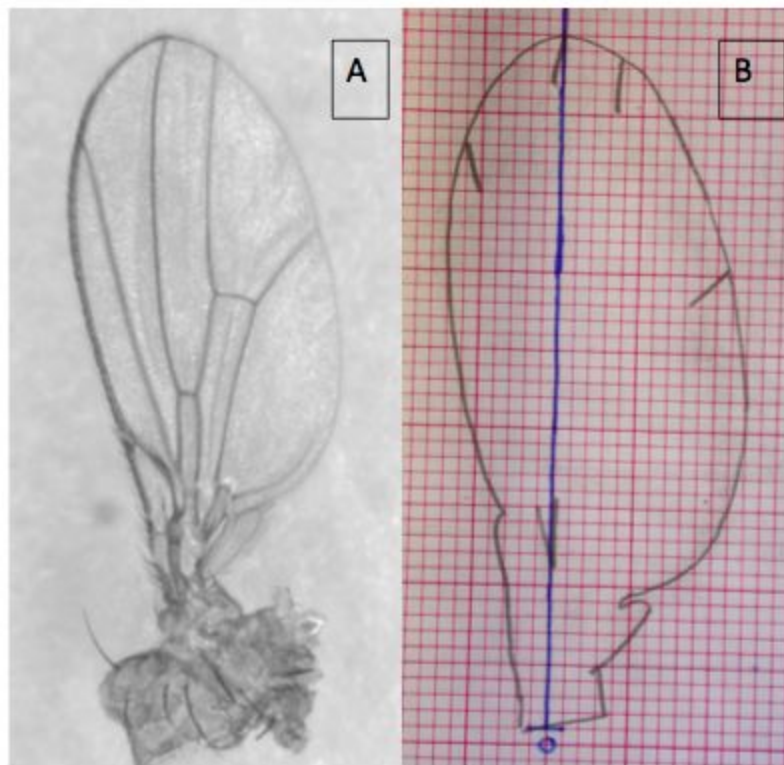
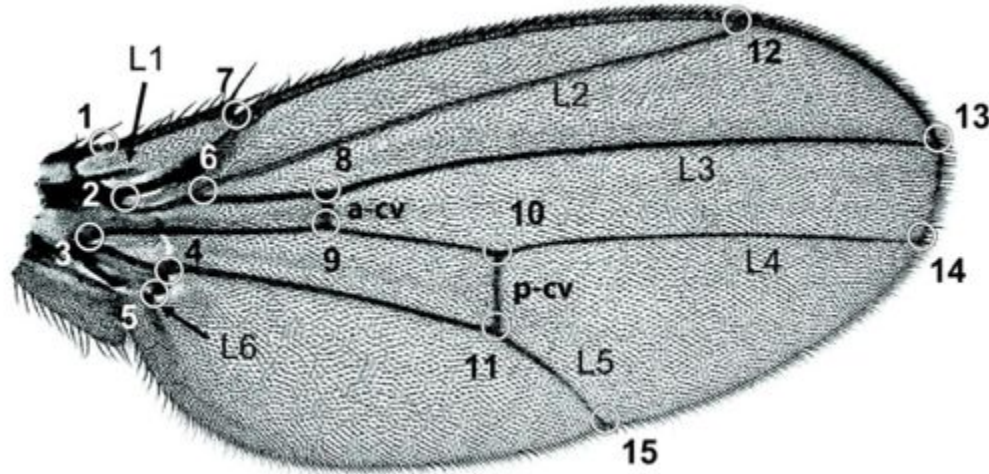


Figure 1. Images of (A) an actual wing and (B) of the 50x magnified tracing with overlay at 0.1-inch grid scale.

Example of additional data that could be captured and used from a wing



**A *Drosophila* wing and the 15 landmarks used to characterize its shape.** The landmarks are mostly located at intersections between longitudinal veins (L1 to L6), crossveins (a-cv: anterior crossvein, p-cv: posterior crossvein) and the wing margin.

## Examples of wing collections from two different experiments





## Examples of wing collections from two different experiments

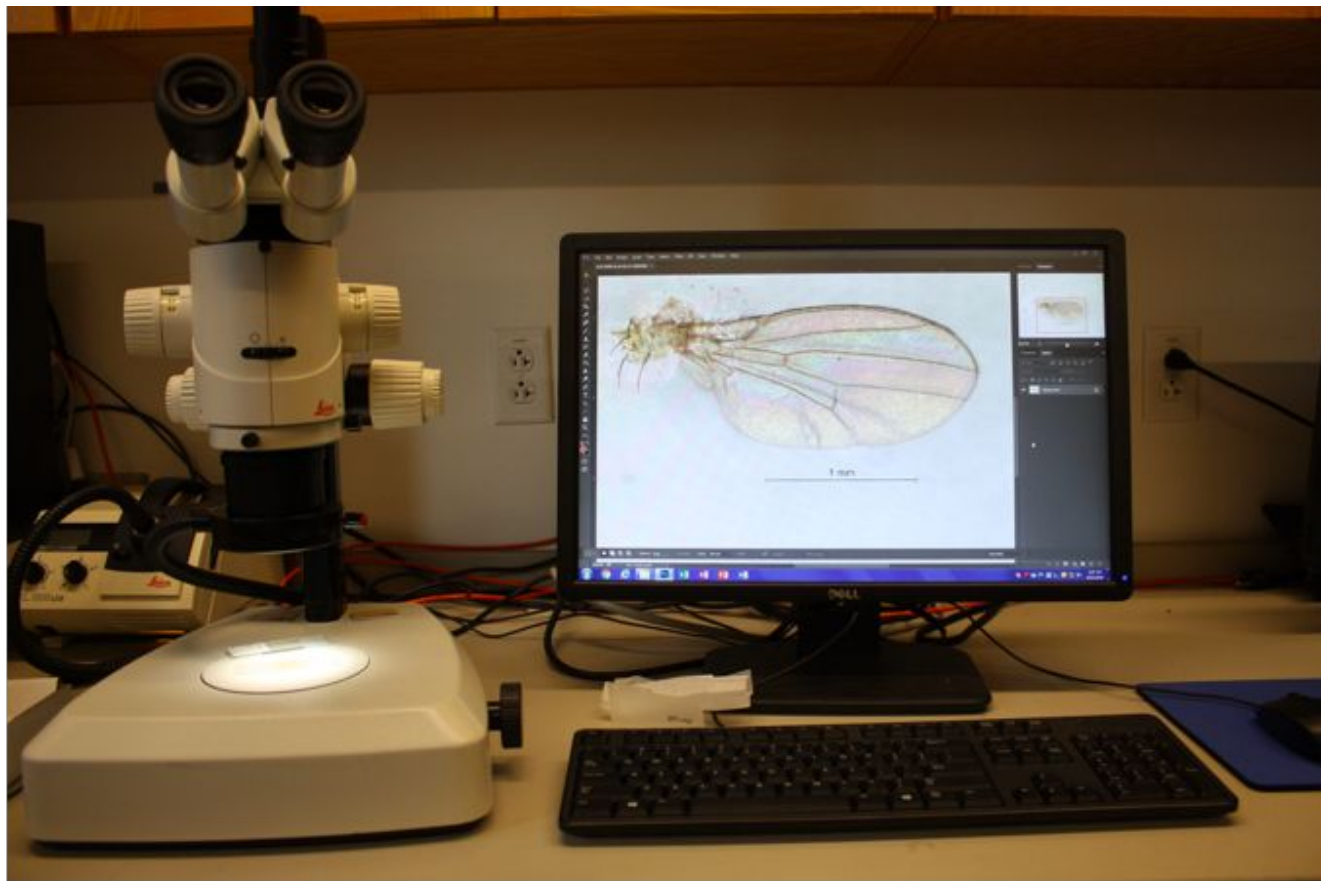




## Metadata associated with wings

Cross: parents are  
O = ORC genotype  
9 = 91C genotype

Obs	Block	Day	Person	Rep	Cross	Min	Sec	Female Mass (mg)	Male Mass (mg)	Time (minutes)
327	1	2	3	4	O9	.	.	1.306	0.845	.
328	1	2	3	4	OO	6	47	1.331	0.722	6.7833
329	1	2	3	5	99	8	43	1.318	0.693	8.7167
330	1	2	3	5	9O	6	32	1.482	0.662	6.5333
331	1	2	3	5	O9	28	26	1.294	0.661	28.4333
332	1	2	3	5	OO	4	44	1.531	0.766	4.7333
333	1	2	3	6	99	11	14	1.407	0.665	11.2333
334	1	2	3	6	9O	8	28	1.449	0.623	8.4667
335	1	2	3	6	O9	.	.	1.864	0.721	.
336	1	2	3	6	OO	6	10	1.240	0.689	6.1667
337	2	1	3	1	99	16	15	1.346	0.721	16.2500
338	2	1	3	1	9O	6	39	1.358	0.673	6.6500
339	2	1	3	1	O9	10	7	1.386	0.741	10.1167
340	2	1	3	1	OO	.	.	1.428	0.801	.



Setup for digitally photographing the wings.  
(Leica Application Suite software and a dissecting microscope.)



Another example of more metadata from a different experiment where a set of ten observations (R) and calculations (M1-M9) are associated with each wing.

TABLE 1. Wing morphology variables and their dimensions. The chord,  $c$ , is the distance from the leading edge to the trailing edge of the wing, perpendicular to the long axis of the wing, at a distance  $r$  from the point of rotation of the wing. The total length of the wing is designated  $R$ .

Variable	Dimensions	Abbreviation
Chord, $c$	mm	
Length, $R$	mm	R
Mechanical moments:		
$\int_0^R c \, dr$ (area of wing)	mm <sup>2</sup>	M1
$\int_0^R c \, r^2 \, dr$	mm <sup>4</sup>	M2
$\int_0^R c \, r^3 \, dr$	mm <sup>5</sup>	M3
$\int_0^R c^2 \, r^2 \, dr$	mm <sup>5</sup>	M4
$\int_0^R c^3 \, r \, dr$	mm <sup>5</sup>	M5
$\int_0^R c^2 \, dr$	mm <sup>3</sup>	M6
$\int_0^R c^2 \, r \, dr$	mm <sup>4</sup>	M7
$\int_0^R c \, r \, dr$	mm <sup>3</sup>	M8
$\int_0^R c^{3/2} \, r^{5/2} \, dr$	mm <sup>5</sup>	M9

## **Some aspects of the project yet to be worked out:**

- 1) How will an interface be provided on the web?
- 2) Will access be freely open, or will it be permission based? Permission based access may allow me to meet new colleagues and establish new research collaborations. But, it may limit community of users.
- 3) How will the database be sortable? There will be multiple variables associated with each wing, e.g., which of three genotypes, which of three rearing temperatures, which sex, on values of the length of the wing, etc.?





Overview (35); Eukaryotes (84); Prokaryotes (0); Viruses (0); Plasmids (0); Organelles (27)

▼ Filters

Download

FEEDBACK

#	Organism Name	Organism Groups	Size(Mb)	Chromosome	Organelles	Plasmids	Assemblies
1	<a href="#">Drosophila albomicans</a>	Eukaryota;Animals;Insects	253.56	-	-	-	2
2	<a href="#">Drosophila americana</a>	Eukaryota;Animals;Insects	163.287	-	-	-	2
3	<a href="#">Drosophila ananassae</a>	Eukaryota;Animals;Insects	230.993	-	-	-	2
4	<a href="#">Drosophila arizonae</a>	Eukaryota;Animals;Insects	141.387	-	-	-	1
5	<a href="#">Drosophila athabasca</a>	Eukaryota;Animals;Insects	130.278	6	-	-	1
6	<a href="#">Drosophila biarmipes</a>	Eukaryota;Animals;Insects	169.379	-	-	-	2
7	<a href="#">Drosophila bipectinata</a>	Eukaryota;Animals;Insects	167.264	-	-	-	2
8	<a href="#">Drosophila busckii</a>	Eukaryota;Animals;Insects	135.749	6	-	-	2
9	<a href="#">Drosophila elegans</a>	Eukaryota;Animals;Insects	171.268	-	-	-	1
10	<a href="#">Drosophila erecta</a>	Eukaryota;Animals;Insects	152.712	-	-	-	2
11	<a href="#">Drosophila eugracilis</a>	Eukaryota;Animals;Insects	156.942	-	-	-	1
12	<a href="#">Drosophila ficusphila</a>	Eukaryota;Animals;Insects	152.439	-	-	-	1
13	<a href="#">Drosophila grimshawi</a>	Eukaryota;Animals;Insects	200.468	-	-	-	1
14	<a href="#">Drosophila hydei</a>	Eukaryota;Animals;Insects	139.941	-	-	-	2
15	<a href="#">Drosophila kikkawai</a>	Eukaryota;Animals;Insects	164.293	-	-	-	1
16	<a href="#">Drosophila melanogaster</a>	Eukaryota;Animals;Insects	143.726	7	1	-	22
17	<a href="#">Drosophila miranda</a>	Eukaryota;Animals;Insects	136.729	6	-	-	3
18	<a href="#">Drosophila mojavensis</a>	Eukaryota;Animals;Insects	193.826	-	-	-	1
19	<a href="#">Drosophila montana</a>	Eukaryota;Animals;Insects	183.585	-	-	-	1
20	<a href="#">Drosophila nasuta</a>	Eukaryota;Animals;Insects	137.224	-	-	-	1
21	<a href="#">Drosophila navojoa</a>	Eukaryota;Animals;Insects	115.886	-	-	-	1
22	<a href="#">Drosophila novamexicana</a>	Eukaryota;Animals;Insects	182.213	-	-	-	1
23	<a href="#">Drosophila obscura</a>	Eukaryota;Animals;Insects	181.869	-	-	-	1
24	<a href="#">Drosophila persimilis</a>	Eukaryota;Animals;Insects	188.374	-	-	-	2
25	<a href="#">Drosophila pseudoobscura</a>	Eukaryota;Animals;Insects	164.366	2	-	-	3
26	<a href="#">Drosophila rhopaloe</a>	Eukaryota;Animals;Insects	197.376	-	-	-	1
27	<a href="#">Drosophila sechellia</a>	Eukaryota;Animals;Insects	166.592	-	1	-	2
28	<a href="#">Drosophila serrata</a>	Eukaryota;Animals;Insects	198.036	-	-	-	1
29	<a href="#">Drosophila simulans</a>	Eukaryota;Animals;Insects	124.964	6	1	-	11
30	<a href="#">Drosophila subobscura</a>	Eukaryota;Animals;Insects	117.291	-	-	-	1
31	<a href="#">Drosophila suzukii</a>	Eukaryota;Animals;Insects	232.923	-	-	-	2
32	<a href="#">Drosophila takahashii</a>	Eukaryota;Animals;Insects	182.107	-	-	-	2
33	<a href="#">Drosophila virilis</a>	Eukaryota;Animals;Insects	206.027	-	-	-	3
34	<a href="#">Drosophila willistoni</a>	Eukaryota;Animals;Insects	235.516	-	-	-	1
35	<a href="#">Drosophila yakuba</a>	Eukaryota;Animals;Insects	165.71	6	1	-	1

Homo sapiens

3,257.32

24

1

-

204

## Basic Local Alignment Search Tool

BLAST finds regions of similarity between biological sequences. The program compares nucleotide or protein sequences to sequence databases and calculates the statistical significance. [Learn more](#)

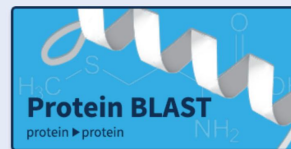
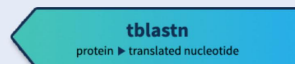
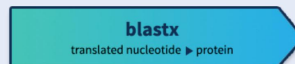
NEWS

A new version (1.4.0) of the BLAST RNA-seq mapping tool, Magic-BLAST, is now available

Tue, 21 Aug 2018 16:00:00 EST

[More BLAST news...](#)

## Web BLAST



## BLAST Genomes

[Search](#)[Human](#)[Mouse](#)[Rat](#)[Microbes](#)

## Standalone and API BLAST

[Download BLAST](#)

Get BLAST databases and executables

[Use BLAST API](#)

Call BLAST from your application

[Use BLAST in the cloud](#)

Start an instance at a cloud provider

## Specialized searches

[SmartBLAST](#)

Find proteins highly similar to your query

[Primer-BLAST](#)

Design primers specific to your PCR template

[Global Align](#)

Compare two sequences across their entire span (Needleman-Wunsch)

[CD-search](#)

Find conserved domains in your sequence

[GEO](#)[IgBLAST](#)[VecScreen](#)[CDART](#)