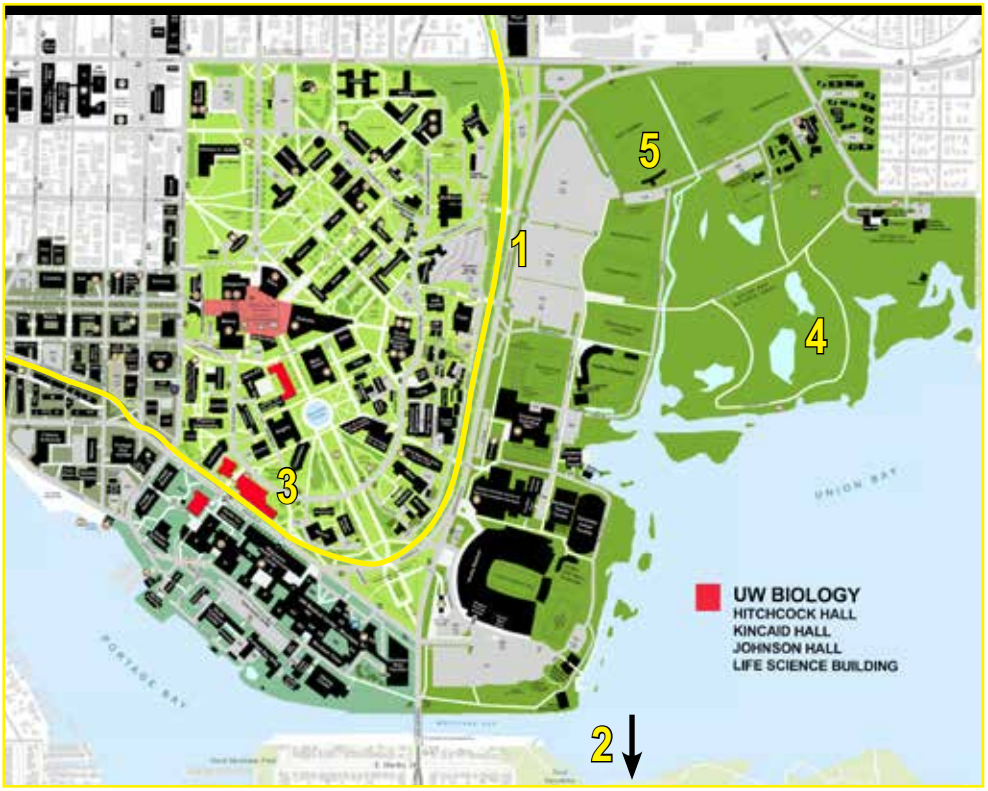
UNIVERSITY of WASHINGTON | DEPARTMENT OF BIOLOGY

BIOLOGY STUDENT NEWSLETTER

SPRING 2023 ISSUE 43

IMPORTANT DATES FOR SPRING QUARTER

Mar 27	First Day of Instruction
Apr 2	Last day to drop a class without a fee thru MyUW
Apr 3	Biology Grad Celebration RSVP posted
Apr 3	All courses require entry codes to add and fee
Apr 5	Last Day to Apply for Grad Reg Priority GSP for Summer
Apr 5-6	Grad Fair MGH Commons
Apr 7	Last Day to apply to Biology major in Spring
Apr8-Jun30	Summer Bio Major Application Open
Apr 14	Last Day to apply for Spring 2023 graduation
Apr 16	Last Day to add courses Through MyUW
Apr10-May17	SumRegPriority Period 1
May 3	Order Cap&Gown
May 5	Autumn Period 1 Priority
May18-Jun19	Sum RegPriority Period 2
May 19	Research Symposium Mary Gates Hall
May 29	Memorial Day-Holiday
Jun 2	Last Day to Withdraw (from all Spr Qtr classes)
Jun 5	RSVP Deadline Dept of Biology Grad Celebration
Jun 5-9	Final Examination week
Jun 9	Last Day to use ANNUAL DROP or convert to S/NS
Jun 9	Biology Grad Celebration
Jun 10	Big UW Commencement
Jun 19	Juneteenth Holiday
Jun 20	Summer Quarter Starts



Our UW campus has many wonderful outdoors venues close by: 1: Burke-Gilman Trail, 2: WA Park & Arboretum, 3: Medicinal Herb Garden, 4: Union Bay Natural Area (Urban Hort.), & 5: UW Golf Driving Range.

Have you ever wondered how these places got created or why would you name a trail, Burke-Gilman?

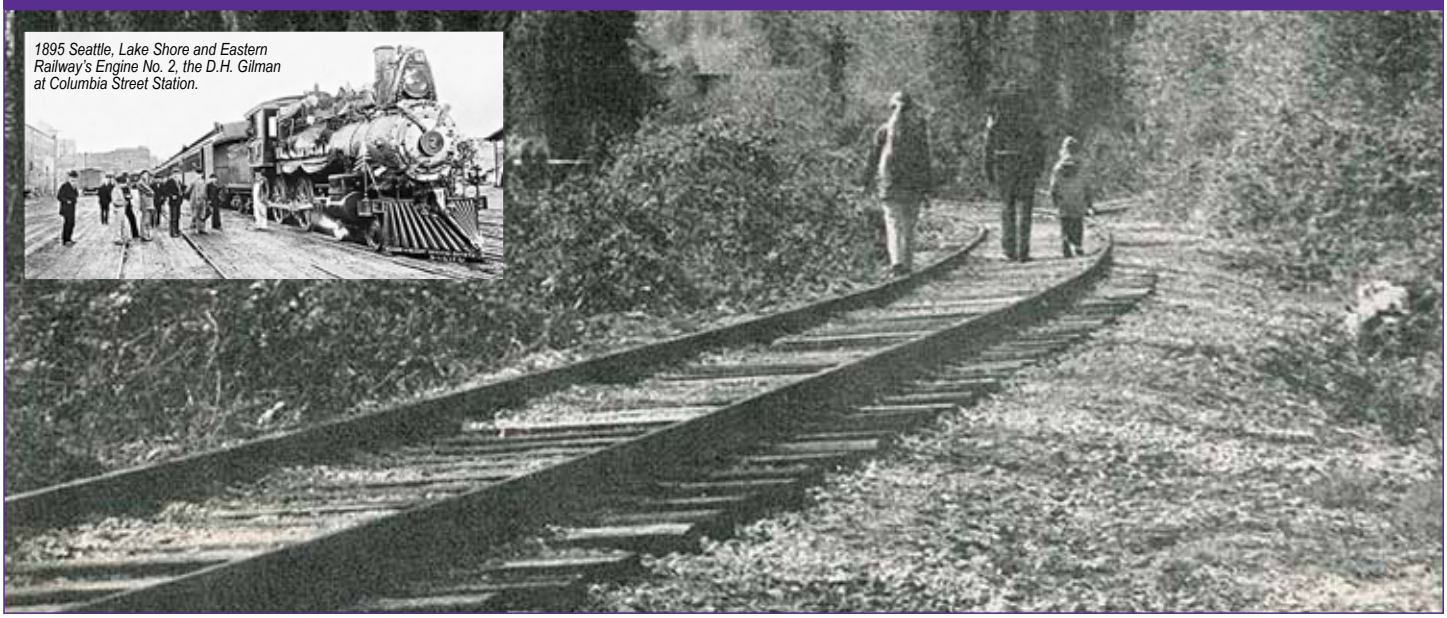
This issue will give you a bit of history for each one so you can appreciate the visions of people who came before and how they saw what was proposed could make a better community around the UW for the future.

One of our own, Biology Emerita Faculty, Dr Merrill Hille is one of the founding members of the Burke-Gilman Trail Committee. Her neighborhood committee imagined how an abandoned stretch of local railroad track could become a local walking/cycling trail for their community. They probably didnt imagine how popular the recreational trail would become for walkers/runners/cyclists/ skaters and commuters for the City of Seattle.

We will tell Merrill's story of her part of her planning a "hike" rally back in 1971 (and got 2000 people to show up) to get public awareness and support for the proposed Burke-Gilman Trail that you use today.

DR MERRILL HILLE

1. BURKE-GILMAN TRAIL Merrill Hille's Story of How the Burke-Gilman Trail Was Created



Matthew Beach neighbors walking along the track.

The first thing you need to know is that the Burke-Gilman Trail follows a former train track right-of-way of one of Seattle's first railroads, the Seattle, Lake Shore & Eastern Railway (SLS&E) that ran from Woodinville to Seattle. In the 1960's, The Burlington Northern Railroad trains were still using this track once-a day to deliver coal to the University of Washington and lumber to Dunn Lumber. The tracks went right by Matthews Beach where Merrill's family lived. Her kids loved to watch the coal trains go by.

The University of Washington's Power Plant used coal burning boilers in producing steam heat for the Seattle campus. During the late 1960's they converted from coal to natural gas as a cleaner source of heating. In 1970 the coal trains to the UW stopped. That is when the Burlington Northern Railroad applied to abandon the old SLS&E rail line and sell the property. One of our own Biology alumna faculty, Merrill Hille, back then was a postdoc in Dr. Whiteley's Lab. Her young family was living near Matthews Beach located about 5 miles NE from UW campus. Her neighborhood saw this abandonment as a great opportunity to convert the railroad right of way to a mixed used trail for Seattle. The neighborhood was already using the railroad overpass to cross over busy Sandpoint Way to Matthews Beach. The kids walked between the rails to cross so they wouldn't fall off the overpass' edges.

This neighborhood decided to form a committee to convert the railway line into a hiking and biking trail. Their committee included Irv Berteig who worked as a planner for King County, Jim Todd (Chair) and Sandy Wood (Sierra Club contact), Estell Berteig (Historical Researcher and Treasurer), and Merrill Hille (Hike-In Organizer). Other members of the committee included Mamie Rockafellar (news releases), Nancy Todd, and Frank and Evelyn McChesney. They made flyers and courted media coverage for the effort, promoted the conversion to a trail by going to local fairs such as the University District Fair and reached out via mailings for donations of cash and other support. They also connected with supportive community groups, including the Cascade Bicycle Club. Merrill said they did fund raising mailings the old way, before the internet was available. Her living room was filled with letters being sorted by zip code. Sometimes the donations they received would just cover the next mailing.


Proposed Burke-Gilman Trail Park, ca.

How did the committee get its name? UW archivist and historian Richard C. Berner recommend the committee read the 1961 book about Thomas Burke called *"He Built Seattle"* by Robert C. Nesbit. In 1885, the Seattle, Lake Shore & Eastern Railway (SLS&E) was established by a group of 12 investors that included Judge Thomas Burke (1849 -1925) and businessman Daniel Gilman (1845-1913). Those two people were key to bringing the first railroad into existence. "Burke was the one who pushed for it politically, and Gilman went to New York to get the money for it," Hille said. "Three of us, Merrill Hille, Estell Berteig and Mamie Rockafellar had read the Nesbit book. We were sitting in the Berteig's house trying to find a name and the three of us simultaneously said 'Burke-Gilman Trail Committee."

The Committee did more historical research wondering if there was something they could use to leverage Burlington to give the trail to the community. One of their members, Estell Berteig was good at digging through public records and found that a large portion of the landowners turned over their right-of-way to the SLS&E for free in 1885. The committee thought the trail should in turn be given back to the neighborhoods for free.

She Organizing the 'Hike-in' that Would Meet for a Rally at Matthews Beach, Sept 12, 1971

1971, People in the Hike-in walking along the train track to Matthew Beach

Things started to happen in the early summer of 1971. Estell Bertig took her kids to NW Folklife Festival memorial weekend and spotted Seattle Mayor Wes Ulman walking thru the crowd. She took this opportunity and pushed her kid's stroller in front of him, blocking his way. She immediately started to talk about the proposed Burke-Gilman trail. He really liked the idea and thought it was an amazing opportunity for a mixed-use trail to go right through Seattle. Ulman recommended that someone from their committee come down and talk to him at City Hall. Ulman had scheduled 15 minute meeting. Jim Todd and Frank McChesney ended up talking with Ulman for more than an hour.

Some homeowners living along this proposed trail feared it would become a vector for crime, and that their property values would drop. They had beautiful, big, very expensive homes on the waterfront. This was also the time of the "Boeing Bust," when massive layoffs had put the local economy into a tailspin. "At this time the city was also broke. It was laying off fire, police personnel and so some of the protests were saying Mr. Mayor we need what little money there is for important things instead of trails," Uhlman said. But something about the trail project strongly appealed to Mayor Uhlman. The protests – and an effort by one group to preserve the rails alongside the trail in order to operate a steam excursion railroad from University Village to Kenmore – all eventually fell by the wayside. "I felt very strongly that this was a once-in-a-lifetime opportunity, to have a trail go through the middle of Seattle," Uhlman said. "And so I held my guns," and suggested to the committee a way to show real public support.

The Committee sent our Merrill Hille to meet regularly with Seattle Mayor Wes Uhlman, as she was the only person who had a part-time job and full-time babysitter. "Thus once when I went down to City Hall, Mayor Uhlman told me to make a Hike-In to advertise the trail." Mayor Uhlman told her exactly how the hike should be. One group would start under the I-5 Bridge west of the University, and one group would start at the north end of the Lake Washington, and they would converge and meet at Matthews Beach Park where she was to organize a rally. Merrill found herself planning a hike-in for Sunday September 12, 1971. She said, the hike-in was all Mayor Wes Ulman's idea to get public support, so that is what she did. It was a very busy summer for Merrill working on the planning and logistics of the hike-in. The University of Washington public policy administrator, Ruth Itner endorsed the project wholeheartedly and advised Merrill on how to advertise the Hike-In and how to organize speakers for the rally at Matthews Beach. Merrill made and distributed creative flyers to drum up public support. Other

1971, Protest at the Hike-in.

Now the Burke-Gilman Trail is Used by Thousands Each Day

conservation groups joined in the cause, including the Sierra Club and the Izaak Walton League. The Rails-to-Trails idea also gained the support of local organizations like the League of Women Voters and politicians like Governor Dan Evans.

The Hike-in on September 12th attracted hundreds of people who marched on the tracks along the shores of lake Washington. Not only hikers and politicians, but also a group of cyclists came from the new Log-Boom Park at Kenmore to Matthews Beach Park, transporting a pennant with the King County logo. From the opposite end, runners and joggers left Gas Works Park in Seattle. Both groups met up at Matthews Beach Park, kicking off the dedication ceremony and speech-making.

"Jim Todd, chairman of the Burke-Gilman Trail Park Committee, said his group is mailing a petition with 1,600 signatures asking that the property be donated to the public by Louis W. Menk, B.N. (Burlington Northern) president". An estimated crowd of 2000 people attended the rally to promote the trail's two primary uses, hiking and cycling. The success of the hike-in and rally gave support to Mayor Ulman to push for the Rails-to-Trails idea.

1971, Rally at Matthew Beach

But the path toward making the trail a reality proved to be trickier and more time-consuming than first thought. As the presence of demonstrators at the rally had shown, not everyone along the route wanted pedestrians and bicyclists walking and pedaling through their neighborhoods. Even though some anti-trail protesters also showed up, the event was a catalyst for much of what followed. Letters of support and petitions in favor of the trail began piling up in the mayor's mailbox at the Municipal Building.

Mayor Uhlman invested a lot of time and political capital into the Burke-Gilman Trail project; voluminous files at the Seattle Municipal Archives marked up with notes and questions show that he took a hands-on approach to building support from local business leaders, state legislators and Washington's congressional delegation. Most importantly he negotiated with Burlington Northern. The efforts of Mayor Uhlman and the Burke-Gilman Trail Committee eventually paid off. In February 1973, Burlington Northern agreed to hand over the railroad right-of-way in exchange for industrial property west of downtown and under water. Meanwhile, King County negotiated a separate deal for the portion of the rail line north of the city limits that stretched to Kenmore.

How did the trail finally acquire its name? The Seattle Park Department spent the $10,000 on creating signage naming the right of way the "Burke-Gilman Trail" before the City Council had met to name the trail. With $10,000 spent, the City Council had to approve name for the trail the next day!

Burke-Gilman sign

Dedication Ceremony: The dedication of the Burke-Gilman Trail was held at noon on Saturday, August 19, 1978, at Matthews Beach Park, just off of Sand Point Way NE at NE 93rd Street. Participants included Seattle Mayor Charles Royer, King County Executive (and later governor) John Spellman, and members of both the city and county councils. At the time of its dedication, the trail ran from Seattle's Gas Works Park to King County's Tracy Owen Station in Kenmore. Eventually, the Burke-Gilman Trail expanded to cover 18.8 miles, connecting Golden Gardens Park in Ballard to Blyth Park in Bothell, where it joins the Sammamish River Trail.

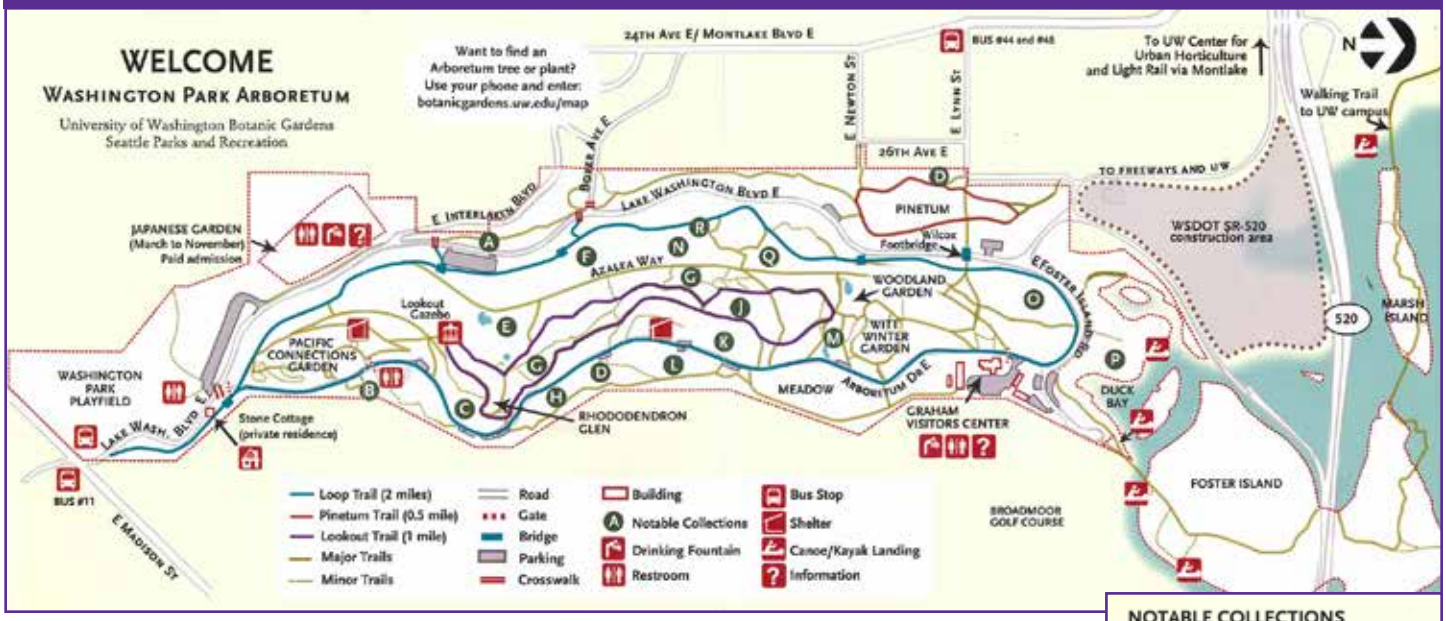
The improved trail — with paving, signage, and safety features — was developed in phases by Seattle and King County throughout the 1970s (and, in some places, into the 1990s). The Burke-Gilman Trail now connects with other trails on the Eastside, north to Snohomish County, and across the Cascades.

"The feared trail-based crime wave never materialized, and proximity to the Burke-Gilman soon became a selling point for homes and apartments along the route" said Feliks Banel, an historian for KIRO News radio. The route is used by thousands each day, connecting business centers, cultural and recreational destinations, hospitals, neighborhoods, and the University of Washington campus.

2023, Burke-Gilman trail in front of LSB around noon.

Nowadays, Hille, who trained as a chemist and biologist, is Professor Emerita at the University of Washington and well-known for decades of work in her field of research. Even so, the Burke-Gilman Trail, which is listed in the National Rail-Trail Hall of Fame, comes up often in conversations at work. "I really discovered that a bunch of people can be very powerful if they get together and push for it," Hille said. "I tell my students and my colleagues who are new here about my role in creating the trail," Hille said. "I tell everybody about the Burke Gilman Trail because I am as proud of having helped make the Burke-Gilman Trail as I am of all the science I did."

2. WASHINGTON PARK AND ARBORETUM Designed by the Olmsted Brothers Firm



In 1900, one of Seattle's first parks, Washington Park was created and became a home to a 40 ft wide speedway for horse racing down the middle of the park and a sanitary land fill.

In 1903, the Olmsted Brothers Landscape Architects firm created the design for Lake Washington Boulevard, which weaves through to present-day Arboretum, as part of its comprehensive plan for Seattle parks and parkways. Washington Park remained largely undeveloped in the 1910s and 1920s.

The Olmsted Brothers were the most prominent landscape architecture firm in the country at that time. The elder Olmsted of the firm was recognized as the father of landscape architecture in the United States and was known for a number of important projects, including New York's Central Park (with Calvert Vaux) and the 1893 Columbian Exposition in Chicago.

Interest in creating an Arboretum in Seattle had been brewing for three decades among staff at the University of Washington and members of the community. The Arboretum was officially established in 1934. The following year, the Arboretum Foundation was formed to raise funds for the nascent botanical garden. In 1936, thanks to a donation from the Seattle Garden Club, James Fredrick Dawson of the Olmsted Brothers Landcape Architects Firm was hired to create a design plan.

James Dawson chose to organize the plant groups according to a taxonomic system, which organized plants according to their ancestral relationships to other plants. He adjusted the system somewhat for conditions on the ground in the park.

The speedway for horse racing in the middle of the park became Azalea Way, one of the highlights of the park. Dawson laid out a narrower turf path, just 16 feet wide, bordered by Japanese cherry trees and eastern dogwoods and an undergrowth of azaleas. The renovation of the speedway into Azalea Way required more than 10,000 hours of hand labor and 500 railroad cars of compost. When it was completed in 1940, crews had planted 500 trees and 2,100 azaleas. In 1937, Dawson predicted "When this planting is carried out it cannot help but be the most magnificent display of this sort in the world"

Azalea Way in the Arboretum

Today the Park is 230 acres includes the Arboretum, the Seattle Japanese Garden, a segment of Lake Washington Boulevard, a playfield, and playgrounds.

Operation of the Arboretum is a joint effort of Seattle Parks and Recreation, the University of Washington, and the Arboretum Foundation under the direction of the Arboretum and Botanical Garden Committee, which consists of members appointed by the mayor of Seattle, the president of the University of Washington, and the governor of Washington.

Dr Dick Olmstead takes his **BIOL446 Plant Classification and Identification class to the Arboretum** in week 3. They also do a campus walk as a lab field trip in week 1 to look at conifers; the UW campus is great for plant diversity.

Dr Berry Brosi takes his **Biol472 Community Ecology** class to the Arboretum to work on general sampling methods for ecological communities, with a focus on plants. The class will build on this process at the UBNA and include birds.

3. MEDICINAL HERB GARDEN A Teaching and Display Garden

Garden Curator, Keith Possee in one of the seven areas of the Medicinal Herb Garden. The orange flowers are Wallflowers (Erysimum spp. that smell sweet).

The Medicinal Herb Garden (MHG) was started in 1911 by the School of Pharmacy to teach students how to make medicines form plants and how to identify plants. It was expanded in 1917 to meet needs for drug plants such as *Atropa belladonna* (Atropine) and *Digitalis purpurea* (Digitoxin), which were in short supply during WWI. At its peak, the garden had 836 species on eight acres. But after World War II a shift of emphasis to synthetic medicines took the place of natural plant extracts. Hit by severe budget cuts, the School of Pharmacy stopped all funding in 1979. The garden might have been lost, but the faculty of the Department of Botany saved it. Staffing was limited and the garden suffered until a group of volunteers formed the Friends of the Medicinal Herb Garden in 1984. Then in 1992, with the construction of the Chemistry Building, one uw adminstrator want to turn it into a parking lot. Concerned Faculty, staff and volunteers secured some of the construction money to move and renovate some of the beds. The garden is located between Benson Hall and the Life Science Building, covering about two acres. In 1996, Keith Possee was hired part time as its garden curator / gardener and become full time in 2000. The Medicinal Herb Garden is part of the Department of Biology.

The Medicinal Herb Garden is now purely a display garden. Harvesting or using any of the herbs in the garden is strictly prohibited, both to preserve the plants, as well as to protect people. Some of the plants in the garden are toxic to people, and others have only certain parts that are safe.

Today, it's one of largest public gardens of its kind, housing healing plants from just about every continent. It's divided into seven sections, all taken care of by Keith Possee. He continues to broaden the scope of the garden each year, increasing the diversity of the collection of plants used for food, fiber, dye, ceremony and medicine in cultures throughout the world.

In the past several years, the rabbit population has increased on the UW Campus. The Eastern Cottontails decided many of the medicinal plants were delicious. Keith had to resort to the use of hardware cloth for plant protection, so as you walk through, you can tell which plants the rabbits prefer.

Dr Jennifer Ruesink takes her **Biol356 Foundation of Ecology** to the MHG to study plant life history traits.

Dr Berry Brosi takes his **Biol472 Community Ecology** class to the MHG to sample plant-pollinator networks as a means of understanding ecological network sampling more broadly.

Dr Dick Olmstead recommends his students in **Biol446 Plant Classification** to visit the MHG to quiz themselves on plant families that they need to learn for class.

Eastern Cottontail,
Sylvilagus floridanus

4. UNION BAY NATURAL AREA, UW BOTANIC GARDENS Formerly, Ravenna Landfill


This land was part of a city landfill that extended from 45th Street south to Husky Stadium, seen here in 1959. In the early 1970s, it was capped, sealed, and covered with new soil.

The 74-acre (with 4 miles of shoreline) Union Bay Natural Area (UBNA) is an outdoor laboratory for the study of restoration ecology and environmental processes. The area was an urban landfill for over 35 years. Hard to imagine the landfill extend from 45th street south to Husky Stadium. In 1971 it was capped but neglected and invasive plants soon took over.

Restoration began in the 1990s. Faculty and staff of the University of Washington Botanic Gardens have studied the recover process, monitoring the benefits for plants and animals and the visiting public. The Natural Area is considered a model project nationwide and provides rare habitats in the urban Northwest. It is one of the best bird-watching sites in the city of Seattle, over 200 species of birds have been sighted here.

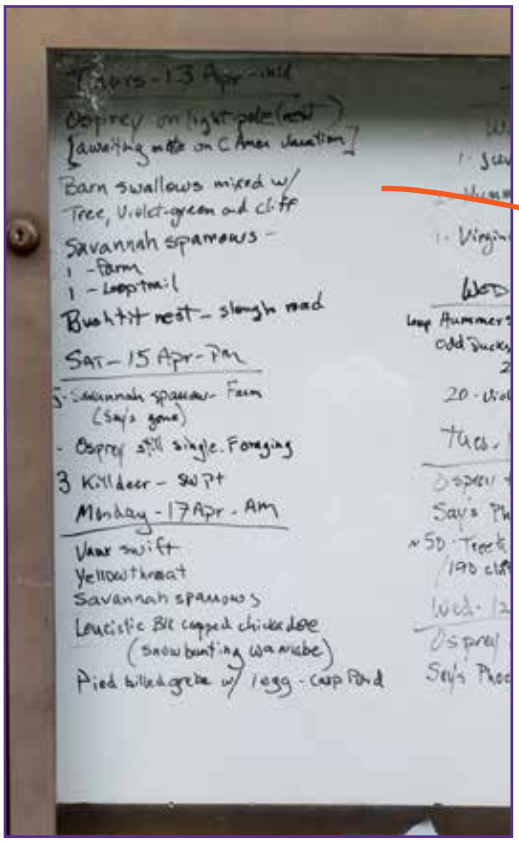
Over the years, Faculty member Dr Karen Petersen has brought students from her **Biol452 Vertebrate Biology** on field trips here for bird watching and signs of other fauna. Her typical field trip would be to meet at the Center of Urban Horticulture at 8 am. Everyone gets binoculars and a check-list of birds found in King County.

Dr Jennifer Ruesink takes her **Biol356 Foundation of Ecology** class to UBNA to examine species - area relationships using the communities of invertebrates under plywood boards of different sizes.

Dr Berry Brosi takes his **Biol472 Community Ecology** class to the UBNA to sample plant and bird communities including diversity, abundance, and community composition.

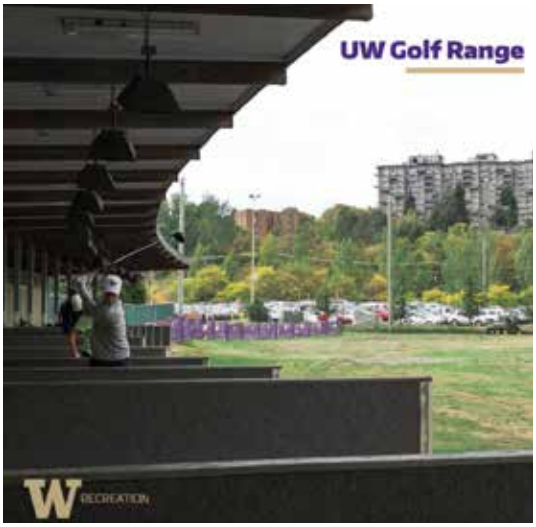
There is an INFO kiosk updated by Urban Horticulture birders who list special bird species they have seen and where on that day's visit. Viewing this list gives you an idea of what you could see and what is flying though at the time. (See INFO kiosk below for April 13, 14 & 15, sighting an Osprey, four kinds of Swallows: Barn, Tree, Violet-green & Cliff, Killdeer, Vaux's Swift and Yellowthroat, Leucistic Black-Capped Chickadee, Pied-Billed Grebe with one egg (floating nest) and Savannah Sparrows).

Common Yellowthroat, Geothlypis trichas



INFO kiosk, a small ways from the Center for Urban Horticulture.

5. UW GOLF DRIVING RANGE Where Did the UW's Sweet 9-Hole Golf Course Go?



UW Golf Driving Range

Yes there is a University of Washington Golf Driving Range. It is located north of the IMA / stadium parking lot E-1. The entrance is down by the University Village off NE 45th Street. Address is 2800 NE Clark Road. It opened in 1965 with 20 tees. In the first quarter, it was just open to students enrolled in the P.E. golf class.

Today, UW Recreation's Golf Range has 42 (20 covered) night-lighted tees, 2 chipping and putting greens, complimentary parking, and monthly classes, February-November. All stalls will be available for use on a first come, first serve basis. Clubs are offered complimentary (also on a first-come, first-served basis) with the rental of a bucket of balls; they are sanitized after each use.

Regular Bucket Rates: UW Student (Seattle Campus) $4.00, UW Employee $6.00, General Public $6.50, Seniors (60+) $5.00

The range is about 250 yards long. They have signs warning the big hitters not to hit over the fence on purpose. A car window gets busted every once in a while and they get the insurance claims. Infact someone told them, they saw a ball over by QFC across NE 45th.

The Manager of the Golf course is Niles Appleby. As a student he hit balls at the UW Golf Driving Range in between classes.

If you wonder since there is no longer a golf course, where do the University of Washington's Men's and Women's golf teams practice and consider their home course...it is at the WA National Golf Club in Auburn.

SO WHERE WAS THE UW'S 9 HOLE GOLF COURSE?

There used to be a golf course where the hospital is now, that continued on the other side of the Montlake Cut. It was nine holes with par-4s and par-5s. In the late '70s, they opened up the range to everyone.

On March 5, 1947, ground breaking occurred for UW School of Medicine. The construction ate up most holes, but a few remained, and golfers were able to play against the backdrop of the new school's steel skeleton.

The Seattle golfing community was a bit sad because the school was being built on the grounds of the University Golf Course, a sweet, nine-hole layout that for 3 1/2 decades hugged more than half a mile of Portage Bay and the Montlake Cut.


This 1950s golfer doesn't let the construction of the Health Sciences Center distract him from his game on the UW Golf Course. Photo courtesy of UW School of Med Dean's Office.

The course was the home of the University Golf Club, and offered students, faculty and other University folks a chance to grab their sticks and whack the ball around for next to nothing. Carved out of an undeveloped landscape that-in 1912-was three miles outside of Seattle city limits, the 3,100-yard course started along Pacific Avenue for a few holes, then picked up across Montlake Blvd. E. and ran along the Montlake Cut, ending next to Husky Stadium.

"We used to play every chance we got," says Dan Ellinger, '53, a retired orthopedic surgeon who attended medical school here from 1949-53. Admits Eugene Ko, '53, a retired general practitioner who was Ellinger's playing partner: "We cut class to play sometimes. It was a break from the tedium of medical school."

The course was doomed the day the University decided to build the school. It was the only open section of land on campus large enough to accommodate the planned medical, dental and nursing schools, health sciences complex and accompanying teaching hospital-as well as room for their probable expansion. Dr. Raymond B. Allen, then the UW president-elect, tried to save the course by proposing that the central part of campus house the health sciences. But the campus' board of health sciences convinced him the waterfront was the best choice.

(From left) Les Mackoff, '53; Dan Ellinger, '53; Basil Grigoris, '53; and Eugene Ko, '53; stand in what used to be part of the third hole of the old University Golf Course-but is now the parking lot outside the emergency room at the UW Medical Center. The four retired physicians played the course while they were medical students in the early 1950s. Photo by Jon Marmor.

DEPARTMENT OF BIOLOGY GRADUATION CELEBRATION June 9, 2023 1:00 to 2:30 pm

The Department of Biology's Graduation Celebration will be held at Hec Edmundson Pavilion.

At 12:00, Hec Ed doors open for family & friends AND Graduating students check-in at the south Hec Ed loading dock.

The guest speaker for our Biology Graduation Celebration is Biology Emerita Faculty, Dr Mary Pat Wenderoth.

The program 1:00 to 2:30 will include the hooding of PhD candidates and the reading of names for all the graduating seniors present. Each student will walk across the stage to be congratulated by either the Department Chair, David Perkel, or the Chair for Undergraduate Program, Jennifer Ruesink.

No tickets are required but ALL STUDENTS are required to RSVP by June 5 by completing the Biology Graduation Celebration catalyst form at: **https://tinyurl.com/uwbiology** .This RSVP is an additional requirement if you are participating in the departmental celebration. Then we will know you are attending AND you will get a name pronouncing card at check-in.

The PhD candidates who got hooded in 2022: Dr Olivia Kosterlitz (Dr Ben Kerr), Dr Román Ramos Báez (Dr Jennifer Nemhauser), Dr Karly Cohen (Dr Adam Summers) and Dr David Slager (Dr Jon Herron).

UNDERGRADUATE AWARDS

FRYE-HOTSON-RIGG AWARD
Ian Campbell (Imaizumi Lab)
Hannah Luskin (Steinbrenner Lab)
Mira Roth (Ward Lab)

INGRITH DEYRUP-OLSEN PEER FACILITATOR AWARD
Nikhil Harikrishnan (Nghiem Lab, UW Medicine)

DR DONALD KELTS FAMILY SCHOLARSHIP
Victoria Zdanewicz (Dhaka Lab, UW Biological Structure)

MAY GARRETT HAYES SCHOLARSHIP
Nathan Greenwood (formerly Steinbrenner Lab, currently Baker Lab, Institute for Protein Design)

PORATH-JOHNSON SCHOLARSHIP
Morgan McCartney (Wills Lab, UW Biochemistry)

FRIDAY HARBOR LABS AWARD
Tyler Horner

DONALD S. FARNER SCHOLARSHIP
Jakob Luce (Neumaier Lab, VA Puget Sound)

VARANASI SCHOLARSHIP
Peter Ricci

MARGARET AWARD
BRYN CARTER (de la Iglesia Lab)

EXCELLENCE IN BIOLOGY SCHOLARSHIP
Emily Flones
Jakob Luce (Neumaier Lab, VA Puget Sound)
Giovanni Micallef
Peter Ricci
Candice Tran
Victoria Zdanewicz (Dhaka Lab, UW Biological Structure)

GRADUATE AWARDS

BOTANICAL FIELD RESEARCH (LAWRENCE GILES) AWARD
Christine Nolan (Imaizumi Lab)

EDMONDSON AWARD
Jack Litle (Carrington Lab)
Grace Leuchtenberger (Carrington Lab)

EDWARDS AWARD
Kindall Murie (Carrington Lab)

ROBERT T PAINE EXPERIMENTAL & FIELD ECOLOGY AWARD
Kyra McClelland (Wasser Lab)

ROBERT T PAINE EXPERIMENTAL & FIELD ECOLOGY FELLOWSHIP
Julia Smith (Buckley Lab)

FRIDAY HARBOR LABS AWARD
Grace Leuchtenberger (Carrington Lab)

ROBIN M HARRIS AWARD
Grace Van Susteren (Riffel Lab)
Elliot Armour Smith (Sidor Lab)
Kaysee Arrowsmith (Brosi Lab)
Madeleine Strait (Brosi Lab)

HOAG AWARD
Kaysee Arrowsmith (Brosi Lab)
David Villalobos Chaves (Santana Lab)
Zoe Kulik (Sidor Lab)
Chenxi Liu (Kerr Lab)
Isiah Newbins (Wilson-Mantilla Lab)
Alyssa Sargent (Rico-Guevara Lab)
Madeleine Strait (Brosi Lab)

HEERENSPERGER AWARD
Amy Platenkamp (Parrish Lab)

INGRITH DEYRUP-OLSEN TEACHING AWARD
Yasmeen Erritouni (Leaché Lab)

KRUCKEBERG-WALKER AWARD
Christine Nolan (Imaizumi Lab)
Andrew Hempton (Imaizumi Lab)
Madeleine Strait (Brosi Lab)

ORIANS AWARD FOR TROPICAL STUDIES
David Villalobos Chaves (Santana Lab)

ORIANS AWARD
Donovan Jackson (Santana Lab)

IUVO AWARD
Katie Holt (Boersma Lab)

RIDDIFORD-TRUMAN AWARD
Amy Platenkamp (Parrish Lab)
Alicia Rice (de la Iglesia Lab)

WALTER & MARGARET SARGENT AWARD
Isiah Newbins (Wilson-Mantilla Lab)
Alyssa Sargent (Rico-Guevara Lab)
Madeleine Strait (Brosi Lab)

SNYDER AWARD
Kristen Meltesen (Wilson-Mantilla Lab)

WALKER FAMILY AWARD
Zoe Kulik (Sidor Lab)
Chenxi Liu (KerrLab)
Isiah Newbins (Wilson-Mantilla Lab)

WINGFIELD / RAMENOFSKY AWARD
Erik Johansson (Abrahms Lab)

MARGO & TOM WYCKOFF AWARD
Erik Johansson (Abrahms Lab)
Kirsten Meltesen (Wilson-Mantilla Lab)
Kindall Murie (Carrington Lab)

WRF-HALL FELLOWSHIP
Yasmeen Erritouni (Leaché Lab)
Adamaris Muniz Tirado (Kerr Lab)
Jane Solano Sanchez (Nemhauser Lab)

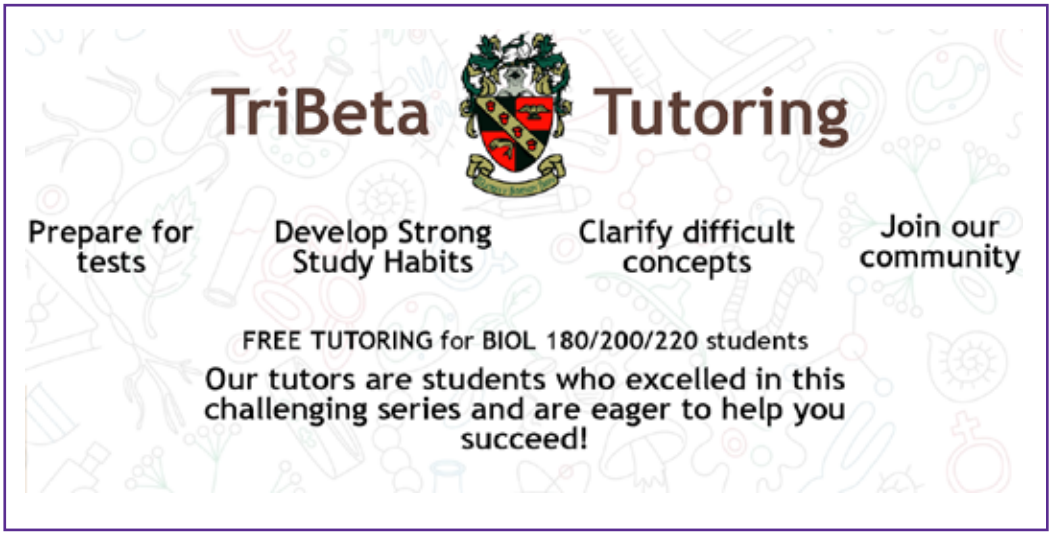
POSTDOCTORAL AWARDS

MARY RACE BEVIS POSTDOCTORAL RESEARCH AWARD
Christopher Schiller (Strömberg Lab)

IUVO POSTDOCTORAL AWARD
Anna Nisi (Abrahms Lab)

TRIBETA TUTORING ONLINE & IN PERSON: Monday - Thursday: starts Mon April 10

TriBeta Tutoring will be offered Spring Quarter in-person at the Hitchcock 4th floor study lounge and online over Zoom.



Tutoring starts during the third week of the quarter on January 17th and ends the week before final exams.

Tutors will be present in person (at HCK 4th floor lounge) and over Zoom, Mon-Thurs to answer your questions about BIOL 180/200/220 and GENOME 361.

Zoom link and finalized schedule are on our website: **https://sites.google.com/view/uwtribeta/tutoring**

IN-PERSON INSTRUCTIONS: Come to HCK 4th floor study lounge, scan the QR code posted on the wall to log-in. A tutor should be present to assist you!

ONLINE INSTRUCTIONS: Click on the Zoom link on our website to join. When you join, a tutor should be present to assist you. Tutors will have a tutor designation in their Zoom name. If multiple students are present in the meeting, then the tutor might move you into a "breakout" room so that they can assist you more individually or encourage you to work with other students in your class. If no tutors are present in the meeting, then it is likely all tutors have moved into breakout rooms to assist other students. Please wait a few minutes for a tutor to become available.

WE PROVIDE FREE TUTORING FOR INTRODUCTORY BIOLOGY (BIOL 180/200/220) and GENOME 361 students at the University of Washington. Our tutors are undergraduate students at the UW who have excelled in the introductory biology classes and are eager to help other students succeed too. Website of our tutoring page: https://sites.google.com/view/uwtribeta/coaching

2022-2023 Executive Board

TriBeta Biological Honor Society

Co-President, ALLISON DECRACKER .....
Vice President, BAONHI NGUYEN.....
Vice President, DAVE YOUNG .....
Vice President, MIRA ROTH.....
VP of Tutoring, VICTORIA LE .....
VP of Tutoring, BILL YOUNG.....
Adviser, BRIAN BUCHWITZ.....
Our website: https://sites.google.com/view/uwtribeta/home

Full Membership is eligible to **any** student who has completed two Intro Biology courses (180/200) and one additional biology course with a GPA of 3.0 or higher.

WHAT IS TRIBETA?

Beta Beta Beta is a national honor society dedicated to improving the understanding and appreciation of biologial studies. It is a platform for students to earn recognition for their efforts and accomplishments while networking with other students and UW Biology staff with the same interests.
In short: a really great organization.

Watch for Events Coming up!

BIOLOGY STUDENTS FOR EQUITY: Lookout for Future Events on Instagram or Facebook

BSE

Greetings from
Biology Students For Equity

We are an RSO started about 4 years ago, but never more relevant. "Unprecedented" is overused, but you know now, more than ever, we need community, safe spaces for difficult conversations, and action to help make the department climate kinder and more productive for our BIPOC (black, indigenous, people of color) community members.

We seek to give undergraduates a voice through our collaboration with the Biology department's Diversity and Equity Committee as well as foster community through our undergraduate mentorship program. Our main goals are to discuss, call out, and address inequities in STEM. Follow us on our **Instagram or Facebook Page (@biologystudentsforequity)** to keep up to date with future events.

If you are interested in joining our email list, becoming a member, or want to learn about how to plug in to our community, please email us at **biologystudentsforequity@gmail.com**.
We hope to work with you and for you.

All Humans Are Welcome.

BIOLOGY STUDY AREA (aka BSA) All students are welcome in Hitchcock 220

All students are welcome — not just Biology majors!

The BSA is open Monday - Friday 8:00 am - 5:00 pm

The Biology Study Area (BSA) is a GREAT place to study with other students, use computers, or just to read. Jessica Nguyen is staffing the BSA.

If you forgot your textbook, you can check out one from the BSA staff, if they have a copy.

The BSA has 23 computers for general use and a Dawg-Print printer.

On three walls of the BSA are wonderful collection displays to look at and learn.

The one seen in the photo to the right is the display of Butterflies of Washington. The wall opposite of this, Odonata of Washington State (commonly known as dragonflies and damselflies). And third, is a two part display of Wing Shape & Flight and Wing Coloration.

All displays courtesy of the Burke Museum.

PAUL'S PECULIAR PLANT PICK FOR SPR: Temporary Trapping as a Pollination Strategy

PAUL BEEMAN
Greenhouse Plant Technician

Plants are not individually mobile, so out crossing to maximize genetic diversity needs a mechanism to move pollen between plants. Early flowering plants relied on water and wind to carry the pollen. Later, animals, particularly insects, were tricked into doing the work. Many plants have a temporal disjunct between when the stigma (female) is receptive and when the anthers (male) are mature and release pollen. In obligate out crossers, there is no overlap between these functions. The problem becomes how to get the same type of potential pollinator to both bring pollen to the plant and carry pollen from the plant to the next one. Numerous plant species in many different plant families have developed devious techniques involving temporary trapping of the pollinator to accomplish this goal.

The first night the giant water lily, ***Victoria amazonica*** (Nymphaeaceae) opens, the flowers are white and sweetly fragrant. Beetles are attracted to the flower's scent but linger because the flowers are thermogenic (produce heat and are warmer than the night air). The flowers close for the following day, trapping the beetles inside. The first night the stigmata are receptive, so beetles carrying pollen will pollinate the flower. The second night the flowers turns deep pink and are no longer fragrant. The stigma are no longer receptive but the anthers have matured during the day, so the exiting beetles are covered with pollen for the next giant water lily they visit.

Victoria amazonica (Nymphaeaceae) The flowers: Day 1 and Day 2.

Amorphophallus titanium, the corpse flower (Araceae) uses a slightly different strategy. The inflorescence also opens at night (tropical nights are cooler than the days and many creatures, including insects are more active then). Aroids have two major flower parts, a spadix (a large vertical spike) and a spathe (which looks kind of like an inverted skirt) surrounding the spadix. The bottom portion of the spadix has two separate bands of male and female flowers. The top portion of the spadix is thermogenic, heating to as much as 11 degrees C above ambient temperature,

Biology's Riffel Lab had the Amorphophallus titanium *plumbed for smell analysis while a visitor checked it out the old fashioned way.*

when the inflorescence blooms. This volatilizes the oils that give the corpse flower its trademark stench. Beetles can detect them from as far as five miles. Initially, the beetles must force their way down between the spathe and spadix. They can't get enough traction to force their way back out. The stigmata are receptive early in the process, so beetles carrying pollen will pollinate the flowers. Thermogenesis in the top of the spadix actually consumes much of the starch there, causing the top of the spadix to shrink. While this is occurring, the stigmata cease to be receptive and the anthers mature and dump pollen all over the trapped beetles. Eventually the spadix shrinks enough to allow a clear passage out of the inflorescence, so the beetles can carry their pollen load to the next titanium.

Cut out of the side of the flower showing anthers on top and stigmata below.

Cerepegia ampliata located in GH room #1

Several members of the genus ***Ceropegia*** (Apocynaceae) use a different technique. The flower never quite fully opens, leaving five openings that restrict the size of the pollinators that can enter the flower. Below that there is a narrow tube lined with downward facing hairs that direct the pollinator deeper into the flower. The hairs face inward, which encourage them to crawl onward, but discourage them from leaving. The stigmata are receptive when the flower opens, but the stamens are still immature. After about a day, the stigmata cease to be receptive, the stamens mature releasing their pollen over all trapped pollinators and the hairs collapse allowing the pollinators to escape and find another flower.

Cerepegia woodii located in GH room #1

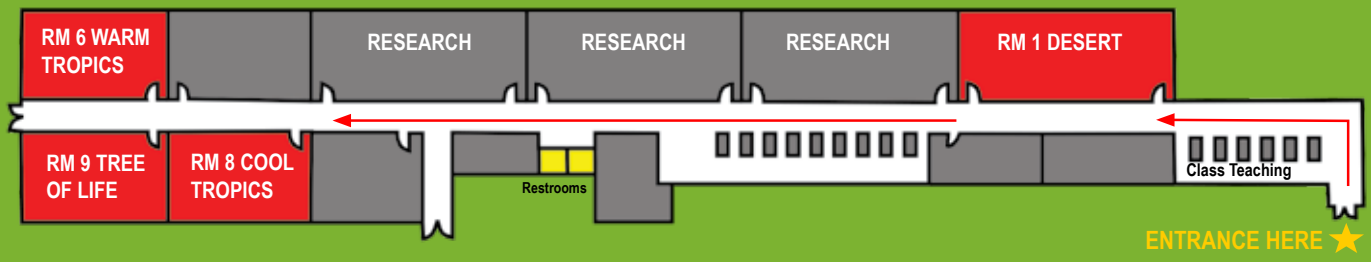
Aristolochia chiquitensis located in GH room #5

Members of the genus ***Aristolochia*** (Piperales) attract their pollinators with scents (usually unpleasant to humans), patterning and coloration of the flower face and secondary structures that the pollinators find interesting. There is a restricted throat to limit pollinator size and downward facing hairs to direct the pollinators deeper into the flower. As with the Ceropegia, the stigmata are initially receptive but cease to be so after about a day. The anthers mature and dehisce (release the pollen), and the hairs collapse, setting the pollinators free to repeat the cycle.

Aristolochia peltata located in GH room #5

GREENHOUSE PUBLIC VISITING HOURS: Thurs 1:00 to 4:00 pm and 2nd & 4th Saturdays

SOMETHING IS BLOOMING, 365 DAYS OF THE YEAR.



Our Teaching Collection includes plants that are found only in world class botanic gardens. The collection is located in four rooms in the Greenhouse and shown in red above. We ask that when you enter, there may be a class in session. If so, please walk quietly through to visit the four rooms that are open to the public.

GH1 Desert Room:

Haworthia cooperi

In S Africa the plant grows mostly buried by sand with only these transparent tips above the ground.

GH8 Cool Tropic:

Cochliostema odoratissimum

Flowers are borne in large thyrses, among the most fragrant and most complex in the spiderwort family.

GH6 Warm Tropics:

Dischidia major

Carry modified leaves offering accommodation to ants. This mutualism trait know as myrmecophily.

GH9 The Tree of Life:

Ananas comosus

The pineapple is indigenous to South America where it has be cultivated for many centuries.

ACADEMIC SERVICES FOR UNDERGRADUATE & GRADUATE

HOW DO I TALK TO AN UNDERGRADUATE ACADEMIC ADVISOR? Use Email or Zoom!

We welcome UW and prospective students to contact us with any questions regarding a Biology option.
Here are the advisors, their emails and their favorite outdoor venue.

Janet Germeraad
Academic Services Director
Janetjg@uw.edu

All of these green park spaces are wonderful places of solitude. The large trees in some of these areas are a testament to the past and a hope for the future.

Jason Patterson
Academic Counselor, Sr
patterj@uw.edu

During the dry and warm times, I am a bicycle princess where I use the trail regularly to commute. Passing all the scenic and non-scenic vistas in the process.

Andrea Pardo
Graduate Program Manager
acroz@uw.edu

My favorite is the Burke Gilman Trail. The trail has provided me many moments of peace between working, meetings, appointments and busy life at UW!

Julie Martinez
Program Coordinator
juliebio@uw.edu

I really enjoy the Medicinal Herb Garden. I enjoy wandering around checking out all the different herbs.

SPRING QUARTER 2023
UNDERGRAD ACADEMIC ADVISING

ZOOM Drop-In Advising Hours:
Monday - Thursday 9 a.m. - 12:00 p.m. and 1:00 p.m. - 4:00 p.m.

In-Person and ZOOM Appointments (other than Drop-Ins) by appointment only.
Contact Jason or Janet directly, as each schedule their own calendars.

Please consult the website first for general answers on: advising, admission, degree plans, matrix of courses, and forms at: http://www.biology.washington.edu/programs-and-courses

For general questions, you may reach us at: bioladv@uw.edu or at 206-543-9120
Current / prospective students, parent, and community questions not addressed by our webpage will receive an answer. Academic Services Staff will closely monitor this email account to ensure a timely response and make phone or other Zoom appointments to address concerns.