

IGB Outreach and Education Programs

The IGB embodies its motto: Where Science Meets Society. Through site visits, workshops, art exhibits, and other events, the IGB helps people learn about and appreciate genomic science.

The IGB's innovative outreach and education programs expose people to transformative research, research that is helping to solve preeminent problems faced by local and global communities. These meaningful interactions remind IGB faculty, students and staff what motivates their research, while helping the public understand the work that goes into modern, cutting-edge research and the results that come out of it.

The IGB believes that community knows no borders, that learning has no age limit, and that there is no telling what we can discover together.

World of Genomics

The World of Genomics is an interactive exhibit with hands-on activities for all ages, designed to make the broadest impact on the largest audience. The World of Genomics has six interactive learning stations staffed by IGB researchers, and features hands-on learning with state-of-the-art microscopy, robotics, activities and artifacts. These exhibits showcase the breadth and depth of the IGB research in creative and engaging ways, encouraging active participation by attendees.

The first annual World of Genomics exhibit was presented at the Field Museum of Natural History in Chicago on May 18-20, 2011 in the Stanley Field Hall. Our debut to over 10,000 attendees was during the Field Museums Members' Nights, the Field's biggest event of the year, and to local school students and museum visitors over a three day period. The second World of Genomics is scheduled for fall 2018 at the St. Louis Science Center.

Genomics for™ Programs

Genomic research will eventually uncover a complete picture of how our genetic information, acting in concert with our experiences, influences our health and behavior. When considering whether an individual's genetic inheritance can be blamed for criminal behavior, or how information on disease predisposition should be used, who is qualified to testify, and what kinds of knowledge are needed to make sound judicial decisions?

The Supreme Court of Illinois and its Administrative Office of the Illinois Courts (AOIC), in coordination with members of the Illinois Judicial Conference Committee on Education, appointed by the Supreme Court, are responsible for facilitating educational resources for Illinois judges, including those pertaining to sciences in the law. The IGB had the unique opportunity to work with the AOIC in offering a new seminar, "Genomics for™ Judges," that was designed to prepare judges to grapple with legal questions involving DNA sequencing and analysis, as well as related technologies, in the courts today and in the future. The two-day course was also supported by the OVCR and the College of Law. Forty-eight judges and justices from around Illinois participated in the workshop, which included sessions on the structure and function of DNA, how gene function is influenced by the environment, and how genome sequences are analyzed.

The IGB has led successful other Genomics for™ programs for Illinois prosecutors and science teachers. In summer 2015, a similar program was held for additional Illinois judges. In July 2016 and August 2017 a program was held for clinicians in conjunction with Carle, our local hospital. In fall 2017 a course was presented to 30 police officers with the University of Illinois Police Training Institute. We are currently creating courses for the University of Illinois Global Education and Training Institute for high school seniors, a course with Reporters, and an additional course for high school teachers.

Similarly, we have created a massive open online course (MOOC) on genomics provided free of charge on the Coursera platform. This MOOC was designed as a course to discuss some of the most prominent genomics research for anyone that is curious about genomics. We are currently in the process of creating additional MOOCs for specific professional groups including lawyers and clinicians for use as continuing education.

Art of Science

The 'Art of Science: Images from the Institute for Genomic Biology,' now in its eight year, is a meeting place between the University and our community as a whole, and a celebration of common ground between science and art. The exhibition

comprises images from research addressing significant problems in the environment, medicine, and energy use and production. The images are selected and some are artistically enhanced to highlight the beauty and fascination encountered daily in scientific endeavors. Showcasing imagery for the Art of Science traveling art exhibit exemplifies the IGB's commitment to scientific discovery and the collaborative spirit that makes it all possible. The eighth gallery opening will be on April 12 at the Broadway Food Hall in Urbana. Currently, exhibitions are located at the Champaign Willard Airport, the I Hotel in Research Park, the Grainger Library, Veterinary Medicine, MATTER incubator in Chicago and the Harold Washington Library in Chicago. In the past we have also had exhibits on display at Chicago O'Hare and Midway International Airports along with the Capital Building in Springfield, IL.

Summer Day Camp

For the fifth year in a row, upwards of twenty middle school girls from around East Central Illinois came to the IGB in July 2017 to participate in Pollen Power Camp, a week-long science day camp. The camp was designed to give girls a kaleidoscopic picture of what it means to be a plant biologist: activities included using the IGB Core Facilities' high-powered microscopes, designing and printing 3D pollen grains, learning to identify different types of pollen and to pollinate corn, planning and recording a climate newscast with green screen technology, and hearing guest talks from IGB researchers on the science of pollen and the crucial role that women play in STEM fields. The camp, which is funded in part by a grant from the NSF, will be held again July 23-27, 2018.

iGEM

A team of undergraduates from Illinois have participated in the International Genetically Engineered Machine (iGEM) Foundation competition at MIT and in Boston since 2008. The iGEM competition is dedicated to education, advancement of synthetic biology, and the development of open community and collaboration. The Illinois team is composed of undergraduate students from a variety of departments, including Bioengineering, Agricultural and Biological Engineering, and the School of Molecular and Cellular Biology, led by mentors at the IGB who conduct synthetic biology research.

Genome Day

Genome Day is part of the IGB's mission to engage K-12 students, as well as the broader East Central Illinois community, in learning about the biology that underlies its research and technology development.

Each year several hundred children, parents, and friends of the IGB participate in Genome Day, an afternoon of learning about genomes, genes, DNA, and evolution at the Orpheum Children's Science Museum in Champaign. More than 100 volunteers help run over 18 child-friendly activities related to genomics, including learning how organisms relate to each other on the Tree of Life, constructing their own models of DNA and cells, and extracting strawberry and banana DNA to make necklaces. Volunteers from SACNAS (Society for Advancement of Chicanos and Native Americans in Science) provide bilingual volunteers for the event. The seventh annual Genome Day will be in April of 2019.

OLLI

IGB offers lifelong learning through the Osher Lifelong Learning Institute (OLLI) at Illinois, welcoming community members 50 years or older into their labs. These OLLI members integrate into the IGB as part-time research assistants who contribute to innovative research.

In 2011, the IGB partnered with the Beckman Institute to create the OLLI Citizen Scientist program, which pairs OLLI members with research projects that relate to their personal interests or life experiences. Citizen Scientists are trained by graduate students or postdoctoral researchers and work alongside them in pursuit of discoveries. This mutually beneficial relationship illustrates the IGB's commitment to collaborative research and community involvement.

OLLI is a member-centered community of adult learners that is supported by the Bernard Osher Foundation, the Illinois Office of the Provost, and the generous donations of OLLI members and community partners.

SING

Since 2011, the IGB has organized six Summer internships for Indigenous peoples in Genomics (SING) Workshops. During the weeklong workshop, more than a dozen students from across North America and around the world discuss the potential, as well as the risks, of genomic research in indigenous peoples' communities. They learn not only about recent

indigenous peoples' genomic studies and genetic legal cases, but also the skills that are required to conduct real-world genomic research, from DNA extraction to DNA sequence analysis.

Throughout the workshop, instructors and participants discuss the intricacies of conducting such research, including the difference between community and individual consent and the complexity of interactions between indigenous communities and non-indigenous scientists. Support for the workshop is provided by the NIH (including the National Human Genome Research Institute) and NSF. The seventh SING Workshop is scheduled for 2018.

Science Café

Science cafes are informal events that take place at casual settings around the world, such as coffeehouses, libraries or restaurants. These events are open to everyone and feature an engaging presentation and conversation with a scientist about a specific topic. The Chabana Science Café is a joint event between the IGB and Beckman institute, where a scientist from one of the institutes presents on their current research. The first talk was in spring 2016 at Pizza M in Urbana and we have since presented eight talks each year, ranging from crop science, drug discovery, speech recognition, mathematics, neuropsychology and many others.