IGB NEWS

Upcoming Events
Monthly Profiles
Happenings at IGB
Image Of The Month
Research News
Department Announcements

Volume 13 Number 5

UPCOMING EVENTS

IGB Pioneers Seminar
Complexity Made Simple: A Model Microbial Community to Dissect Function
September 15, 2020, 12:00 p.m.
Join via Zoom

Jo Handelsman, PhD
Director, Wisconsin Institute for Discovery, University of Wisconsin-Madison

---

IGB Science Chat
Personalized Nutrition Initiative At Illinois
September 29, 2020, 12:00 p.m.
Join via Zoom

Sharon Donovan, PhD
Director, Personalized Nutrition Initiative
Professor and Melissa M. Noel Endowed Chair in Diet and Health, University of Illinois

Hannah Holscher, PhD
Assistant Professor of Nutrition, University of Illinois

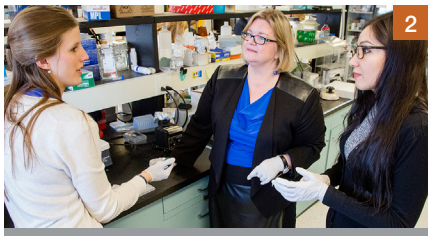
Naiman Khan, PhD
Assistant Professor of Kinesiology and Community Health, University of Illinois

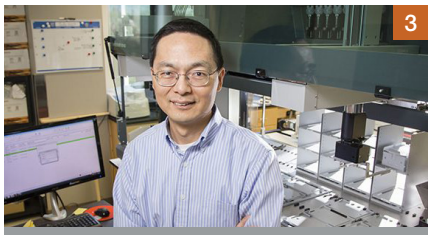
---

IGB Seminar - MME
Intestinal Epitelial Cell Functions in Host-Microbiome Interactions
October 13, 2020, 12:00 p.m.
Join via Zoom

Maayan Levy-Thaiss, PhD
University of Pennsylvania Perelman School of Medicine; Assistant Professor of Microbiology

FEATURED NEWS


2
Donovan to direct new Personalized Nutrition Initiative


3
NSF awards $20M grant, AI institute for molecule synthesis


4
Monthly Profile: Brian Cunningham

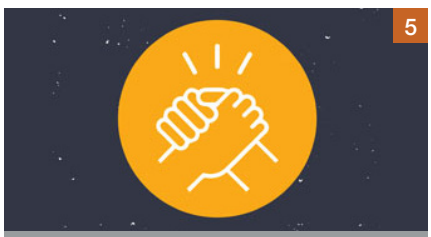
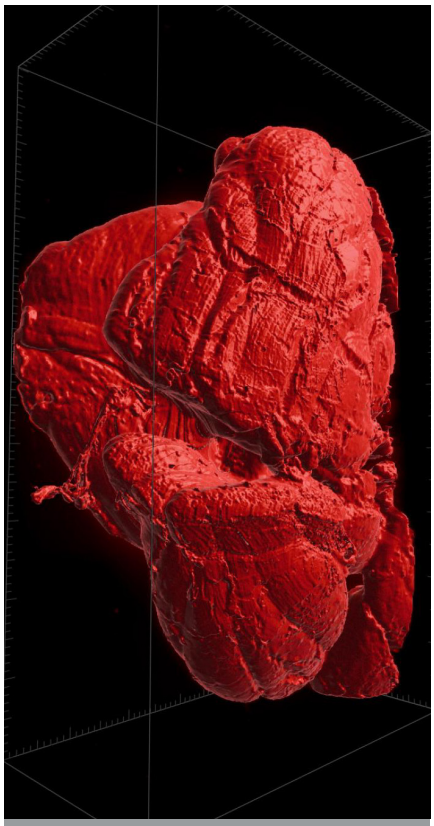

5
On the Grid: Happenings at IGB

IMAGE OF THE MONTH

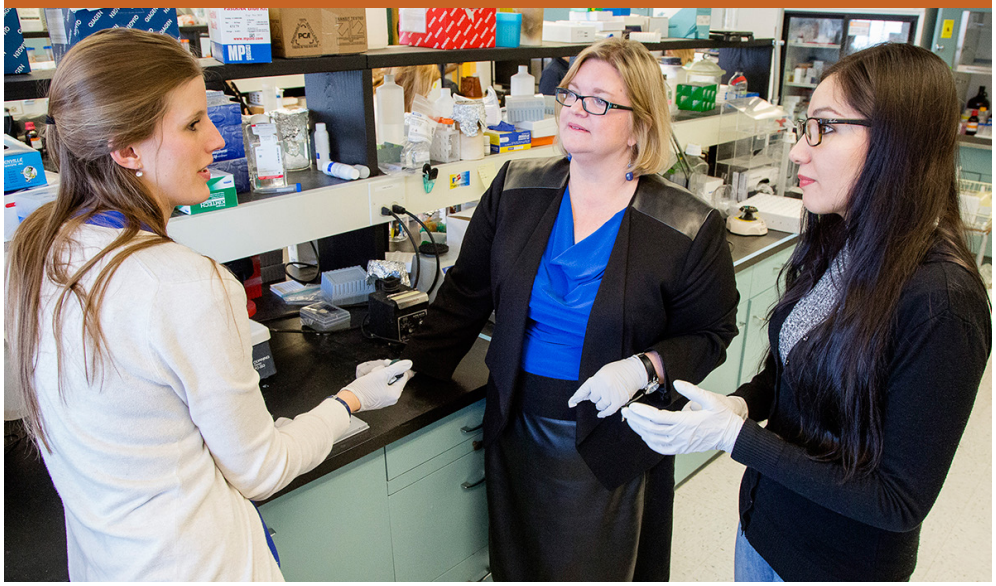


This month's image is a tile scan of a whole brain of a cuprizone-fed mouse, obtained with an Ultra Microscope (a 2nd generation lightsheet microscope by Miltenyi Biotec) after CLARITY tissue clearing and subsequent staining with anti-proteolipid protein (PLP). The image was processed with the Imaris 3D Software System: UltraMicroscope II. Sample provided by Allison Yukiko Louie, Steelman Lab, Department of Animal Sciences. Imaged and processed by Dr. Kingsley Boateng at the IGB.

IGB News

Share your news with the IGB. Send ideas on stories, articles, and features to *nvasi@illinois.edu*.

FEATURE



Donovan to direct
new Personalized Nutrition Initiative

Sharon Donovan, professor and Melissa M. Noel Endowed Chair in Diet and Health at University of Illinois, will assume the role of director of the newly established Personalized Nutrition Initiative (PNI).

The PNI is a partnership between the Carl R. Woese Institute for Genomic Biology (IGB) and the College of Agricultural, Consumer and Environmental Sciences (ACES) at U of I.

Precision or personalized nutrition, which was identified as a key area for strategic investment in the U of I's The Next 150 2018-2023 Strategic Plan, is also a keystone of the new National Institutes of Health 10-year Strategic Plan for Nutrition.

"Personalized nutrition offers a way to optimize human health and the quality of life by tailoring recommendations based not only on diet history and phenotype, but also on an individual's genetics, microbiome, and metabolome," Donovan explains. "As it encompasses almost all known aspects of science, ranging from the genomes of humans, plants and microorganisms, to the highest levels of analytical sciences, computing and statistics of large systems, as well as human behavior."

To meet this challenge, Donovan envisions the PNI building transdisciplinary collaborative efforts across campus to answer fundamental questions regarding how nutrition modulates health and disease across the lifespan.

Donovan's research, administration, internal and external interdisciplinary collaborations, and industry relations experiences will bring significant value to the PNI in achieving its goal of coordinating transdisciplinary research, education, outreach, and entrepreneurship in the area of personalized nutrition at the U of I. She holds appointments in the Department of Food Science and Human Nutrition and the Division of Nutritional Sciences in the College of ACES, as well as the Carle-Illinois College of Medicine, and the Microbiome Metabolic Engineering theme in the Carl R. Woese Institute for Genomic Biology.

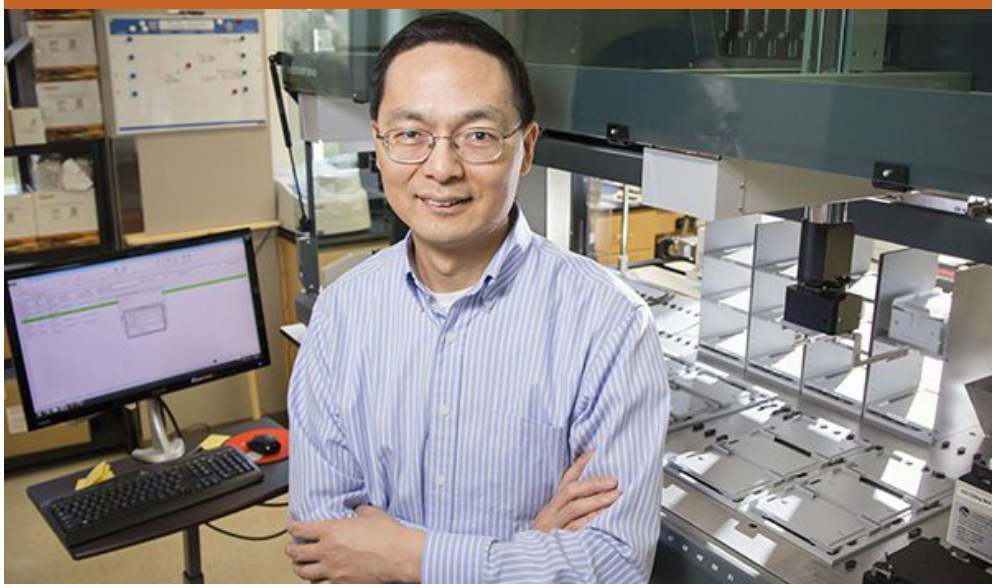
> *"Personalized nutrition offers a way to optimize human health and the quality of life by tailoring recommendations based not only on diet history and phenotype, but also on an individual's genetics, microbiome, and metabolome."*

An internationally recognized leader in nutrition who has extensive leadership experience both on- and off-campus, Donovan served as director of the Division of Nutritional Sciences from 1999-2009 and the Illinois Transdisciplinary Obesity Prevention Program from 2011-2016, both at Illinois. She also served as president of the American Society of Nutrition.

With a research focus on pediatric nutrition and the nutritional regulation of host-microbe interactions, Donovan has over 200 publications and has garnered more than $30M in external funding from federal funding agencies, foundations, and the food and pharmaceutical industry. She has been recognized by campus with the Paul A. Funk Recognition Award and the Spitze Land-Grant Professorial Career Excellence Awards from the College of ACES and as a University Scholar for her distinction in scholarship and service. She was elected to the National Academy of Medicine in 2017. ■

Written by Stephanie Henry.
Photo by L. Brian Stauffer.

The Next 150 2018-2023 Strategic Plan emerged from a collaborative, transparent yearlong planning process and sets the priorities for the University of Illinois at Urbana-Champaign over the next five years, with the vision that Illinois will be the pre-eminent public research university with a land-grant mission and a global impact.



NSF awards $20M grant for new artificial intelligence institute for molecule synthesis

A team led by Steven L. Miller Chair professor of chemical and biomolecular engineering Huimin Zhao (BSD leader/CABBI/MMG) was awarded a five-year $20 million grant from the National Science Foundation (NSF) for the NSF Artificial Intelligence (AI) Institute for Molecular Discovery, Synthetic Strategy and Manufacturing (Molecule Maker Lab Institute or MMLI). The multi-institutional team also consists of researchers and collaborators from the Grainger College of Engineering, the College of Liberal Arts and Sciences, the Beckman Institute for Advanced Science and Technology, and the National Center for Supercomputing Applications at the University of Illinois Urbana-Champaign, and from University Laboratory High School, Northwestern University, Penn State University, and Rochester Institute of Technology.

The MMLI focuses on development of new AI-enabled tools, such as AlphaSynthesis, to accelerate automated chemical synthesis and advance the discovery and manufacture of novel materials and bioactive compounds. Researchers use the data generated from the analysis of these molecules to guide further development of synthesis planning and catalyst design tools using AI and machine learning. The institute also serves as a training ground for the next generation of scientists with combined expertise in AI, chemistry, and bioengineering.

"The MMLI is a first-of-its-kind research infrastructure that will have a powerful impact on the U.S. research community," said Zhao. "This proposed infrastructure will respond to high-priority needs of communities seeking to 1) discover and optimize a wide range of molecular functions (Molecules), 2) harness the power of data to advance the science of molecular synthesis (Data), and 3) inspire a broad audience of scientists, teachers, students, and citizen scientists to participate in the process of molecular innovation (Open Door). The MMLI will revolutionize the way chemistry is taught and capture the imagination of a new generation of molecule makers."

The NSF is establishing five new AI institutes to accelerate research, expand America's workforce, and transform society in the decades to come. Enabled by sustained federal investment and channeled toward issues of national importance, continued advancement in AI research holds the potential for further economic impact and improvements in quality of life.

"Over the past decade there have been major advances in both AI and automated chemical and biochemical synthesis, making the timing for the launch of the MMLI both judicious and urgent."

With an investment of over $100 million over the next five years, NSF's AI Institutes represent the nation's most significant federal investment in AI research and workforce development to date. The $20 million investment in each of five NSF AI institutes is just the beginning, with more institute announcements anticipated in the coming years.

"Recognizing the critical role of AI, NSF is investing in collaborative research and education hubs, such as the NSF MMLI anchored at the Carl R. Woese Institute for Genomic Biology at the University of Illinois Urbana-Champaign, which will bring together academia, industry, and government to unearth profound discoveries and develop new capabilities advancing American competitiveness for decades to come," said NSF Director Sethuraman Panchanathan. "Just as prior NSF investments enabled the breakthroughs that have given rise to today's AI revolution, the awards being announced today will drive discovery and innovation that will sustain American leadership and competitiveness in AI for decades to come."

"Over the past decade there have been major advances in both AI and automated chemical and biochemical synthesis, making the timing for the launch of the MMLI both judicious and urgent," said Zhao. "Synergistically integrating these powerful disciplines now has the potential to dramatically accelerate and advance the manufacturing and discovery of molecules with important functions that address major unsolved problems in society. Not doing so would result in a major missed opportunity for the U.S. research community."

To learn more about the MMLI, visit moleculemaker.org.

Written by Alisa King. Photo by L. Brian Stauffer.

MOLECULE MAKER LAB INSTITUTE

Advanced AI and machine learning (ML) methods enable the MMLI to achieve AI-enabled synthesis planning, catalyst development, molecule manufacturing, and molecule discovery.

MONTHLY PROFILE

Brian Cunningham is the Intel Alumni Endowed Chair, Professor in the Departments of Electrical and Computer Engineering and Bioengineering, and leads the Center for Genomic Diagnostics at the IGB. Using electromagnetics, optics, and nanostructures, his lab collaborates on new tools for disease diagnostics, point-of-care diagnostics, personalized medicine, and liquid biopsy approaches for monitoring cancer treatment.

Brian Cunningham
Personalizing cancer diagnostics

When assessing whether or not a tumor is benign or cancerous, a needle biopsy is the usual method of diagnosis. The tissue can then be analyzed to determine what mutations are present that are specific to the patient. Because this method is invasive, it's generally only used once. During and after chemotherapy, imaging tests are used to monitor the size of the tumor; however, imaging only shows the physical characteristics of the tumor – it fails to monitor what is actually happening to the cells.

Research being conducted through the Holonyak Micro & Nanotechnology Lab is working to develop a device that can detect cancer biomarkers with just a few drops of blood. The method would provide rapid results, enabling the clinician to quantitatively observe the effects of treatment on the tumor by measuring increases or decreases in strategically selected molecules. The team recently received a $2 million grant from the National Institutes of Health (NIH) to fund this work.

"The future of cancer diagnosis is moving towards the idea of "liquid biopsy" in which cancer-specific molecules can be found and measured from easily obtained bodily fluids," says Brian Cunningham (CGD Director/MMG), the Intel Alumni Endowed Chair with appointments in electrical and computer engineering and bioengineering. "Since each person is genetically unique, each cancer can also be unique, and medicine is driving towards something becoming known as 'personalized medicine' in which a highly effective treatment can be selected based on measured characteristics from the patient."

The team will develop a new approach for detecting a novel class of cancer biomarkers from just a few droplets of blood, such as those collected with a finger prick. Cunningham's team will use molecules called "micro RNA" that have specific nucleic acid sequences present in a cancerous mutation.

The blood then will be filtered through a device that separates small objects called exosomes, which are carriers of micro RNA, from the cells. (Some researchers hypothesize that exosomes can carry mutated nucleic acids with them that can "seed" cancer in remote parts of the body and start the process of cancer metastasis, the process by which cancer spreads throughout the body). These exosomes will be broken open and examined with a highly sensitive biosensor that can count each cancer-specific molecule.

Cunningham's team invented a new type of biosensor microscope and a new detection approach so this test can be performed very simply and easily. While this microscope has many applications, the challenging demands of detecting miRNA from blood was a motivating factor in its invention. This technology makes repetition of this test simple so it can be performed as often as necessary to evaluate how exosomes change during and after cancer treatment.

> *"Since each person is genetically unique, each cancer can also be unique, and medicine is driving towards something becoming known as 'personalized medicine' in which a highly effective treatment can be selected based on measured characteristics from the patient."*

"We think that our approach could be used to enable the physician to pivot from a non-working treatment to a better one based on measured changes in the micro-RNA molecules," says Cunningham, who is also affiliated with the Cancer Center at Illinois (CCIL). "They can measure how the tumor is responding on a much more detailed and frequent basis than measuring the tumor size by imaging."

The Illinois research team also includes Manish Kohli at the Huntsman Cancer Institute and Utkan Demirci at Stanford University, as well as chemistry professor Yi Lu (BSD/CABBI/CGD) and professor of epidemiology Rebecca Smith (IGOH).

The potential impact of this research is substantial, according to Rohit Bhargava, CCIL director.

"This NIH grant is bringing together visionary engineers with expertise in devices, chemists and clinicians to transform the way we bring diagnostic capabilities to the patient. Professor Cunningham and his team illustrate the tremendous potential for technology to make accurate diagnoses early and more precisely," said Rohit Bhargava, professor of bioengineering.

Cunningham's passion for this research comes from personal experience.

"My parents both passed away from cancer at too young of an age," says Cunningham. "Since that time, I have been working towards using engineering tools to develop better drugs and diagnostic methods for cancer. My hope is that someday cancer will become a disease that is effectively managed, but to do so will require detailed knowledge about the genetics of each patient's tumor." ■

Written by Lizzie Roehrs.
Photo by L. Brian Stauffer.

Cancer Center at Illinois

The Cancer Center at Illinois unites world-class faculty who uncover fundamental knowledge, innovate new technologies, and enable cancer-free lives. With interdisciplinary expertise in science and engineering, exceptional facilities, and novel educational experiences, they are changing the way to take on cancer.

ON THE GRID
HAPPENINGS AT THE IGB

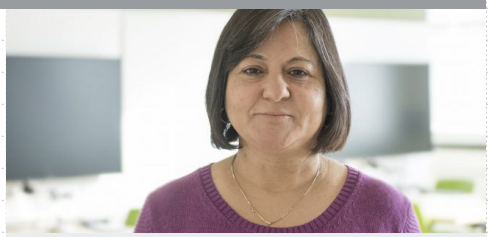
AWARDS

RASHID BASHIR, CARLA CÁCERES

Rashid Bashir (CGD/M-CELS), Dean of the Grainger College of Engineering, Grainger Distinguished Chair in Engineering and Professor of Bioengineering, and Carla Cáceres (IGOH), Director of the School of Integrative Biology and Professor of Evolution, Ecology, and Behavior, were named 2020-21 President's Executive Leadership Program (PELP) Fellows by the University of Illinois.

SHARON DONOVAN, JEFFREY MOORE, DONALD ORT

Sharon M. Donovan (MME), Professor of Food Science & Human Nutrition, Jeffrey Moore (BSD), Professor of Chemistry and Materials Science & Engineering, and Donald Ort (GEGC Leader/BSD/CABBI), Professor of Plant Biology & Crop Sciences, were appointed Center for Advanced Study (CAS) Professors. (July 2020)



MADHU KHANNA

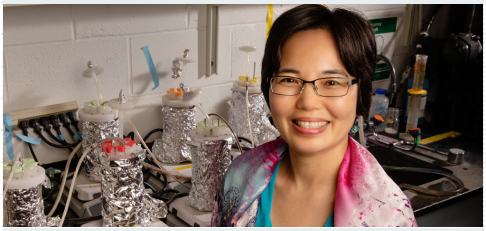
Madhu Khanna, ACES Distinguished Professor (CABBI), was named president-elect of the Agricultural and Applied Economics Association (AAEA), a not-for-profit association serving the professional interests of members working in the fields of agricultural and applied economics.

VIJAY SINGH

Vijay Singh (CABBI/GEGC), Distinguished Professor in Agricultural and Biological Engineering, received the International Food Engineering Award from the American Society of Agricultural and Biological Engineers (ASABE).

WILFRED VAN DER DONK

Wilfred Van der Donk, Richard E. Heckert Endowed Chair in Chemistry (MMG), received the Royal Society of Chemistry's Pedler Award, which recognizes originality, impact of research, and contribution to the chemical sciences industry or education.



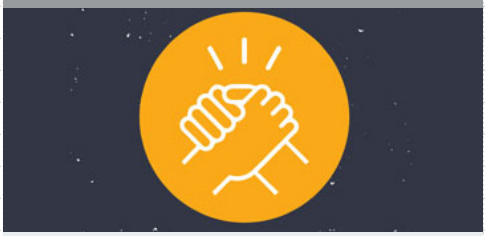
HELEN NGUYEN

Thanh (Helen) Nguyen (IGOH) has been named an Ivan Racheff Endowed Professor in Civil and Environmental Engineering, in recognition of her outstanding contributions and leadership in her field of expertise.

CARLA CÁCERES

Carla Cáceres, Professor of Evolution, Ecology and Behavior and Director of the School of Integrative Biology (IGOH), received the Executive Officer Distinguished Leadership Award from the Office of the Provost, which recognizes outstanding academic leadership and vision by an executive officer within a college or campus unit.

TASK FORCE



COMMITTEE ON DIVERSITY TASK FORCE

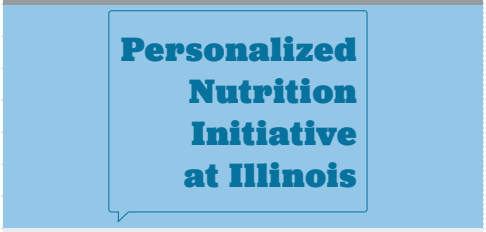
What can I do to make genomics more inclusive? With the guidance and support of the IGB Committee on Diversity (COD), we are establishing a COD task force that will amplify diversity, equity, and inclusivity efforts of the COD through programs, partnerships, dialogues, and other actionable events.

We are seeking volunteers who are willing to make a significant commitment toward developing, organizing, and realizing these efforts. At a time when these issues are highly visible, we must advocate to keep ourselves and our community motivated and involved.

Email us at CODTF@igb.illinois.edu to learn more and join the COD task force.

ON THE GRID
HAPPENINGS AT THE IGB

IGB CHAT



IGB SCIENCE CHAT: PERSONALIZED NUTRITION INITIATIVE AT ILLINOIS

Join Sharon Donovan, Director, Personalized Nutrition Initiative and Professor and Melissa M. Noel Endowed Chair in Diet and Health; Hannah Holscher, Assistant Professor of Nutrition; and Naiman Khan, Assistant Professor of Kinesiology and Community Health for our next IGB Chat "Personalized Nutrition Initiative at Illinois." Bring your questions and join our Zoom call on September 29 at 12:00. To keep up to date on PNI please visit our sign up page!

IGB ANNUAL REPORT

IGB 2019 ANNUAL REPORT

Have you visited our 2019 Annual Report site? You'll find the latest - sometimes unexpected - ways genomics are impacting your lifestyle, the daily choices you make, and the world we all live in, alongside research articles and stories from the previous year.

Start exploring at www.igb.illinois.edu/ar2019.

IGEM

ILLINOIS TEAM TRACKS COVID 'SPIKE' PROTEIN FOR 2020 IGEM COMPETITION

The COVID-19 pandemic created unprecedented challenges for a worldwide competition that brings high school and college students together to tackle big questions in synthetic biology.

But it also provided a unique research opportunity for the University of Illinois team competing in this year's International Genetically Engineered Machine (iGEM) contest.

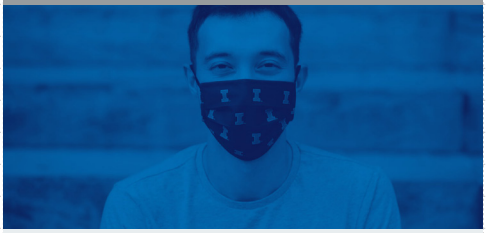
The six undergraduates are pooling their talents — remotely — to contribute to the fight against SARS-CoV-2, the coronavirus that causes COVID-19. They're creating a web tool to build visual models of a key part of the virus as it mutates — specifically the infamous "spike" protein that allows it to attack human cells so easily. The hope is to give researchers crucial information about the virus as they design new drugs and vaccines.

"Our database will be real time, and it will allow researchers to upload their newly collected coronavirus sequences and get those newly mutated protein models for their research," said Yan Luo, a sophomore in bioengineering on the Illinois team.

Mentored by graduate students and postdocs, iGEM teams meet in the spring to brainstorm ideas for innovative synthetic biology research and develop them over the summer. The projects culminate at the annual Giant Jamboree, iGEM's international competition, to be held virtually this year in November. The event attracts teams from nearly every continent who can earn bronze, silver, or gold medals by achieving certain standards. Overall winners are chosen from the gold-medal teams.

Read the full story here.

COV-COURSE



COV-COURSE: A MULTI-DISCIPLINARY APPROACH TO UNDERSTANDING THE PANDEMIC

COVID has turned your life upside down, but how much do you really know about this unprecedented public health crisis?

Broaden and deepen your understanding of the pandemic in a free, multidisciplinary course taught by experts at the U of I. No matter what your area of interest is—education or history, economics or theatre—the pandemic is impacting your field and every facet of life on this planet. This is your opportunity to grasp the big picture.

The COVID-19 pandemic has created an unprecedented public health crisis. In this course, created by provost Andreas Cangellaris and other campus leaders, you will gain a comprehensive, multidisciplinary understanding of the pandemic. The course will guide you through past, present and future perspectives on the pandemic, with weekly topics that range from history, biology and business to data security, racial disparities, mental health and more.

This non-credit course is free of cost and open to all. Classes will be held online from 8:00–9:00 p.m. every Sunday evening during the fall semester. See the course schedule for details about the instructors and topics covered.

View the course schedule or register for the course by visiting https://covcourse.web.illinois.edu/

RECENT PUBLICATIONS

Please include your connection to the IGB in your author byline when submitting publications, as it will greatly help track potential newsworthy items and increase the possibility of coverage.

Buonasera, T., Eerkens, J., de Flamingh, A., Engbring, L., Yip, J., Li, H., Haas, R., DiGiuseppe, D., Grant, D., Salemi, M., Nijmeh, C., Arellano, M., Leventhal, A., Phinney, B., Byrd, B. F., Malhi, R. S., & Parker, G. (2020). A comparison of proteomic, genomic, and osteological methods of archaeological sex estimation. *Scientific reports*, 10(1), [11897]. https://doi.org/10.1038/s41598-020-68550-w

Barwinska-Sendra, A., Garcia, Y. M., Sendra, K. M., Baslé, A., Mackenzie, E. S., Tarrant, E., Card, P., Tabares, L. C., Bicep, C., Un, S., Kehl-Fie, T. E., & Waldron, K. J. (2020). An evolutionary path to altered cofactor specificity in a metalloenzyme. *Nature communications*, 11(1), [2738]. https://doi.org/10.1038/s41467-020-16478-0

Yazdi, S. M. H. T., Gabrys, R., & Milenkovic, O. (2020). Author Correction: Portable and Error-Free DNA-Based Data Storage (*Scientific Reports*, (2017), 7, 1, (5011), 10.1038/s41598-017-05188-1). *Scientific reports*, 10(1), [7026]. https://doi.org/10.1038/s41598-020-60080-9

Holland, R. L., Bosi, K. D., Harpring, G. H., Luo, J., Wallig, M., Phillips, H., & Blanke, S. R. (2020). Chronic *in vivo* exposure to *Helicobacter pylori* VacA: Assessing the efficacy of automated and long-term intragastric toxin infusion. *Scientific reports*, 10(1), [9307]. https://doi.org/10.1038/s41598-020-65787-3

Sinclair, W. E., Chang, H. H., Dan, A., Kenis, P. J. A., Murphy, C. J., & Leckband, D. E. (2020). Gold nanoparticles disrupt actin organization and pulmonary endothelial barriers. *Scientific reports*, 10(1), [13320]. https://doi.org/10.1038/s41598-020-70148-1

Pindus, D. M., Zwilling, C. E., Jarrett, J. S., Talukdar, T., Schwarb, H., Anderson, E., Cohen, N. J., Barbey, A. K., Kramer, A. F., & Hillman, C. H. (2020). Opposing associations between sedentary time and decision-making competence in young adults revealed by functional connectivity in the dorsal attention network. *Scientific reports*, 10(1), [13993]. https://doi.org/10.1038/s41598-020-70679-7

Adeniba, O. O., Corbin, E. A., Ganguli, A., Kim, Y., & Bashir, R. (2020). Simultaneous time-varying viscosity, elasticity, and mass measurements of single adherent cancer cells across cell cycle. *Scientific reports*, 10(1), [12803]. https://doi.org/10.1038/s41598-020-69638-z

Chen, X., Kandel, M. E., Hu, C., Lee, Y. J., & Popescu, G. (2020). Wolf phase tomography (WPT) of transparent structures using partially coherent illumination. *Light: Science and Applications*, 9(1), [142]. https://doi.org/10.1038/s41377-020-00379-4

Cao, M., Tran, V. G., & Zhao, H. (2020). Unlocking nature's biosynthetic potential by directed genome evolution. *Current Opinion in Biotechnology*, 66, 95-104. https://doi.org/10.1016/j.copbio.2020.06.012

Lee, C. J., Qiu, T. A., & Sweedler, J. V. (2020). D-Alanine: Distribution, origin, physiological relevance, and implications in disease. *Biochimica et Biophysica Acta - Proteins and Proteomics*, 1868(11), [140482]. https://doi.org/10.1016/j.bbapap.2020.140482

Manivannan, B., Massalha, N., Halahlih, F., Eltzov, E., Nguyen, T. H., Sabbah, I., & Borisover, M. (2020). Water toxicity evaluations: Comparing genetically modified bioluminescent bacteria and CHO cells as biomonitoring tools. *Ecotoxicology and Environmental Safety*, 203, [110984]. https://doi.org/10.1016/j.ecoenv.2020.110984

Ngo, M. T., & Harley, B. A. C. (2020). Angiogenic biomaterials to promote therapeutic regeneration and investigate disease progression. *Biomaterials*, 255, [120207]. https://doi.org/10.1016/j.biomaterials.2020.120207

Yoo, J., Winogradoff, D., & Aksimentiev, A. (2020). Molecular dynamics simulations of DNA–DNA and DNA–protein interactions. *Current Opinion in Structural Biology*, 64, 88-96. https://doi.org/10.1016/j.sbi.2020.06.007

Joachim, E., Barakat, R., Lew, B., Kim, K. K., Ko, C. M., & Choi, H. (2020). Single intranasal administration of 17β-estradiol loaded gelatin nanoparticles confers neuroprotection in the post-ischemic brain. *Nanomedicine: Nanotechnology, Biology, and Medicine*, 29, [102246]. https://doi.org/10.1016/j.nano.2020.102246

Dopie, J., Sweredoski, M. J., Moradian, A., & Belmont, A. S. (2020). Tyramide signal amplification mass spectrometry (TSA-MS) ratio identifies nuclear speckle proteins. *Journal of Cell Biology*, 219(9), [jcb.201910207]. https://doi.org/10.1083/jcb.201910207

Elbanna, A., Wong, G. N., Weiner, Z. J., Wang, T., Zhang, H., Liu, Z., Tkachenko, A. V., Maslov, S., & Goldenfeld, N. (2020). Entry screening and multi-layer mitigation of COVID-19 cases for a safe university reopening. (medRxiv). *Cold Spring Harbor Laboratory Press*. https://doi.org/10.1101/2020.08.29.20184473

Ferrer, A., Heath, K. D., Canam, T., Flores, H. D., & Dalling, J. W. (2020). Contribution of fungal and invertebrate communities to wood decay in tropical terrestrial and aquatic habitats. *Ecology*, 101(9), [e03097]. https://doi.org/10.1002/ecy.3097

Drayman, N., Jones, K. A., Azizi, S-A., Froggatt, H. M., Tan, K., Ivanova Maltseva, N., Chen, S., Nicolaescu, V., Dvorkin, S., Furlong, K., Kathayat, R. S., Firpo, M. R., Mastrodomenico, V., Bruce, E. A., Schmidt, M. M., Jedrzejczak, R., Munoz-Alia, M. A., Schuster, B., Nair, V., ... Tay, S. (2020). Drug repurposing screen identifies masitinib as a 3CLpro inhibitor that blocks replication of SARS-CoV-2 in vitro. (bioRxiv). *Cold Spring Harbor Laboratory Press*. https://doi.org/10.1101/2020.08.31.274639

Kim, D., Singh, N., Waldemer-Streyer, R. J., Yoon, M. S., & Chen, J. (2020). Muscle-derived TRAIL negatively regulates myogenic differentiation. *Experimental Cell Research*, 394(1), [112165]. https://doi.org/10.1016/j.yexcr.2020.112165

Yao, L., Witt, K., Li, H., Rice, J., Salinas, N. R., Martin, R. D., Huerta-Sánchez, E., & Malhi, R. S. (2020). Population genetics of wild *Macaca fascicularis* with low-coverage shotgun sequencing of museum specimens. *American journal of physical anthropology*, 173(1), 21-33. https://doi.org/10.1002/ajpa.24099 ■

ILLINOIS

IGB News is published by the IGB Communications Office.
Contact Nicholas Vasi (nvasi@illinois.edu)
www.igb.illinois.edu 20.086