

Categories of Machine Learning

Supervised

Sepal Length	Sepal Width	Petal Length	Petal Width	Species
4.6	3.6	1.0	0.2	Setosa
5.2	3.4	1.4	0.2	Setosa
5.6	3.0	4.5	1.5	Versicolor
5.8	2.7	4.1	1.0	Versicolor
6.5	3.0	5.5	1.8	Virginica
7.7	2.8	6.7	2.0	Virginica



NATURAL AND APPLIED SCIENCES

LCAS ANNUAL REPORT \ \ ACADEMIC YEAR 2020-21



LOYOLA
UNIVERSITY MARYLAND

Loyola College of Arts and Sciences

**MORE THAN READY.
LOYOLA READY.**

Haig Scholars

CLASS OF 2021



6

Academic Departments

12

Undergrad Defined Majors

Up to
\$10k/yr
CPaMS Scholarship

2

Graduate Programs

>20

NAS and Pre-health Student Clubs

681

Pre-health Students

>90%

Dental School Success Rate

28.2%

of all Undergraduate Majors

58

Full-Time Faculty

>30%

LCAS Course Enrollments

Letter from the Associate Dean



During the past year, our faculty and students have leveraged innovative approaches and opportunities for enhancing teaching and learning, while continuing research, scholarship, and grant efforts. We embraced online teaching by moving labs to an online format, offering hybrid courses, including flip classrooms, using breakout sessions via Zoom, creating collaboration spaces with tools such as Gather.town, empowering voices using flipgrid.com, enhancing teamwork and active learning by creating pods of students working together, and using various emerging approaches to education that were discovered by being agile, creative, and proactive in exploring possibilities and opportunities.

Hauber Fellows adjusted their research plans and completed an exceptional set of summer research projects. We created and built a Lightboard system in collaboration with the Loyola Notre/Dame Library (LNDL) that has already been put to good use for online teaching.

The noisy return of the 17-year cicadas provided a diversion from the unusual year of quietness on

campus with many employees working remotely this summer.

Our faculty demonstrated they are nimble and agile and fully capable of adjusting their teaching to match the needs of our students under any condition. Our staff displayed their dedication in supporting our programs, faculty, and students in helping with preparation for offering labs through an online format. Our students learned new skills and showed great perseverance as they continued their learning. The support from our alumni community and advisory board members contributed to making this a successful year. Ultimately, we proved we are more than ready. We are Loyola ready!

Sincerely,

A handwritten signature in black ink that reads "Bahram Roughani".

Bahram Roughani, Ph.D.
Associate Dean, Natural and Applied Sciences (NAS)

NAS Students and Faculty Highlights

Brunilda Neufeld, '21, biology major, is the 2021 Choudhury Sarkar-Dey Medalist for her outstanding academic accomplishment and her remarkable commitment to diversity and community service. She has demonstrated leadership and valuable service work as a Health Outreach Baltimore community advocate.

The **inaugural Haig Scholars** Seminar was conducted in Spring 2021 comprise of nineteen NAS students with demonstrated academic achievement, leadership aptitude, and commitment to service and community engagement. Seven guest speakers and book discussions emphasized on leadership and innovation. Haig Scholars received graduation cord during the Spring 2021 Commencement.

Chris Thompson, Ph.D., associate professor of biology and immunologist, has become a favorite local—and even international—expert in COVID-19 pandemic including his recent appearance through

WYPR, WBAL, WJZ, and Fox45, as well as *Healthline.com*, the *Huffington Post*, and *Al Jazeera*.

A new **Lightboard** system was installed at LNDL based on a collaborative effort among computer science, engineering, physics, and mathematics and statistics departments and LNDL. It was designed and developed in-house, thanks to the technical expertise of **Yanko Kranov, Ph.D.**, engineering, **Jason McMahon**, Loyola College of Arts and Sciences, and Matthew Treskon, LNDL. This new system has been used by our faculty for online, hybrid, or flip classroom teaching.

NAS Events and Highlights 2020-21



2020-21 Events



The 2021 Celebration of Science was organized in a virtual format during the first week of March 2021. Natural and Applied Sciences (NAS) students, faculty, and alumni offered several pop-up classes, organized alumni discussion sessions, conducted speed mentoring organized by the Society of Women Engineers, and hosted pre-health focused events.

Sixteen motivated and highly qualified NAS students participated in the 2021 Hauber Summer Research Fellowship program and were engaged in variety of research topics, from atomic force microscopy to complementary and alternative medicine, machine learning, quantum computing, and more. Research work and presentations were in a mixed format from 100% in-person, to entirely remote, and some as a mixture of in-person and remote.



CPaMS PROGRAM SUCCESS STORY

The CPaMS Scholars Program provides scholarships of up to \$10,000 annually for academically talented students with financial need to study computer science, physics, mathematics, statistics, or data science at Loyola University Maryland. Notable outcomes of CPaMS include a high retention rate and high graduation rate, such as 100% of ALANA (African, Latinx, Asian, and Native American) CPaMS scholars in the Class of 2021 graduated in STEM compared to 20% of non-scholar ALANA students. The number of CPaMS scholars in each cohort has grown each year, showing an increase from eight to 20 students per cohort. Loyola's creative pre-health students showed their enthusiasm for their future health professions by creating weekly online club events featuring alumni and other guest speakers. With the addition of the new pre-physician assistant student club the number of pre-health clubs is now at eight, which is fitting to the size of the pre-health community, with 681 students strong as of

PRE-HEALTH

Program



May 2021. Several of the speaker events arranged by the Society for Underrepresented Pre-Health Students, Doctors without Borders, Pre-Health Society, and other clubs focused on diversity and equity in healthcare.

In 2020, Loyola's applicants to allopathic and osteopathic medical schools had a record acceptance rate of 91%. In 2021, it was dental school applicants' turn to reach a record rate at 89% acceptance.

Health Outreach Baltimore students worked closely with providers to create an online resource site for families in need of community services, and in the spring the students were able to resume phone outreach and responded to over 260 resource connection requests by Baltimore families. At the height of the pandemic, the pre-health programs supported students' experiential learning by creating a summer program that met to discuss virtual patient cases created by Kaplan's i-Human Program and a fall internship program that focused on clinical skills.



Thank you to our generous donors

We are tremendously grateful for the philanthropic commitment alumni, parents, family, and friends made to Loyola College of Arts and Sciences in 2021-22. Last year, LCAS received a bequest intention of more than \$3 million dollars from Anna and James Lambdin, MSF, '83, to support and increase the impact of the Ann Lambdin Beetz Huntington's Disease Memorial Fellowship Fund. In addition, the Vice Chair of Loyola College of Arts and Sciences Board of Advisors, Geraldine Geckle, '74, created the first-ever diversity, equity, and inclusion endowment at Loyola. These are just two examples of the many generous gifts that exemplify the philanthropic commitment of so many in the Loyola community.

Our students, faculty, and staff are so thankful for the continued generosity of our amazing community.

loyola.edu/loyola-college

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