

FROM THE DESK OF THE
Vice President for Research

September 2024

Lobos,

I hope your semester is off to a great (and of course, a research-packed) start! During the month of September, I like to spend some time going over our numbers from the last academic year. While I realize “numbers” are not the only way we measure our successes as a R1 institution, you must remember that I’m a chemist and numbers motivate and stimulate my brain.

Let’s celebrate these numbers, because we did this working collaboratively with similar visions of increasing our research capacity.

The Numbers

Research Expenditures: \$168.9M Main/Branch campuses | \$389.6M UNM Total (HSC included)

Annual COI disclosures: >1300, and an additional ~5000 project disclosures

IRB: 185 New projects | 214 amendments/renewals arising from researchers in more than 50 units across Main campus

We have set our goals even higher for this academic year, and I know they are achievable with faculty, staff, students, and postdocs here at The University of New Mexico. Ultimately, our researchers are dedicated to exploring, innovating, and challenging new ideas, across disciplines and together as Lobos.



Ellen Fisher, Ph.D.
Vice President for Research
Professor of Chemistry

September Safety Spotlight

Even if you are not a chemist, chemicals exist within a large fraction of research environments. Many can be hazardous to humans, depending on how you are exposed and at what exposure level. As an undergrad researcher, I worked on a project comparing metabolic pathways for benzene exposure as a function of both concentration and exposure route – ingestion versus inhalation. In addition to these two methods of exposure, you can also absorb chemicals through your skin or eyes or, more rarely, have chemicals injected (e.g., via a sharp object contaminated with a toxic chemical).

To avoid these hazards, know the chemicals you are working with by reading the safety data sheet (SDS), wear appropriate personal protective equipment (PPE), and engineer chemical hazards out of your environment by considering the use of less hazardous chemicals where possible and employing controls such as ventilation fans, hoods, filters, and physical barriers.

On the benzene project, it turns out there are significant differences in how your body metabolizes benzene based on both exposure route and concentration. Nevertheless, I still believe in the old Dupont slogan of “better living through chemistry!” Just make sure it’s done safely!

Research Events

CERL

Our 2024 Community Engaged Research Lecture (CERL) is next week and I’m excited to hear from UNM Associate Professor Kimberly Gauderman.

Reflective of her research interests and her concern for social justice and human rights, Gauderman is an associate professor of Latin American history. She has been serving as an expert witness in Latin American asylum cases since 2010, focusing on gender, sexuality, and racial-based violence.

Gauderman’s lecture will take place Sept. 12 at 4:30 p.m., at George Pearl Hall.

Quantum New Mexico Symposium

Save the date for the Quantum New Mexico (QNM) symposium, Friday Sept. 27.

This event will highlight the tremendous progress QNM has made to realize New Mexico’s potential as a quantum information science and technology hub with impact in education, workforce development, and in building the new quantum economy right here at home.

New Mexico Senator Martin Heinrich will join us for a keynote address. We will also hear from an alumni panel about how their research at UNM in Quantum Information Science prepared them for their chosen career paths.

This event is hybrid; stay tuned for more information and a full schedule of events.

National Postdoc Appreciation Week

Sept 16-20 marks the 15th annual National Postdoc Appreciation Week, a time to celebrate these extremely hardworking researchers who play a critical part in the success of our university and our country.

Some of the best teachers, researchers, and mentors at UNM, these doctorate-holding individuals spend their time training students, performing groundbreaking research, utilizing the latest teaching strategies, publishing papers, and writing grants, all of which support UNM as an institution. Keep an eye out for the schedule of events for this special week and make sure to thank a postdoc!

R&D Week

Mark your calendars for the 2024 Research & Discovery Week, scheduled for Nov. 8-15. We can't wait to share with you all the feature events, such as world-renown keynote speakers, lectures, open houses, workshops, exhibits, and other creative activities at UNM.

Stay tuned to the R&D webpage for more information in the coming weeks!



Research Celebrations

NASA Minds Researchers in Florida

UNM undergraduates are busy exploring the Kennedy Space Center in Cape Canaveral, Florida as a reward for winning the national NASA MINDS Grand Championship for the second time in four years!

This interdisciplinary team from the Departments of Biology (College of Arts and Sciences), Biochemistry & Molecular Biology (School of Medicine), and Computer Science (School of Engineering) developed a project called “*Autonomous Plant Monitoring & Cultivation for the Lunar Gateway*” that aims at providing nutritious food for astronauts travelling to the moon and Mars during NASA Artemis missions, including New Mexico chile!

Students interested in participating, and faculty, post-docs, grads, and people from the Space Valley Foundation in New Mexico wanting to be mentors can reach out to Assistant Vice President for Research David Hanson (dthanson@unm.edu).

NM Economics Research Day

Last month, during the third-annual New Mexico Economic Research Day, faculty from the UNM Department of Economics and the Department of Community and Regional Planning presented six different research projects focused on issues impacting the state. The projects received funding from the state legislature through the Research in Public Service Projects funding and a 2024 junior fiscal appropriation bill.

These projects engaged both graduate and undergraduate student researchers and touched on a variety of pressing issues impacting the state.

Read more here.

URAD Research Scholarships

Six undergraduates have been chosen to receive the Undergraduate Research Scholarship for Fall 2024. The scholarship is presented by URAD and is intended to help support students conduct research in their main area of interest.

This year's recipients:

Hailey Aragon
Megan Honnold
Savannah Phelps
Solomon Gbara
Dustin Roberto
Audrey Lee

Read more about the individual projects here.

Research News

Overdue Reports

The *Controller Closeout Memo* has been updated as of Aug. 27, replacing the outdated memo from 2015. Most due dates for the return of the *Closeout Reconciliation Form* will be based on the agency's final invoice/final financial reporting due dates with allowance of time needed by UNM Contract & Grant Accounting to prepare and submit final invoicing and financial reports.

Please visit the Contract & Grant Accounting website for more information and updated forms. For questions, please email CGA at indexcga@unm.edu.

Research Recipe!

Today's global problems need interdisciplinary teams with diverse perspectives to create workable solutions. For more than a decade I have been interested in understanding how to enhance and enable "team science". Why do some teams exceed expectations and others fall apart over time? Is there some "secret sauce" that makes teams effective and productive?

The answer is, unfortunately, no. Several years ago, however, Google studied 180 of their teams and discovered something interesting – they found that the success of Google teams was not tied to "who" was on the team but more about "how" the team interacted.

The five most important factors were:

- Psychological safety
- Dependability
- Structure & clarity (roles & responsibilities),
- Meaning
- Impact.

Of these, psychological safety, a shared belief that the team is safe for interpersonal risk taking, is broadly viewed as the most important. At Google, teams with higher psychological safety saw lower turnover, realized higher revenue, and contained members who could effectively harness diverse ideas from their teammates. Consider creating your own recipe for success with your teams by incorporating Google's ingredients.