

November 2024

FROM THE DESK OF THE
Vice President for Research

Happy Halloween, Lobos!

This may be my November newsletter, but it was so spooky we couldn't help but get it out on the last day of October!

November is becoming one of my most favorite months of the year because we've started a new tradition on campus with Research & Discovery Week! It's our 3rd annual celebration where we take an entire week to celebrate our researchers and their contributions to sciences, humanities, the arts, and the world around us. I hope to see each and every one of you that week at one of our featured events!

Going into November, I know we're coming close to the end of the semester when fatigue starts to set in for so many of our researchers. Remember, research excellence comes from researchers, so it's important to take care of yourself. Take the Thanksgiving break as a short reset and get those extra "zzzzz's" in when you can. I believe that when researchers get the sleep they need and rest their mind, that's when true innovation and discovery take place. There is also lots of research to back that up!



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

November Safety Spotlight

One of my favorite quotes from columnist Ellen Goodman focuses on successfully navigating “graceful” exits in life and I often share it with people who are considering a job change or entering a new life stage. On the other hand, emergency exits, ideally designed to provide a clear route away from danger, are not necessarily known for being graceful (think New York fire escapes). They are also an often overlooked, but important element of safety in the research environment.

As with so many things safety-related, the key to ensuring best practices regarding emergency exits lies with communication and maintenance. Specifically, identification of emergency exit plans should be part of new employee and visiting researcher briefings. Emergency exit maps should be published and visible within each research environment.

On the maintenance side, care should be given to emergency exits through creating visible signage, maintaining markings or paintings, conducting regular inspections, and ensuring no storing or stacking of materials that could block or obscure exit pathways. Take time today to identify the nearest emergency exits in your research areas to ensure a graceful, albeit emergency, exit if necessary.

Research Events

R&D Week

We are less than two weeks away from our 3rd annual Research & Discovery Week, scheduled for Nov. 8-15. I hope everyone is excited as I am to celebrate research, discovery, innovation, scholarship, collaboration, but most of all research that impacts our future! I hope all of you will take the time to attend one (two, or three, or four) of our many scheduled events.

Grand Challenges Day

Grand Challenges Day will take place smack-dab in the middle of R&D Week. The day is open to the public and a perfect opportunity to learn about our latest Grand Challenges and meet the researchers who are working to make an impact in our communities.

RCR Symposium

We are offering several full-day symposia dedicated to the Responsible Conduct of Research (RCR). Each of these symposia provides a platform for researchers, students, and faculty members to engage in thought-provoking discussions and gain valuable insights into various aspects of responsible research.

Each symposium focuses on specific topics related to RCR. Join us in making a difference by engaging in and supporting ethical research practices through RCR training.

CARC Team Prepares for SC24 Competition

As the 2024 Supercomputing Conference (SC24) approaches, our Center for Advanced Research Computing (CARC) is ready to compete as they’ve been preparing for the past year. Later this month, a group of five undergraduates is set to compete in Atlanta, showcasing their expertise in high-performance computing.

Good luck to all out researchers!

Research Celebrations

NIH grant to support new UNM center

One of our newest center's Accelerating Resilience Innovations in Drylands (ARID) Institute received a \$3.83 million award from the National Institutes of Health (NIH)/ National Institute of Nursing Research (NINR) that will support the mission of improving climate resilience in New Mexico.

The UNM Climate and Health Allied Network for Geospatial and Environmental Science (CHANGES) Center will be housed in ARID and led by PI Jose Cerrato. The goal of the UNM CHANGES Center is to identify gaps in health care that can inform strategies to protect vulnerable communities in New Mexico from climate change.

From fireflies to drones

Researchers from the School of Engineering made a significant discovery when they looked to the natural world to explain how synchronized systems can work more efficiently.

Professor Francesco Sorrentino and Ph.D. candidate Amirhossein Nazerian explored the mathematics of synchronization. More specifically, they learned that synchronization of coupled systems occurs frequently in nature, from the connection between the heart and the lungs to the collaborative flickering of a group of fireflies. Lessons from these biological systems could improve the design and management of power grids, drones and other technology by allowing them to preserve energy during oscillation.

Research News

Being that Election Day is only days away, it's important we acknowledge all the privileges we hold as Americans to be able to cast our vote. It's also very important to understand the importance of all the research happening right now at R1 universities related to election processes. Therefore, I wanted to make sure we highlight some of the great work our student and faculty researchers are conducting this election year.

Political Science Research

What goes on in polling places during elections can increase or decrease voter confidence in elections and election outcomes. Election observation can play an important role in promoting transparency and accountability, as well as enhancing public confidence in the electoral process.

Nearly two dozen UNM undergraduate students in Dr. Wendy Hansen's Introduction to Political Analysis class, three UNM graduate students, and a handful of students from Florida State University

in UNM Emeritus Professor Lonna Atkeson's class are observing the elections in the Voting Convenience Centers throughout Sandoval County for early and Election Day voting.

After the election, students will write a short summary report on their observation experiences, and they will use data gathered from the observational study to apply some basic statistical analysis skills that they have learned during the semester.

Political Science Research

The media plays a crucial role in shaping public understanding of current events. In a recent paper submitted for publication, Ph.D., student Sarah Bliss and Professor Jessica T. Feezell, with support from the UNM WeR1 FaST program, investigate how three major broadcast news networks—ABC, CBS, and NBC, often seen as objective sources—differ in their crisis reporting.

Their study uses a mixed-method approach to analyze news coverage of George Floyd's murder and the subsequent protests during the summer of 2020. Combining detailed content analysis with data from a nationally representative panel survey, they find subtle but significant differences in broadcast news coverage and show that strong conservatives who watched ABC's coverage became more supportive of government assistance for Black Americans as a result and that overall, broadcast news is not a monolith.

QNM-I Director Search

Over the last three months, the search has been underway for an inaugural permanent director of the newly launched Quantum New Mexico Institute.

OVPR is happy to report that the search committee, Chaired by Distinguished Professor Ivan Deutsch, has completed their first round of virtual interviews, as have I and we have selected a great slate of candidates to visit campus for the next round of in-person interviews. As we finalize the schedule, please visit the OVPR executive search page for the complete schedules, candidate materials, and seminar information.

Foreign Entity Reporting

The new Foreign Entity Reporting electronic form is now available! To learn more about the Federal requirements involving foreign financial support that involves *all* UNM employees, please visit (I will link the page).

For more information, you can also contact Contract & Grant Accounting, the Responsible Reporting department, at indexcga@unm.edu.

Research Recipe

Are you ready to go over the chemistry behind cooking a turkey? It turns out there's this famous (in chemistry circles) reaction called the Maillard reaction that occurs when the amino acids in proteins and reducing sugars in food interact at high temperatures.

Bottom line is that the Maillard reaction creates browned crusts and yumminess (yes, that's the technical term). Cooking turkey by different methods affects the amount of heat transfer and moisture content available for the reaction.

Here's your quick guide:

- **Brining** – soaking your turkey in saltwater uses osmosis to draw moisture into the meat, breaking down muscle fibers to release amino acids, and ultimately yielding a juicier Gobbler
- **Roasting** – moderate heat levels yield good browning (moderate Maillard action) and even cooking
- **Deep Frying** – high heat rapidly cooks the turkey (Maillard reaction in all its splendor), but be careful the reaction doesn't go to completion, and you get a burnt Gobbler
- **Smoking** – lowest heat transfer, so not much Maillard action happening – less browning, but that truly distinctive flavor can't be beat!

No matter how you cook your turkey (or ham, or lasagna, or tofurkey), I hope you have a gratitude-filled November holiday!