

RESEARCH



Research and Graduate School Digest

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MARCH 2020

Creative Campus Charrette to be Held by NMSU

By Luis Cifuentes, VPRDGS

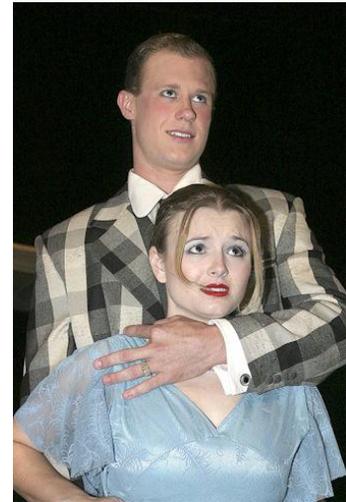
On Wednesday, March 11th, 2020, Dr. Jorge Vanegas, Dean of the College of Architecture at Texas A&M University, will facilitate a Creative Campus charrette to gain consensus while creating a shared vision of what a “creative campus” would look like, how it would operate, and what it would create for our students, community and economy.

The French word, "Charrette" means "little cart" and is used to describe the final intense work effort expended by art and architecture students to meet a project deadline. At the Ecole des Beaux Arts in Paris during the 19th century, proctors circulated with carts to collect final drawings while the students frantically put finishing touches on their work. Today, a Charrette is a collaborative process for empowering people who are important to a project to work together and support the results.

The Creative Campus collaborative effort is aligned with New Mexico's initiatives to grow the film and digital media sector statewide, and the overall media industry's current growth and future trends nationally and internationally. The Creative Campus is envisioned as both a strategic programmatic collaboration between the parties and a physical location at Arrowhead Park (NM Business Incubator), anchored by a state-of-the-art industry film and TV production facility, academic facilities for teaching, research, and workforce development, and other facilities to support development of an entrepreneurial media ecosystem.

The idea of a Creative Campus is driven by the substantial growth in cross-industry use of digital film production, animation, special effects and gaming. The strong digital media/film, gaming industry growth in New Mexico and keen cross-industry interest in the digital media skills that support their products/services is driving growth in student demand for study in these fields. Thus, the interest to build upon current assets in the region for job creation as a strategy to attract and retain a talented workforce.

The objective of the Creative Campus charrette is to build consensus to



form a “creative campus” that fully utilizes the unique assets and potential of New Mexico State University, Doña Ana Community College, the State and the City of Las Cruces to meet the career needs of our students; provide for the creative and research needs of faculty; and foster significant economic development in the region and state.

There are four desired outcomes for the Creative Campus charrette. First, identification of the knowledge and skill gaps that are required for career success. Second, identification of resources needed to sustain and grow the campus over time. Third, prioritization of identified needs to create that opportunity. Fourth, agreement on measurable results and timing.

Meet Dr. Marlena Fraune, Assistant Professor of Psychology

By Hamid M. Rad, RAS

Robots are becoming ubiquitous. Tug autonomous robots have been transporting medication and other medical supplies inside hospitals. Robots are guiding guests or delivering room service at hotels, scanning shelves at Walmart stores, and delivering food at Bowling Green State University. This ubiquity was envisioned by the National Robotics Initiatives, thanks to advances made by robotics researchers, in particular those who study human-robot interaction issues. One of such researchers is Dr. Marlena Fraune, Assistant Professor of Psychology. Since joining NMSU in 2018, Fraune has created the **Intergroup Human-Robot Interaction (iHRI) Lab** and is working on her project titled, Examining and Applying Robot Sociality to Enhance Intergroup Human-Robot Interaction” which is funded by the NSF Computer and Information Science Engineering directorate.

First, congratulations on your NSF award. Please tell us about the courses you teach at NMSU.

I’ve taught several courses for NMSU. I teach experimental methods, in which my undergraduate students get hands-on experience designing and performing four different experiments throughout the course of the semester. Students work in groups to collaborate and critique each other’s ideas to produce some exciting projects. One project that the class especially liked this semester was a field study in which the experimenters “accidentally” dropped their wallets while walking around campus to see if people would help them out by returning the wallets.

One of my favorite classes to teach is Engineering Psychology. In this course, students learn about how to design and test technological products to improve human lives. We started the semester reading about design principles and methods to test products with actual users.



Dr. Marlena Fraune and one of the robots (NAO) in her lab.



From left to right: Psychology graduate student Danielle Langlois, Psychology undergraduate students Andronette Aila and Aviana Amancio, Dr. Marlena Fraune, Engineering undergraduate Grace

Now, my students are creating new technology or improving current technology. At the end of the semester, the students will present their process and results. Throughout this class, I give weekly opportunities for students to practice what they learn, while putting together a digital portfolio of their work. This is important because many of my students are interested in getting jobs in industry after they graduate. The portfolios that they create during this class can be a helpful application material for their potential jobs.

**Igwe, Computer Science graduate student
Michelle Cormier, and
Psychology graduate student Harrison
Preusse.**

I am also developing a cross-disciplinary, international class. My goal for summer 2021, is to take a small group of psychology, engineering, and Japanese students from NMSU to my collaborating lab at [Toyohashi University of Technology](#) to collaborate with robot designers in Dr. Michio Okada's lab. The lab makes fascinating and unexpected robots to creatively improve human-robot interaction. For example, we recently hosted their student, Yudai Kubota, who is developing a robot for more interactive storytelling. The premise is that if their robot hesitates while telling a well-known story, it can encourage children to speak up and help complete the story. My students and Dr. Okada's would have a lot to learn from working together.

Please tell us about your lab and your research.

In my lab, we perform both basic and applied research in human-robot interaction. That means, research to discover fundamental principles of interaction that can be applied across many different areas – in addition to research to answer specific questions in particular contexts of human-robot interaction.

In one ongoing basic research study (for the above-mentioned grant), we are examining how human groups affect people's willingness to take a robot's advice. This is important because robots and artificial intelligence (AI) are being developed to help people in decision-making. For example, some AI is better at detecting cancer than human doctors are. But this technology is only helpful if people trust and take advice of this technology. Because people make decisions in different ways when they are in groups, it's important to understand how groups of people make decisions about robots.

One applied project I'm working on is in collaboration with my colleagues in computer science: Z. Toups, Bill Hamilton, and Son Tran. We are developing a mixed reality game that would help train search and rescue responders. If someone is lost in the wilderness or trapped in a building, search and rescue responders – often a team of volunteers – can sometimes find and save this person. New technology, such as drones and wearable computers, can save time and increase chances of success on these missions. With our training game, we hope to assist search and rescue responders in their preparation to save lives.

In ways like these, my lab is working to help facilitate human-machine

collaboration. There are so many ways that technology can improve our lives, if only we can trust and work with it.

Do you collaborate with faculty from other disciplines?

I am constantly collaborating with faculty and students from various disciplines. I am currently collaborating with researchers from computer science, engineering, robotics, and marketing. The field of human-robot interaction is inherently interdisciplinary. Engineers build robots, computer scientists program them, psychologists improve their interaction with humans, linguists assist with language production and recognition. Robots have been deployed to assist in restaurants and hotels, so hospitality disciplines would make fantastic collaborators. I would be hard-pressed to think of a discipline with which I could not collaborate.

Cross-cultural collaboration is also very important in the field. We live in an increasingly globalized world. We can travel to the other side of the world in half a day's time. Over online messaging or video, we can communicate with people across the globe instantly. This is fantastic news because diverse groups can come up with more innovative and effective solutions to various problems. Working with diverse perspectives can also help ground us, so we can make technology usable for people of different age, background, culture, ability, and more.

Can you tell us more about your cross-cultural collaboration?

I have collaborated with three different labs in Japan, one in Portugal, and one in Germany, in addition to labs throughout the United States. With each collaboration, I learn more about how to improve my work across contexts. These types of collaborations also help teach me and my students how to work and communicate well with others, regardless of the background.

One of my newest cross-cultural projects is to improve human-robot teamwork regardless of culture. My collaborators in Portugal, Dr. Ana Paiva, Dr. Samuel Mascarenhas, and Filipa Correia, discovered that a robot expressing emotions like it was part of the team made it a better teammate. Because teams work differently in different cultures, we are collaborating to learn how these team emotions affect interactions in the world. We have already started studying this with surveys of people in the United States, Portugal, Japan, and China. This summer, my student, Nichole Silva, will visit Dr. Paiva's lab to perform a cross-cultural study of actual human-robot interaction. I hope that this will be the first of many student cohorts that travel between our labs for cross-cultural collaboration.

I heard that you got accepted to the Summer Faculty Fellowship Program with the U.S. Air Force Research Laboratory. What is that project about?

If a GPS told you to drive off a bridge, would you do it? More often than we would like, the answer is yes. This is because people are not very good at understanding how much, or in what circumstances, they can trust machines. Lately, researchers have been devising new ways to help people know when they can and cannot trust machines – that is, to calibrate their trust in machines. This summer, I am starting a new project with my collaborator, Dr. Gregory Funke, to produce and test different methods of improving trust calibration. My student, Michelle Cormier, will lend her expertise in virtual and augmented reality to assist the project.

You also received funding from the New Mexico Space Grant Consortium. What are you working on with NASA?

Last year, NASA sent three Astrobees robots to the International Space Station. My team is working with NASA's chief roboticist, Dr. Terry Fong, to make interactions with their robots more efficient. My students, Harrison Preusse and Grace Igwe, have taken the lead in designing and testing user interfaces to improve interactions. This is necessary because astronauts are typically very busy, and anything we can do to lower their workload will be a huge help.

Do you have any other projects you would like to discuss?

Yes. One project that I'm very excited about is our collaboration with Kate Tsui from the [Toyota Research Institute](#). Oftentimes when people think about technology becoming more prevalent, they are concerned that we will lose ourselves in technology and forget about the people around us. In this project, we are trying to do the exact opposite. We plan to develop guidelines for technology to facilitate and improve people's interactions with each other. In particular, as people age, it can be increasingly challenging to travel to social gatherings. We plan to combat this by working with aging people to design technology that fits into their lives and helps them enjoy the social life that they want. To help find solutions for people across cultures, my student, Danielle Langlois, is traveling to Japan to begin this project this summer.

For questions or collaboration opportunities, contact Dr. Marlena Fraune at mfraune@nmsu.edu.

NMSU Faculty's Book on History of Borderland Gangs Featured on ABC Channel 7

Associate Professor of Criminal Justice Mike Tapia's recent book titled *Gangs of the El Paso, Juarez Borderland: A History* was featured on ABC Channel 7. The book examines the history of gangs in the west Texas and southern New Mexico region during the past hundred years.

Dr. Tapia could be reached at mtapia@nmsu.edu.



**NMSU Criminal Justice
Associate Professor Mike
Tapia on ABC News**

NSF CAREER Workshop to be Held on April 23, 2020

By Hamid M. Rad, RAS

The Office of the Vice President for Research and Dean of Graduate School will hold a one-day workshop on developing effective NSF Faculty Early Career Development (CAREER) proposals on April 23 in Anderson Hall. To be eligible to apply for the NSF CAREER funding, applicants must meet the following requirements:

- Hold a doctoral degree in a field supported by NSF;
- Be engaged in research in an area of science, engineering, or education supported by NSF;
- Hold at least a 50% tenure-track (or tenure-track-equivalent) position as an assistant professor (or equivalent title);
- Be untenured; and
- Have not previously received a CAREER award. (Prior or concurrent Federal support for other types of awards for non-duplicative research does not preclude eligibility.)

Applicants may submit only one proposal in each cycle and only three proposals before obtaining tenure position.

This workshop is led by Ms. Lucy Deckard, the founder of Academic Research Funding Strategies (ARFC), LLC. Before leading the ARFC consulting, Deckard was an Associate Director of Research Development at Texas A&M University for 8 years and prior to that worked as a research engineer in industry for 16 years.

To register, please send email to hamid@nmsu.edu.

Mountain West CTR-IN Advance to Funding Program

The MW CTR-IN program's Advance to Funding (ATF) program is open on a first come first serve basis throughout the year. The Advance to Funding (ATF) Program is a pre-submission mock grant review process for faculty who are submitting their R-type application to the NIH. The ATF Program provides the opportunity to submit their R-type grant proposals for a mock review and for scientific editing prior to submission to the funding agency.

The ATF is available to all clinical translational research (CTR) faculty from any of the 13 partner institutions of the Mountain West region, including NMSU, who are interested in having their R-type NIH grants reviewed externally by leaders in the field of CTR. For more information on eligibility requirements and instructions on submitting your draft proposal to the ATF program, please visit the [Advance-to-Funding program's website](#).

Questions regarding the ATF program should be directed to [Dr. Ruben Dagda](#) at rdagda@med.unr.edu.



New Mexico Space Grant and NASA EPSCoR Funding Opportunities for Faculty

By Cristina Esquivel, NMSGC

The New Mexico Space Grant Consortium (NMSGC) Research Initiation Grant (RIG) and the New Mexico Established Program to Stimulate Competitive Research (NM NASA EPSCoR) Research Infrastructure Development (RID) are designed to provide seed funding to faculty who are conducting research that aligns with NASA Mission Directorates and NASA Field Centers.

Both programs provide funding to develop competitive research and technology projects and programs for the solution of scientific and technical problems of importance to NASA. Each program has particular requirements. All programs require non-federal matching funds.

For more info about the NM Space Grant Research Initiation Grant (RIG) and to apply go to:

<http://nmspacegrant.com/research-initiation-grant>. For more info about the NM NASA EPSCoR Research Infrastructure Development (RID) program and to apply go to: <http://nmnasaepscor.com/research-infrastructure-development>.

For questions, contact the New Mexico Space Grant Office (575) 646-6414 or nmsgc@nmsu.edu



NMSU Research Security Compliance

By Abel Sanchez, Research and Graduate Studies IT

Cybersecurity concerns, federal and state regulations and restrictive contractual terms and conditions are growing every year, and they pose significant challenges for our researchers as they pursue grant and contract opportunities. The Office of the Vice President for Research, who is charged with LEADS 2025 Goal 2, recognizes the need for assisting researchers as they navigate through the complexities and often esoteric rules of compliance. To this end, several steps have been taken in the past year to improve communication and awareness of these issues within the research community.



**Abel Sanchez, Director,
Research and Graduate
Studies IT**

As a first step, the Research Security Oversight Committee (RSOC) was established (Research Oversight and Risk Management - ARP 11.0 - part 8) for the purposes of better understanding the research security compliance matters and engaging stakeholders working through the challenges. RSOC consists of members from the OVPR's office, Physical Science Laboratory, College of Engineering, the Arrowhead Center, and ICT.

The committee's current priority is an awareness campaign of research security related questions; such as controlled unclassified information (CUI), ITAR/EAR, and the Cybersecurity Maturity Model Certification (CMMC), and most importantly, who to contact if there are questions or concerns (help@research.nmsu.edu).

Second step, the CUI website cui.nmsu.edu is now online, and it serves as a portal for the dissemination of research security related content. The cybersecurity mandates affecting researchers are in a state of flux and this website, along with this newsletter and other media, will apprise the community of the changes and expectations in a timely manner.

Third step, RSOC is working closely with PSL contractors to help address their government driven cybersecurity requirements, which are the very same requirements already impacting some of our researchers. Lessons learned and effective working solutions will serve as reference points as we work with the research community at NMSU with similar needs.

Research security can be challenging, especially when tackled with limited resources. RSOC and other stakeholders are working together to assist the researcher in identifying the pitfalls early on, proposing policies and procedures that contribute to the effectiveness and growth of research at NMSU, and identifying areas where infrastructure changes can benefit the research community. If you would like to learn more about our mission or have a question please send an email to help@research.nmsu.edu and someone from RSOC will contact you.

Dos and Don'ts of Proposal Submission

By Rita C. Parra, RAS

RAS contract administrators submit hundreds of proposals each year, and while most of them are submitted smoothly, we often encounter issues that could easily be avoided. The following is a list of “dos and don'ts” of proposal submission:

Dos:

- Do contact your Research Center as soon as you locate a solicitation to which you're interested in submitting a proposal.
- Do provide your Research Center with your budget and budget justification for review.
- Do assist your Research Center in creating an ARGIS record as soon as possible for the proposal to ensure the record is routed for acceptance in your College/Unit and to ensure it is entered into Digital Measures.
- Do complete the require proposal documents early so that your proposal can be reviewed and submitted in a timely manner by Research Administration Services
- Do make yourself available by phone or email on the day your proposal will be submitted

Don'ts

- Do not submit your proposal directly to the sponsoring agency without proper review by your Research Center and Research Administration Services
- Don't “go off the grid” the day your proposal will be submitted
- Don't hold on to your proposal documents until the due date
- Don't forget to accept the **ARGIS** record so that it can progress in the routing process and be entered into Digital Measures
- Don't attempt to begin a proposal submission on the day it is due

If you have any questions, please don't hesitate to contact us at ras@nmsu.edu.



**Rita C. Parra, Director,
Pre-award
Administration**

RAS to Hold Principal Investigator Training on March 20

Research Administration will host PI training from 10:00 am to 11:00 am on Friday March 20, in the large conference room at Anderson Hall. The training is intended to provide an overview to NMSU researchers and staff involved with proposal preparation and submission, as well as award negotiation/acceptance of externally-sponsored grants and contracts. The training is strongly encouraged for all prospective and current principal investigators who have yet to attend. Once the training presentation has concluded, you are invited to meet members of the Research Administration Services team. Contract administrators and support staff will be available for a brief meet-and-greet and refreshments will be provided.



Register online through the Center for Learning & Professional Development via Training Central at <https://trainingcentral.nmsu.edu/Saba/Web/Main/goto/GuestOfferingDetails?offeringId=class00000000015691>.

For questions, email Vicki Morgan at vmorgan@nmsu.edu or call 575-646-1590.

Research Administrators' Roundtable

The quarterly Research Administrators Roundtable will be held on Friday, March 13, 2020 at 10:00 am in Anderson Hall. The Roundtable is intended for the Offices of Research Administration Services and Research Integrity and Compliance to meet with staff who are involved in pre-award research administration activities (e.g., proposal development and submission, budget formulation, Grant/Contract review and negotiation) and discuss timely matters related to research administration and collaborate on the primary goals for NMSU's LEADS 2025 mission. RSVP to Vicki Morgan at 646-1590 or via email, vmorgan@nmsu.edu by Tuesday, March 10.



Reminder: ARGIS Records

Does your research project involve human subjects, animal use or the use of hazardous chemicals? Perhaps your research will require additional space? Please be sure to indicate these requirements on the **Details** tab in **ARGIS** for the proper management of these research needs.

Compliance Data (Principal Investigator should)

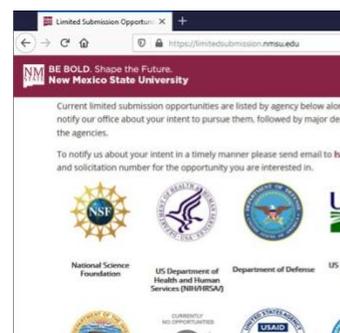
- Human Subjects
- Animal Use
- Recombinant DNA
- Infectious Agents
- Radioactive Materials
- Hazardous Chemicals

Special Considerations

- Is additional space needed to accommodate
- Is there a proprietary data requirement?
- Has the PI disclosed a conflict of interest?
- Is the development of intellectual property

Limited Submission Funding Opportunities

The Office of Research Administration Services lists limited submission funding opportunities at <https://limitedsubmission.nmsu.edu>. We encourage NMSU faculty and staff to periodically visit the site and if they are interested in any of the opportunities to please inform us by sending email to ls-ras@nmsu.edu. As a reminder, the site is only accessible on campus. Accessing the site using off-campus computers require first downloading and logging in through NMSU's VPN at <https://vpn.nmsu.edu>.



GRADUATE SCHOOL

Reminders about NMSU Graduate School Processes

Dr. Denise Esquibel, Graduate School

With Spring 2020 semester moving along, the admissions for Fall 2020 growing and the implementation of a new admissions system, it is important to keep everyone informed so that transparency allows us to all reach the bigger goal. At Graduate School we have a variety of expertise and when added to available resources, success can be achieved.

1. Nominations for funding: The request for nominations were sent out last month to the department heads, academic deans, program coordinators/directors and graduate faculty. Please have the nomination forms and required documents submitted to the Graduate School by no later than 5:00 pm on March 27, 2020.
2. SLATE access: To stay compliant with NMSU Security Policy, it is imperative that all faculty reviewers, decision makers and program coordinators/directors receive the correct level of security and training. With the security comes the ability to access files for the department major/degrees only. If your faculty and staff have not done so, encourage



**Dr. Denise Esquibel, Associate Dean,
Graduate School**

them to request security through <https://ssar.nmsu.edu>.

3. Changes to SLATE supplemental documents: Graduate School is asking that any changes needing to be made within the SLATE application system, be documented and submitted via memo to me. This memo must be routed thru the department head, college academic dean, to the Graduate School. We plan on processing the changes beginning June 1, 2020. If the department heads would like to meet and discuss the changes, I will make time to do so.
4. Electronic thesis and dissertation submission: The electronic process for submitting final thesis and dissertation was implemented in Spring 2019. With this implementation, Graduate School no longer works on student formatting and reviewing of the preliminary documents. This has been handed back over to the advisors. Graduate School will be doing a simple format review once the document is submitted to Pro-Quest. Please remind your graduate faculty to work with the students.
5. Exam information: Students planning to sit for an exam must have the request for exam forms turned into the Graduate School 10 days prior the exam. This gives the graduate school time to review and complete the necessary documents in a timely manner. Requesting exam paperwork the day of the exam is not acceptable.
6. GA Budget allocations: Graduate School is working on the 2020-2021 College GA budget allocation and will have those budgets out to the College deans by Wednesday, March 11, 2020. We will ask the dean to review and return with modifications by no later than Monday, March 16th will provide the Graduate School time to modify and return to the Budget Office.

For more information please contact me at desquibe@nmsu.edu.

Questions and comments regarding NMSU's Research and Graduate School Digest should be directed to Hamid M. Rad at hamid@nmsu.edu, (575) 646-6429.