MPA Materials Matter
Summer 2023
Approved for public release; distribution is unlimited.

INSIDE

Celebrating excellence

Sharan, Boshier, Kim, Martin recognized at postdoc program awards ceremony

Each year, the Lab's Partnership and Pipeline Office's Postdoc Program honors outstanding efforts made by postdocs and mentors that have led to a positive impact on the Lab and its missions.

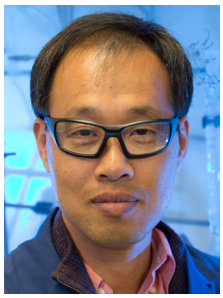
Postdoctoral researcher Prashant Sharan (Materials Synthesis and Integrated Devices, MPA-11) received an honorable mention in the Postdoctoral Distinguished Performance category. Michael Martin and Malcolm Boshier (both Quantum, MPA-Q) and Yu Seung Kim (MPA-11) were recognized with Postdoctoral Distinguished Mentor Awards.

Sharan started his research at Los Alamos in 2020 with a directed research project pertaining to supercritical water desalination. He completed his initial project in October 2021 and gained two consecutive TED-Pathfinder fundings in 2022 for a follow-up project.

Colleagues nominated Kim for his unwavering commitment to mentorship and the personal and professional well being of his postdoc mentees. In addition to offering career guidance, Kim provides support on issues such as obtaining visas and approaching negative research results with vigor and an open mind. His postdocs have a profound impact on fuel cells, water electrolysis, and polymer sciences, and they publish in journals such as *Nature Energy*, *Nature Materials*, *Energy & Environmental Science*, *Joule*, and *Macromolecules*.

Postdoctoral researcher Prashant Sharan (second from right) is shown alongside other honorees at the recent Postdoctoral Distinguished Performance Awards ceremony. From left: Deputy Lab Director John Sarrao, Lauren VanDervort (Statistical Sciences, CCS-6), Emily Luteran (Engineered Materials,, MST-7), Milovan Zecevic (Fluid Dynamics and Solid Mechanics, T-3), Sharan (Materials Synthesis and Integrated Devices, MPA-11), and Lab Director Thom Mason.

Malcolm Boshier



Yu Seung Kim

Michael Martin

Nominated by eight of their postdocs and former postdocs, Martin and Boshier were recognized for building a diverse team of postdocs in an environment of collaboration and camaraderie. Martin and Boshier are committed to their mentees and have led their teams to success by addressing questions, teaching technical skills, and cultivating an inclusive and welcoming work culture. Their postdocs become integrated into the Laboratory to a high degree, making impacts in MPA Division and beyond. ■

From Andrew's desk . . .

"Ultimately, it is important for us to learn about the hazards that are around us while working in a hazardous environment. But it is just as important to remember to keep thinking about those familiar hazards every time you are in the lab even if you have done something many times before. Maintaining a healthy respect for what can go wrong every time can help keep you safe in the lab and at home.

In this note I would like to remind everyone to focus on awareness of hazards both inside and outside of your laboratory environment.

Now that the weather has gotten warmer, I like to ride my electric bicycle a couple of times a week. In general, I am good about paying attention to the hazards all around me—like the cars, the walkers and the other cyclists—while I am riding. However, I find riding to be very relaxing. As a result, I have noticed on at least one occasion that my mind begins to wander as I cycle. I have occasionally found myself thinking more about what I am going to do when I get to work or when I get home rather than focusing on my current task and the very real hazards around me. As I am sure you all can imagine, if I am not as attentive as I should be to the cars around me, then I have put myself into a very dangerous situation.

Whenever we do something regularly, like ride a bicycle or perform the same experiment multiple times in the lab, we face the risk of getting complacent. We think that because we have encountered a hazard before, we know how to handle it, which is generally true. But, on the road or in the lab unusual things do occur on occasion (one could even say regularly occur). If we are not focused on the hazards around us, then we may not be able to react appropriately to avoid the hazardous situation when it confronts us.

Ultimately, it is important for us to learn about the hazards that are around us while working in a hazardous environment. But it is just as important to remember to keep thinking about those familiar hazards every time you are in the lab even if you have done something many times before. Maintaining a healthy respect for what can go wrong every time can help keep you safe in the lab and at home. By the way, if these last two statements sound familiar, it's because they summarize two of our Safe Conduct of Research (SCoR) principles.

Lastly, I want to take this opportunity to welcome the students who have arrived at LANL to work in the Materials Physics and Applications Division this summer. I hope you find your time in Los Alamos to be a rewarding experience. For those of you who do not know, LANL hosts about 2,000 summer students every year, which is why I like to say that LANL can feel like a small university in the summer time. Having so many new people on site who are eager to learn about working at LANL can make for a very engaging environment. Because students are such an important component of the future LANL pipeline, I would like to thank those of you who will take some time to mentor and work with the students in some capacity this season, too.

Best wishes for a productive summer,

MPA Division Leader Andrew Dattelbaum ■

From Michael's desk . . .

> I firmly believe that the 21st century will be largely defined by the "Second Quantum Revolution" and that our nation's economic and national security interests rest crucially upon dominance in this area.

After more than slightly half a year in the position of MPA-Q deputy group leader, I'm glad for the opportunity to reflect on the last seven months and describe what motivates me in this role. I came to this position from a background of experimental research in quantum sensing and quantum information science (QIS). After obtaining my PhD from the University of Colorado at Boulder, I held postdoc fellowships at Caltech and Sandia National Laboratories (SNL) before becoming a member of the technical staff at SNL. I joined LANL in 2018 because I saw an opportunity to develop a program in QIS at a crucial time for LANL and the nation. Over the first four years of my time at LANL, I built a QIS research program targeting Rydberg-atom-based quantum sensing and computing. In late 2022, I took the opportunity to expand my role to deputy group leader, because I saw that MPA-Q will play an important role in shaping the QIS research priorities of LANL, the region, and the nation.

I firmly believe that the 21st century will be largely defined by the "Second Quantum Revolution" and that our nation's economic and national security interests rest crucially upon dominance in this area. The last five years have seen a swift US government response to the increasing scientific and economic opportunity, complex national security considerations, and ever-expanding workforce needs. The landmark National Quantum Initiative (NQI), signed into law in 2018, more than doubled the federal R&D budget in QIS with an investment of $2.6B across the National Institute of Standards and Technology, the National Science Foundation, and the Department of Energy (DOE). The passage of the NQI also created the National Quantum Coordination Office, which connects stakeholders across the federal government to nationwide R&D efforts (see quantum.gov). In addition to the NQI, the CHIPS and Science Act of 2022 includes more than $765M for QIS research. As a result of this new federal funding, DOE saw its annual QIS budget nearly triple from fiscal year (FY) 2019 to FY2022 to $300M. To further underscore the significance of QIS to national security, the FY2019 and FY2020 National Defense Authorization Act (NDAA) legislation authorized the Department of Defense to increase the United States' technology readiness in QIS, and the 2022 NDAA established the Subcommittee on the Economic and Security Implications of Quantum Science. Against the urgent federal and economic need—and rapidly-growing private sector and government R&D demand—there is only one qualified applicant for every three job openings in QIS according to consulting firm McKinsey and Co.

MPA-Q possesses exceptional capabilities and strengths in experimental quantum science, including in quantum materials, magnetic sensing, quantum communication, and cold atom-based quantum technologies. We support the national need for basic and applied R&D in QIS as well as providing mentorship and training for the future quantum workforce. Within the NQI, LANL is a lead organization in the Quantum Science Center, where MPA-Q plays a leading role in experimental R&D, including work in topological materials, quantum sensing, and quantum algorithms. This is one example of LANL's growing leadership in QIS, but there is much work to be done before we meet the expanding national need for experimental QIS capabilities and innovation.

On a personal note, transitioning to management has been rewarding but also challenging. It has been inspiring to become more involved in supporting and understanding the work we do as a group and as a division. What keeps me grounded and motivated is collaborating with and supporting our exceptional, students, postdocs, scientific staff, and management, as well as mentoring the next generation of scientific leaders here at LANL. One of the highlights of my career so far has been to receive recognition via the LANL Postdoctoral Distinguished Mentor Award. I have approached the role of deputy group leader in a similar spirit: first, by recognizing the importance of empowering and supporting research staff, and second, by ensuring their capabilities and successes are visible to stakeholders across the national QIS landscape.

MPA-Q Deputy Group Leader Mike Martin ■

Postdoc perspectives

Meet Materials Physics and Application Division's postdoctoral fellows. After earning their PhDs, these promising researchers chose to further their scientific training at Los Alamos. They did so for an array of compelling reasons, including the opportunity to

- work in a scientifically rich research and development environment, alongside experts in their fields and using the Lab's unique tools and facilities,
- present and publish their work at international conferences and in prestigious journals, and
- strengthen the nation's scientific and technical capabilities and contribute to its national security.

Becoming a Los Alamos postdoctoral fellow is a competitive process. Each year, the Lab appoints just approximately 30, with selections made based on academic and research accomplishments, the strength of the proposed research, and the candidate's potential impact on the institution—with the final determination made by the Lab Director and Deputy Director for Science, Technology, and Engineering.

Read on to learn how, in their own words, MPA's postdoctoral fellows describe the opportunity to broaden their scientific horizons through their time at Los Alamos.

Mitchell Bordelon

Second-year Director's Postdoctoral Fellow
Quantum (MPA-Q)
Mentors: Priscila Rosa; Eric Bauer (both MPA-Q)

My postdoctoral research focuses on uncovering novel quantum phases of matter in highly correlated electron systems. These quantum phases may be relevant in future technologies, such as fault-tolerant quantum computation. My long-term goal is to determine material predictors for such phases.

Collaborating across capabilities and techniques
I've been able to collaborate with other researchers interested in the crystals I synthesize, specifically at the National High Magnetic Field Laboratory. They can analyze the materials I grow with different techniques and tools. With such a variety of tools and capabilities at the Lab, it's been nice collaborating with others who are similarly interested but who use different approaches.

I have also enjoyed the numerous mountain biking trails and outdoor activities available throughout the Lab and Los Alamos. To new postdocs I say, make sure to work hard but also take breaks to enjoy Los Alamos!

Ian Chesser

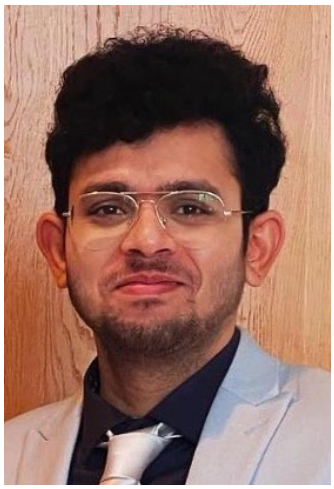
First-year Metropolis Postdoctoral Fellow
Materials and Physical Data (XCP-5)
Mentors: Abigail Hunter (XCP-5); Saryu Fensin (Center for Integrated Nanotechnologies, MPA-CINT)

I am excited by the opportunity to work with many talented scientists in a dynamic, interdisciplinary environment. I would like to help push the field of interface science forward via collaborative efforts across many areas of expertise. There is still a poor understanding of interface dynamics and I would like to help improve models in this area.

Considering a fellowship?
I would recommend being open to a variety of research directions and reading papers from scientists with whom you would like to work. That, along with conferences and presentations, is how I became aware of people I work with and the research they do at the Lab. In fact, I met one of my mentors, Saryu Fensin, at the international TMS annual meeting.

continued on next page ▶

Postdoc perspectives cont.



Aniruddha Dey

First-year Director's Postdoctoral Fellow
Center for Integrated Nanotechnologies (MPA-CINT)
Mentors: Ekaterina Dolgopolva, Jennifer Hollingsworth (both MPA-CINT); Samuel Greer (Physical Chemistry and Applied Spectroscopy, C-PCS)

I am a synthetic chemist. My research focuses on the development of extended chemical frameworks that can be used to assemble molecules that act as spin qubits, or "quantum bits." These synthetic platforms hold promise as a means for controlling inter-qubit distances and organization, while allowing the building block qubit-bearing molecules to retain their inherent quantum coherence properties. In this way, these materials are the stepping stones toward designing multi-qubit assemblies—an overarching need for a range of applications in quantum information science and technology from computation to secure communication.

Skills on tap: From team contributor to scientific leader
I am most excited about the Lab's highly collaborative research culture and its state-of-the-art scientific instruments and techniques. I'd also like to develop mentorship, leadership, and teamwork skills—with the goal of eventually leading a scientific team.

Caleb Fink

First-year Director's Postdoctoral Fellow
Quantum (MPA-Q)
Mentors: Sean Thomas (MPA-Q); Matthew Carpenter (Safeguards Science and Technology, NEN-1); Daniele Alves (Nuclear and Particle Physics, Astrophysics, and Cosmology, T-2)

I am excited about working with a diverse group of materials science researchers with scientific backgrounds different from mine. The difference puts me outside my comfort zone and teaches me new ways to approach problems.

Making an impact: From basic discovery to national security
I am part of a team developing ultra-sensitive particle detectors based on novel narrow-bandgap semiconductors synthesized in MPA-Q for the direct detection of low-mass dark matter. The sensitivity of these detectors could eventually lead to the development of single far-infrared photon sensitive pixel arrays—which could prompt the next generation of infrared photon detectors for astronomy or x-ray detectors in nuclear deterrence applications. The director's fellowship allows me to be flexible and develop my own plans in different groups. I hope to help demonstrate how novel materials discovery can have direct applications to solving exciting problems in many areas of science—from particle physics to national security.

Sundar Kunwar

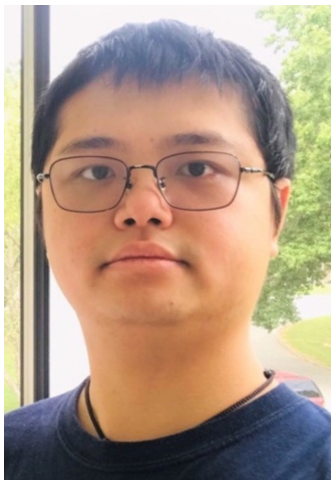
Second-year Director's Postdoctoral Fellow
Center for Integrated Nanotechnologies (MPA-CINT)
Mentors: Aiping Chen; Wanyi Nie (both MPA-CINT)

The collaborative work environment across MPA and CINT has enabled me to work with people from different research backgrounds. This helped when I got to the Lab, because I started working on memristors, which was a totally new topic for me. I focus on exploring the functional properties of oxide thin films in memristive switching devices, which have huge potential in neuromorphic computing.

Advantage: Access to world-class research facilities and expertise
I feel lucky to have gotten a chance to work at the Lab. The research environment at the Lab is so diverse with so many people from different backgrounds, it's possible to collaborate in way that may not be possible at other institutions. Here, it's easy to diversify your research and knowledge.

continued on next page ▶

Postdoc perspectives cont.



Kui Li

First-year Director's Postdoctoral Fellow
Materials Synthesis and Integrated Devices (MPA-11)
Mentors: Xiaojing Wang; Siddharth Komini Badu (both MPA-11)

I am working on developing novel oxygen electrodes that will aid in developing improved integrated electrodes for unitized regenerative fuel cells, which can "regenerate" hydrogen via water electrolysis. Potentially a paradigm shift in cost effectively developing bifunctional electrodes with superior performance, the method could be applied to future Los Alamos projects supporting DOE Office of Energy Efficiency and Renewable Energy (EERE) and National Nuclear Security Administration goals.

Interacting across institutions
As part of the fuel cell team, I often work internally with the Center for Integrated Nanotechnologies. Externally, I've enjoyed working on fuel cell and electrolyzer research with members of Argonne, Lawrence Berkeley, and Oak Ridge national laboratories and various universities. My efforts could contribute to the application of future LANL fuel cell projects funded by the Laboratory Directed Research and Development Program and the EERE.

Alesandro Mazza

First-year Director's Postdoctoral Fellow
Center for Integrated Nanotechnologies (MPA-CINT)
Mentors: Aiping Chen (MPA-CINT); Ross McDonald (National High Magnetic Field Laboratory, MPA-MAGLAB)

I am excited to work with a number of unique capabilities at the Lab, particularly the ability to work with actinide and *f*-electron materials and with extremely high magnetic fields at the National High Magnetic Field Laboratory. The Lab has decades of experience in these fields, and the opportunity to work with these experts is just as exciting as having these capabilities at my fingertips. I hope to learn from these experts and use these unique resources for my own and my team's research.

The intersection of academia and industry
Life at a national lab can be pretty amazing. It's like a cross between academia and industry—academia because of the research and industry because things happen fast and there's a lot of financial support.

Eric Meier

Second-year Director's Postdoctoral Fellow
Quantum (MPA-Q)
Mentors: Michael Martin; Malcolm Boshier (both MPA-Q)

My favorite experience about my time at the Lab so far has been the incredibly collaborative work environment. In the quantum technologies team of MPA-Q there is never any sense of competition between the staff or postdocs but instead a completely open, helpful, and collaborative culture. This is a somewhat rare situation and I feel lucky to be a part of it.

Recent advances in quantum computing with neutral atoms have made them a hot contender for a realistic quantum computer. In MPA-Q, we are working on building several apparatuses to study and realize these types of systems. I work directly on two apparatuses—one using rubidium for quantum sensing applications and the other using strontium for quantum computing experiments. These are both in their early stages and I have been primarily working on physically constructing the vacuum and laser systems and planning and testing novel neutral atom trapping schemes.

Expertise for the asking
I have found that every person I have ever asked for help with something that I don't know how to do has seemed genuinely eager to assist me. So don't be afraid to ask people for help, we all know that things aren't easy to figure out when you're new.

continued on next page ▶

Postdoc perspectives cont.

Snehasish Nandy

Second-year Director's Postdoctoral Fellow
Physics of Condensed Matter and Complex Systems (T-4)
Mentors: Jianxin Zhu (T-4); Ross McDonald (National High Magnetic Field Laboratory, MPA-MAGLAB)

The goal of my postdoctoral research is to explore the effect of interplay between topology and electronic correlations on transport properties in topological semimetals. This effect was only discovered in 2019, so it's possible new physics will emerge from this research.

Opportunity to expand professional potential
I enjoy the talks and lecture series at the Lab and the opportunity to learn from and work with the speakers. It makes for an enjoyable work environment, where working with different people with different areas of expertise helps me develop my own knowledge in different areas. I've been mainly a theoretical physicist, but soon I will begin experimental physics research. I look forward to developing myself in that area.

Jacob Pettine

Second-year Director's Postdoctoral Fellow
Center for Integrated Nanotechnologies (MPA-CINT)
Mentors: Houtong Chen (MPA-CINT); Filip Ronning (National Security Education Center, NSEC)

My postdoctoral research has involved probing and controlling dynamics in emerging low-dimensional materials. I'm exploring new ways to control vectorial charge currents on nanometer spatial scales and ultrafast timescales, as well as intriguing ultrafast laser-induced hydrodynamic electron flow behaviors. New physics emerges in these extremely small spaces and short time scale. How that manifests at much larger scales can be used for computing and other technologies.

Scientific networking: A crucial technique to success
To new postdocs, I recommend building a network of scientists with capabilities in which you're interested. Start with your advisor—tell them what you're interested in and ask them to connect you with the right people. You can begin meeting people right away, while you're still training. This initial investment makes life easier later on, because you'll know who to go to when you need help.

Patrick Jerry Skrodzki

Second-year Director's Postdoctoral Fellow
Physical Chemistry and Applied Spectroscopy (C-PCS)
Mentors: Pamela Bowlan (C-PCS); Nicholas Sirica (Center for Integrated Nanotechnologies, MPA-CINT)

My research involves applications of nonlinear optics for detection and measurements of nuclear materials. I have been developing a table-top system for extreme ultraviolet spectroscopy of actinide materials enabled by ultrafast laser-driven high harmonic generation. Our source provides a table-top alternative to photon energies otherwise available only at large user facilities. Our source is not only unique, but the actinides we work with are easier to work with here than other user facilities. Taking radioactive material into another user facility is logistically tricky, but at the Lab it's part of the infrastructure.

Enthusiastic interactions
Everyone is willing to help. I once needed a chemist, and within a few days of putting out the word, I had three or four people volunteering their expertise. It's great being surrounded by smart, passionate people.

continued on next page ▶

Postdoc perspectives cont.

Xuejing Wang

Second year Director's Postdoctoral Fellow
Center for Integrated Nanotechnologies (MPA-CINT)
Mentors: Mike Pettes, Jinkyoung Yoo (both MPA-CINT); Yongqiang Wang (Materials Science in Radiation and Dynamics Extremes, MST-8)

For my Director's postdoc fellow awarded project, I developed the idea of using ion irradiation to introduce defects in atomically thin van der Waals transition metal dichalcogenides. We use an electron beam to probe the atomic structure and directly observe the generation of defects within the 2D materials and further correlate these structural changes to their physical properties, including excitonic emissions, Raman scattering, and electronic band structures. The study provides insights in defect engineering to control properties of 2D semiconductors aiming at developing flexible electronic devices.

Develop your elevator speech: The Lab's 'Science in 3' competition
The Lab's "Science in 3" competition is a great experience. I learned to introduce my research in three minutes, which is completely different than compared to my experience at research conferences, which is aimed at delivering science in an interesting way to a broad audience. In preparation for the competition, I gained fruitful advice and skills in presenting and making slides. I also learned about many interesting topics in science by listening to the talks from other fields of study.

Di Zhang

Second year Director's Postdoctoral Fellow
Center for Integrated Nanotechnologies (MPA-CINT)
Mentors: Aiping Chen (MPA-CINT); Rodney McCabe (Materials Science in Radiation and Dynamics Extremes, MST-8)

I focus on investigating the switching mechanisms of oxide-based memristor devices, which is of great significance in developing next-generation integrated electronics such as nonvolatile memory, neuromorphic computing devices. To achieve this goal, I conduct in situ biasing experiments using a transmission electron microscope. This means observing the microstructural evolution of the fabricated (and other types of) memristor devices during the switching process at the atomic scale.

Freedom to design and conduct your own research
The fellowship allows me to work as an independent researcher and launch discussions with my mentors every other week regarding the experiment plans and results discussions. I also actively work with colleagues from other universities and labs to use their facilities or tools and to organize several international conference symposiums. During this postdoc training period, I feel I am gradually growing as an independent researcher and am building my network and reputation in the community, which will be very beneficial in the near future when becoming an independent researcher and starting my own research lab. ■

Inclusivity tip

Each June, LGBTQ+ Pride Month is celebrated to honor the 1969 Stonewall rebellion in Manhattan, a tipping point for the gay liberation movement in the United States. Pride celebrations recognize the impact that LGBTQ+ individuals have had on local, national, and international history.

Prism, the Lab's LGBTQ+ employee resource group, fosters a supportive work environment for LGBTQ+ individuals at Los Alamos National Laboratory where all individuals are able to thrive and contribute to the LANL mission at their maximum potential. Prism membership is open to all Lab employees. For more information, please see int.lanl.gov/employees/diversity/resource-groups/lgbti/index.shtml. ■

PRISM
LGBTQ+ PRIDE ALLIANCE

HeadsUP!

These driving safety reminders could help save your life

As more drivers are plying the roads in and around Los Alamos, traffic congestion presents challenges for everyone behind the wheel.

In the months ahead, construction on NM 4 and at different sites around the Lab will likely pose traffic challenges to commuters, residents, and neighbors. Good judgment, patience, and a focus on safety are vitally important to keep everyone protected.

Distracted driving is dangerous driving
Staying focused on the road is priority No. 1 during the morning commute to the Laboratory when traffic is congested and drivers may be tired.

The National Highway Traffic Safety Administration found that not looking at the road for just 4.6 seconds while traveling 55 miles per hour is equivalent to driving the length of a football field with your eyes closed.

On Lab property, stay alert for construction activity and check the Traffic News Hub for the latest information on traffic at the Lab. Additional traffic resources will be available in the coming weeks.

Slow down before reaching intersections and crosswalks
In recent years, pedestrians and drivers alike have experienced near misses at crosswalks, particularly on Pajarito Road near the Occupational Medicine facility. Before you drive up to a crosswalk, slow down and watch for pedestrians on both sides of the street. Traffic signs may obscure a person or cyclist standing nearby.

Be especially cautious and pause for a moment before proceeding. Pedestrians should make sure they scan the roadway to ensure they are aware of what's happening around them. When possible, make eye contact with drivers so they're aware that you're about to cross.

Let other drivers in
Zipper merging reduces the length of traffic backups by as much as 40%, according to the New Mexico Department of Transportation. When vehicles zipper merge or continue in the lane for as long as possible, the chances of dangerous lane switches and road rage are reduced.

"With more and more vehicles on the campus, the zipper merge is another opportunity for each of us to practice safer driving and practice kindness," said Andrew Erickson (Facilities and Operations Directorate, ALDFO), Utilities and Infrastructure portfolio manager, in a 2022 LANLToday news story. "These actions align with the Lab's Safe Conduct of Research principles of learning never stops and hazards are identified and evaluated for every task, every time. Give that safer zipper merge a try."

The DOT's Courtesy on the Road webpage features a video on how to zipper merge.

Finally, remember that if you're feeling rushed, others are feeling that way too. Be considerate and kind to your co-workers. If you're feeling hurried, first take a moment or two to breathe. You'll be glad you did—and so will those around you.

MPA Materials Matter
Materials Physics and Applications

Published by the Physical Sciences Directorate

To submit news items or for more information, contact Karen Kippen, ALDPS Communications, at 505-606-1822 or aldps-comm@lanl.gov.

To read past issues see www.lanl.gov/orgs/mpa/materialsmatter.shtml.

Los Alamos NATIONAL LABORATORY

NNSA National Nuclear Security Administration

Celebrating service

Congratulations to the following MPA Division employees who recently celebrated a service anniversary:

Rodney Borup, MPA-11 . . . . . 25 years
James Werner, MPA-CINT . . . . . 25 years
Matthew Cover, MPA-11 . . . . . 20 years
Yu Seung Kim, MPA-11 . . . . . 20 years
Boris Maiorov, MPA-MAGLAB . . . . . 20 years
Chris Sheehan, MPA-CINT . . . . . 20 years
Ricardo Marti-Arbona, MPA-CINT . . . . . 15 years
Doan Nguyen, MPA-MAGLAB . . . . . 15 years
Eric Davis, MPA-11 . . . . . 10 years
Wanyi Nie, MPA-CINT . . . . . 10 years
Dean Morales, MPA-CINT . . . . . 5 years
Logan Robinson, MPA-11 . . . . . 5 years
Duncan Ryan, MPA-CINT . . . . . 5 years
Elida Summers, MPA-11 . . . . . 5 years