

“The Neural Bases of Distraction and Reappraisal” study by Kateri McRae et al.
Funded by grants from National Institutes of Health



UNIVERSITY of
DENVER

RESEARCH & SCHOLARSHIP MATTERS

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Corinne Lengsfeld

IN THE NEWS

Your Family, Your Neighborhood

Associate Professor Daniel Brisson, Graduate School of Social Work, and PhD candidate Stephanie Lechuga Peña were awarded a contract through the Edward Byrne Memorial Justice Assistance Grant (JAG) Program to deliver their intervention, *Your Family, Your Neighborhood (YFYN)* to the Denver area. Initially piloted on a small segment in 2012, the program expanded quickly. Working with a variety of community partners, including community centers, schools, and housing apartments, Brisson and Lechuga Peña brought the program to the Sun Valley neighborhood in 2014 and the Montbello neighborhood in 2015. The state-funded award also involves a partnership with Denver Human Services which provides financial support for the intervention. YFYN is a dual

generation, ten-session curriculum designed to address academic success and improve the health and well-being of families living in subsidized housing communities. The curriculum focuses on developing the bond between children and their parents, developing parents' attachment to schools, and developing cohesive relationships in the community. Targeted to families with children between 7 and 12 years old, YFYN is delivered in the evenings to both parents and their children, on site, at their housing community. Currently funding is year to year but with the success of the program thus far and positive results on the horizon, Brisson and Lechuga Peña see a great future for *Your Family, Your Neighborhood!*

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New York Times— “Dynamics are Shifting in an 8-Member Supreme Court” - quotes from Justin Pidot, Associate Professor, SCOL

NPR's Take Two Show— “Take Two Time Machine: The History of Delegates” - on-air interview with Seth Masket, Chair of Political Science, AHSS

Denver Post— “Building the Stanford of Denver at the Speed of an Entrepreneur” - interview with JB Holston, Marty Katz, and others at DU regarding Ritchie School's Project X-ite.

Project Syndicate & Denver Post— “Expecting the Unexpected in America” - op-ed by Christopher Hill, Dean, JKIS

Huffington Post— “Thinking the Unthinkable: Russia Has Re-Emerged as a Great Power” - op-ed by Jonathan Adelman, Professor, JKIS

Washington Post Blog— “Can Civil-Rights Law Stop Racial Discrimination on Airbnb?” - blog post co-written by Nancy Leong, Associate Professor, SCOL

ABC 7 News— “Volkswagen Reaches Settlement to Buy Back, Fix, and Compensate Owners in Emissions Scandal” - Interview with Daniel Sweeney, Director of the Institute for Enterprise Ethics, DCB

Can Civilians Curb Violence in Conflict?

With the support of the Carnegie Corporation, researchers at the Sié Center have put together an international team of scholars, including Deborah Avant, Erica Chenoweth, Rachel Epstein, Cullen Hendrix, Oliver Kaplan, and Tim Sisk, to investigate how the non-violent actions by civil resistance and other local groups, international and local non-governmental organizations (NGOs), multi-national and local companies, churches, labor unions, and international organizations affect the degree of violence in conflicts. The research both notes the importance of this range of different participants as policymakers, of sorts, in conflict and engages with this broader array of policymakers in the conduct of this research. To illustrate the logic, consider the crisis in Ukraine, often thought of as a conflict between the governments of Russia and Ukraine, yet many others significantly impact the conflict's trajectory. Civil society groups used nonviolent resistance to pressure President Yanukovich to leave in the first place. International organizations deployed observer missions and helped negotiate an agreement between Russia and Ukraine. Though armed militias have continued the violence, community activists in several parts of eastern Ukraine have taken them on – through peaceful protest (in Donetsk) or in consortium with others. In Mariupol, for instance, steel workers from the company Metinvest joined with community activists and local police to patrol the city, remove barricades, and restore order. The Sié Center team scoured the relevant literatures and spoke with countless policymakers in and outside of government to generate a set of propositions about

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how we might expect these non-violent actions by non-state actors to affect violence. The team is collecting information on incidents of nonviolent tactics these non-state actors used during armed conflicts in Africa from 1990 – 2014. And has commissioned (among Sie faculty and experts from around the world) case studies looking at particular actors and strategies in Afghanistan, Bosnia, Colombia, India, Syria, Kenya, Mexico, Northern Ireland, Peru, Rwanda, South Africa, and the Basque Region of Spain.

Fluorescence from the Lab to the Clouds

Can an iPhone be used as a spectrometer to detect micron-sized particles out in the field? Assistant professor Alex Huffman and his team, including his father who is an emeritus professor of physics from the University of Arizona, produced a first prototype version of their new spectrometer that uses an iPhone as the detector to provide fluorescence spectra of individual particles collected onto a slide. They want to use this device to help understand how biological particles in the atmosphere, like pollen, fungal spore, and bacteria, impact environmental processes like ice cloud formation and precipitation. Working in the field with very expensive, single-particle fluorescence instruments to analyze the spectroscopic properties of individual micron-sized particles, Huffman's team determines whether a particle is biological or not and links that information to ice nucleation properties. Getting similar information at <1% of the cost would make a big difference. A graduate student in his group recently took the prototype sensor and collected samples on the island of Cyprus, and soon they will also compare their results to a top-of-the-line, continuous sampling instrument flown on a NOAA plane this summer. This is exciting progress on the road to developing a more portable and inexpensive spectrometer for airborne bioparticles to be used for research purposes by academics and citizen scientists, and possibly also as a home health sensor for certain allergens such as grass pollen and mold spores. Using a multidisciplinary approach to investigate questions about the chemistry and biology of the atmosphere, Huffman's team in the Department of Chemistry and Biochemistry develop and characterize instrumentation to answer atmospheric questions about biological aerosols and also work toward understanding how certain atmospheric reactions may influence how these particles become more allergenic. In addition to many on-going lab projects, students in the group have conducted studies at locations surrounding the globe, as close as pine forests in Colorado and as far away as Paris, Reunion, Cyprus, Barbados, and Vancouver Island. Understanding the make-up of the clouds around the earth will contribute to a greater understanding of climate and the atmosphere, and using a smart phone as a spectrometer will make the job much more mobile!

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Multicultural Orientation—Necessary in Psychotherapy

In collaboration with nine university and community partners, associate professor (MCE), Jesse Owen and his research team, are creating a systematic training program to help therapists understand the importance of multicultural orientation in psychotherapy. With plans to increase the partnerships to include up to 50 universities, the research team hopes to significantly reduce the disparity in mental health treatment outcomes caused by a lack of multicultural orientation. Multicultural Orientation, an important component in the therapeutic relationship, is the therapist's ability to comprehend the cultural heritage of their client and work with client's culture in

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therapy sessions. Owen's team identified three pillars of multicultural orientation: Cultural Humility, Cultural Opportunities (often missed), and Cultural Comfort, which has repeatedly and significantly been associated with several key psychotherapy processes and outcomes and is useful in explaining mental health disparities in the outcome of mental health treatments. Through their research, the team works to identify and uncover these disparities, explaining the dynamics of the disparities and creating a plan to compensate for the disparities through trainings and/or continuing education classes aimed at cultivating ways of being with clients. Traditionally, psychotherapy has ignored the role of culture in therapy. Professor Owen devotes much of his research to psychotherapy processes and outcomes for both individual and couple therapy while also teaching and leading the Counseling Psychology Department as department chair and is excited to be part of such a large collaboration!

Banana Slugs Inspire!

Eleni Sikelianos was honored to receive her second Literature Fellowship from the National Endowment for the Arts in poetry this past year. Eleni's previous NEA fellowship, received almost two decades ago, allowed her to complete and publish the book *Earliest Worlds*. With this fellowship Eleni is excited to turn her attention to a poetry manuscript that traces our structural heritage, evolutionarily speaking. The inspiration for this manuscript evolved from participation in an Artist Residency program in California in the summer of 2015 which combined art and science. There, Eleni went on several long hikes with a neuroscientist/primatologist, observing salamanders, milk snakes, partially eaten rabbit corpses, and, most elaborately, mating banana slugs. A burst of a poem came out, a few pages portending a much longer project that engages the history of how humans came to be, and our debt to all the other animals and plants that invented structures and systems to adapt to this planet's environment. Trying to describe this intricate plant and animal world in human terms with scientific names is contrary to the feelings they amass and the wonderful challenge facing poets.

Part of poetry's job is to travel back and forth between the theoretical and the real, leaping into the impossible and possible both, in a kind of telemetry of the imagination. Poetry seems singularly suited to providing alternatives to our dominant narratives, dealing as it does in not only the daily but also in the dreaming, the wondrous, the muddled, and the inscrutable. Eleni would love to talk to any evolutionary biologists or scientists on campus who would like to converse with a poet. With the fellowship from NEA, recently supplemented by a PROF grant, Eleni looks forward to expressing this riveting relationship in poetry!

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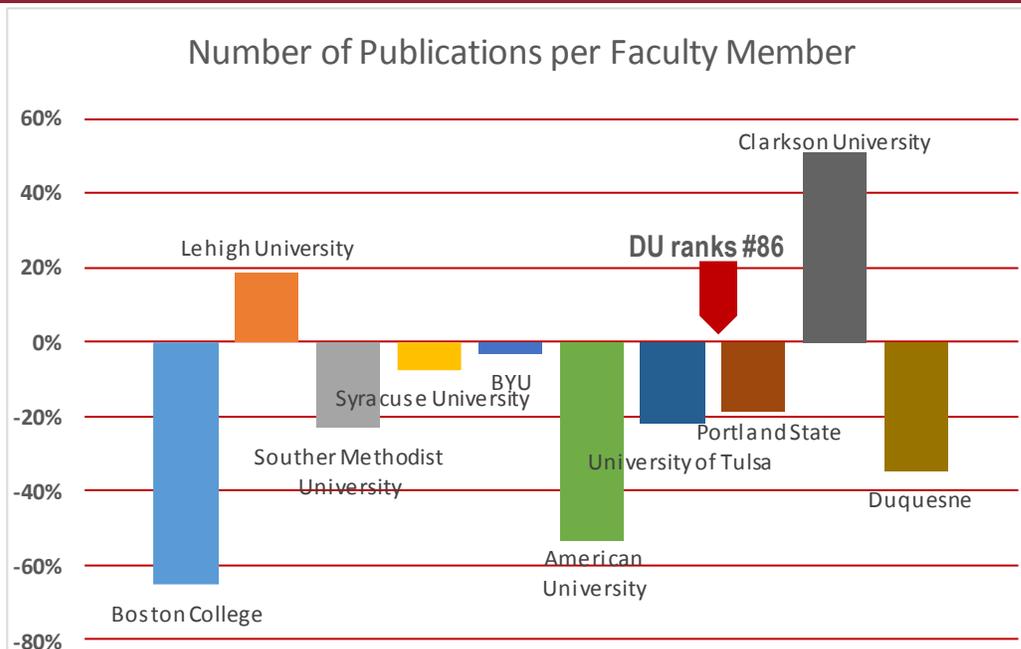
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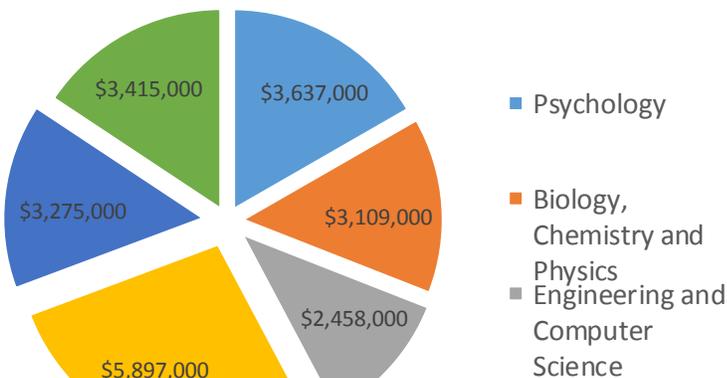
Center for Out-of-Court Divorce Offers Positive Solutions for Families in Transition

This past fall, the newly established Center for Out-of-Court Divorce – Denver (COCD) opened its doors to Denver-area families seeking a holistic way to separate, divorce, and establish new lives. The Center grew out of a research project by the Honoring Families Initiative at the Institute for the Advancement of the American Legal System (IAALS) and piloted by the University of Denver’s Resource Center for Separating and Divorcing Families (RCSDf). The COCD was incorporated as an independent, non-profit organization governed by a Board of Directors with deep roots in the community and a shared commitment to the well-being of children. Its service model remains true to the RCSDf approach of helping parents reach fair, amicable, and cooperative solutions by offering counseling, co-parent coaching, financial education, budget planning, legal education, mediation, and legal document drafting. Couples may also choose to have their final court hearing at the Center. In balance with its goal of sustainability, reduced fee arrangements are available for families with a demonstrated financial need. The staff at the COCD are composed of an exceptional group of licensed mental health professionals and attorney mediators who work together as an interdisciplinary team. Moreover, the Center for Out-of-Court Divorce also serves as a training site for graduate students in social work, and law. IAALS will continue its evaluation of the COCD model to inform ongoing innovation and systems change efforts on the outcomes of the program and will soon publish its final research report on the RCSDf. The COCD is a prime example of how IAALS is more than a think tank, IAALS is a think “do” tank. Learn more at www.centerforoutofcourtdivorce.org.

DID YOU KNOW?



FY15 Research Expenditures \$21,791,000



Publications Graph (above)

DU out performs most US private universities (without medical schools) which have similar research expenditures and total number of tenure track faculty lines. This graph lists ten comparison universities. Institutions above zero are out performing DU in terms of the number of publications per tenure track faculty line, while those below zero under performed in 2014. The institutions are listed in order of US News and World Report rank with the institutions with the highest rank on the left progressing to the lowest rank on the right.

NOTABLE ACCOMPLISHMENTS

Associate Professor Anna Sher (NSM) co-authored a book with Richard B. Primack titled "An Introduction to Conservation Biology." Sinauer Associates, Inc. Publishers, 2016

Associate Professor Cynthia Hazel (MCE) author of "Empowered Learning in Secondary Schools: Promoting Positive Youth Development through a Multi-tiered System of Supports." American Psychological Association Publishers, 2016

Professor Phillip Danielson (NSM) delivered a talk entitled "Personalizing Medicine: What YOUR Genes Can Tell Your Doctor" to an audience of 150 at the Mile High Club of Denver. The Mile High Club has hosted such notable speakers over the years as President Woodrow Wilson, General John Pershing, and Justice Rebecca Love Kourlis.

Associate Professor Barry Zink (NSM) published "Tailored Semiconducting Carbon Nanotube Networks with Enhanced Thermoelectric Properties" in *Nature Energy* in collaboration with National Renewable Energy Laboratory's (NREL), Professor Yong-Hyun Kim's group at the Korea Advanced Institute of Science and Technology

Assistant Professor Mark Siemens (NSM) awarded the 2016 Fulbright Fellowship to Argentina, the 2016 Franklin Research Grant from the American Philosophical Society and a National Science Foundation CAREER award

Dean & Milton Morris Endowed Chair James Herbert Williams (GSSW) named to the 2016 class of Fellows of the Society for Social Work and Research (SSWR). Williams also has taken the reins as president of SSWR, having served a one-year term in 2015 as president-elect.

WANT MORE INFORMATION

Want to receive emails regarding resources, celebrations, opportunities, and upcoming deadlines related to research and scholarship? Join the DU-Research list serve by clicking <https://listserv.du.edu/mailman/listinfo/du-research> and subscribing.

RECENT MAJOR GRANTS AWARDED

Martin Margittai (NSM) - \$400,755
Establishing an Assay for Detecting SingleTau Fibrils, funded by the National Institutes of Health

Douglas Clements (MCE) - \$577,680
Extending the Reach of LT2, funded by Heising-Simons Foundation

Wenzhong Gao (RSECS) - \$116,000
Fulbright Junior Faculty Development Program for Egypt, funded by Institute of International Education

Paul Rullkoetter (RSECS) - \$96,564
Mechanics of the Natural Knee, funded by Howmedica Osteonics Corporation

Joshua Wilson (AHSS) - \$96,998
Collaborative: Culture Warrior, Esquire: How Christian Law Schools will Reshape Law & Politics, funded by National Science Foundation

Omar Guidino (AHSS) - \$200,000
Evolution of "Connecting Communities and Care," funded by Colorado Health Foundation

Mark Siemens (NSM) - \$134,058
Unlocking "Forbidden" Optical Transitions in Nanostructures using Light with Orbital Angular Momentum, funded by National Science Foundation

ABOUT THE PUBLICATION

Research and Scholarship Matters is a quarterly newsletter produced on behalf of the faculty of the University by the Associate Provost for Research.

Faculty with notable accomplishments or images suitable to the front panel of the next issue are encouraged to send them to Corinne Lengsfeld, Associate Provost for Research. Not all submissions can be included, but every attempt will be made to be inclusive of all high quality research, scholarship and creative works.

For back issues see access: www.du.edu/research-scholarship/