From crisis to action: CU's climate health champions in focus[1]

In today's rapidly changing world, the urgency of addressing climate change has never been more evident. With headlines filled with reports of escalating temperatures, more frequent extreme weather events, agricultural disruptions and growing health concerns, the imperative for action is undeniable. Amid these challenges, the University of Colorado is leading separate yet interconnected research initiatives to foster resilience and equity in the face of pressing climate challenges.

Collaboration stands as a cornerstone at CU in the dynamic landscape of climate change and health. Jay Lemery, M.D [2]., and Katherine James, Ph.D[3]., based at the CU Anschutz Medical Campus, together with Jose-Luis Jimenez, Ph.D[4]., at CU Boulder, epitomize this collaborative spirit, demonstrating the fusion of expertise necessary to tackle the intricate challenges at the nexus of climate and health.

These partnerships are not newly forged; they are deeply rooted in a rich history of interdisciplinary cooperation. CU innovators' groundbreaking endeavors spotlight the longstanding tradition of collaboration between CU campuses. Beyond individual achievements, they are integral parts of broader initiatives like AB Nexus, a catalyst for fostering collaborative efforts across disciplines. For instance, Kristopher B. Karnauskas, Ph.D.[5], associate professor in the Department of Atmospheric & Oceanic Sciences, and a core faculty member of the Climate Medicine program co-directed by Lemery, recounts past collaborations that predate formal initiatives, such as joint research on climate impact on infant mortality and malaria, spanning from Madagascar to Mozambique.

While Lemery, James and Jimenez focus on distinct areas – such as climate medicine, water contamination, and airborne transmission – all take a community-centered approach and add to the collective efforts of climate adaptation and mitigation for the Colorado and global communities.

James – epidemiologist, engineer and associate professor at the Colorado School of Public Health – leads groundbreaking research on water and air contamination in southern Colorado's San Luis Valley, which boasts a rich generational agricultural heritage and is a popular tourist destination. The valley also is enduring a 22-year drought. This coincides with existing challenges and barriers common to rural communities, increasing metal concentrations in groundwater (drinking water) sources, and more frequent and intense dust storms (i.e. particulate matter) in ambient air.

"Our rural populations are on the front line of the climate crisis, and as a collective, have done more with much less to develop adaptation and mitigation strategies," James said. "They are stewards of the land, culture and heritage, and society's important climate innovators."

This environmental crisis has far-reaching consequences, particularly impacting hard-to-reach and under-resourced populations including agriculture workers, children, aging populations, and those experiencing health conditions such as asthma. In this setting, James' pioneering work on metal pollutants in well water offers a beacon of hope, providing crucial insights into mitigating the pressing challenges at the intersection of public health and environmental sustainability.

Partnering with hundreds of well owners and community organizations, James' research explores the impact of drought on water quality, particularly concerning naturally occurring metals like arsenic and uranium. Her initial findings reveal elevated rates of contamination, which pose significant health risks to affected communities. However, James' approach goes beyond research; it fosters community engagement and empowerment. By providing free sample kits and individual assessments, she not only raises awareness but also empowers communities to take informed action to safeguard their water resources.

Lemery, an emergency medicine professor at the CU School of Medicine, serves as co-director of the CU Anschutz [6]Climate & Healt[6]h Program[6]. With a background in emergency and wilderness medicine, he brings a unique perspective, recognizing the urgent need for health care professionals to be prepared to respond effectively to climate-related emergencies.

In the Climate & Health Program[7], the only one of its kind in the country, physicians and nurses undergo specialized training in “climate medicine.” This innovative program equips physicians and nurses with the skills and knowledge necessary to mitigate the health impacts of climate change, from extreme weather events to shifting disease patterns. The mission is clear: to advance understanding of the impacts of climate change on human health and to be credible advocates of intelligent policy that addresses the climate crisis while advancing human dignity.

“Climate medicine is still a new concept in clinical care, and at the CU School of Medicine, we are defining it,” Lemery said.

Jimenez, a Distinguished Professor of Chemistry, leads another pioneering effort at CU Boulder, delving into the intricate dynamics of airborne transmission and its profound implications for public health. At January’s AB Nexus Climate Change & Human Health Teaming Event[8], he presented groundbreaking insights into the health impacts of airborne transmission, enriching collective efforts to tackle climate-related health issues.

Jimenez’s research is pivotal in comprehending the intersection of climate change and public health, especially in safeguarding communities against the evolving risks posed by airborne pollutants. As climate change exacerbates environmental challenges, such as extreme weather events and air pollution, his work is critical in ensuring community resilience and well-being.

By elucidating the health implications of airborne transmission and advocating for informed action, Jimenez underscores the importance of interdisciplinary research in mitigating the health impacts of climate change and advancing public health outcomes. His work serves as a poignant reminder of the indispensable role of scientific inquiry in shaping policies and practices to protect human health amidst a changing climate.

As we confront the multifaceted challenges posed by climate change, the collective efforts of Lemery, James and Jimenez stand as beacons of hope and inspiration. Their dedication, innovation and commitment to equity remind us that collective action can surmount even the most daunting challenges, ushering in a future where health and resilience thrive for all.

The transformative power of education, research and partnership exemplified by CU Anschutz and CU Boulder underscores the potential for positive change at the intersection of climate science and public health. Their collective endeavors demonstrate the power of collaboration in advancing solutions to the pressing challenges of our time.

CU partners with state leaders to improve college affordability, stimulate industry[9]

The University of Colorado was at the forefront in pushing new legislation and funding commitments from Colorado lawmakers to improve affordability for college students and position the state to lead in the burgeoning quantum industry.

Two key bills supported at the Capitol by CU President Todd Saliman and leadership across the CU system were passed by the legislature last week and now await the signature of Gov. Jared Polis.

The CU-initiated House Bill 24-1340[10] establishes tax incentives to encourage Colorado high school graduates to pursue secondary education at in-state public institutions. This bill is a crucial victory for college affordability.

During outreach engagement across the state, CU leadership continues to hear from families that affordability is a critical factor in college decision-making and that middle-income families are feeling a gap in aid. That feedback led to the development of HB 1340, which as introduced, would have provided an incentive for credit transfer and going into degree programs that lead to top-demand jobs.

In an effort to reach more students and in collaboration with the bill sponsors – Reps. Shannon Bird, D-Westminster, and Rick Taggart, R-Grand Junction, along with Sens. Barbara Kirkmeyer, R-Brighton, and Rachel Zenzinger, D-Arvada – and the Governor's office, the bill evolved into a credit that will cover the cost of tuition and fees for the first two years of two-year and four-year degree and area technical school programs. The credit will be available to students with a household federally adjusted gross income of **$90,000** or less.

President Saliman, CU Boulder Student Government President Chase Cromwell, CU Denver Student Government President Bria Combs and Vice President Savannah Brooks were among those who spoke in support of the bill. The bill also garnered support and testimony from CU's industry partners, including the Colorado Women's Chamber of Commerce, Latin American Educational Foundation, C3, South Metro Denver Chamber, Club 20 and the Latino Community Foundation of Colorado.

"The bill sponsors did amazing work on this bill, which resulted in compromise while always putting students first. With this legislation, the state is making a significant investment to save many Coloradans money on college," Saliman said. "CU is committed to educating all Coloradans. That happens by working with policymakers to make a four-year degree accessible and affordable to all who want one, which in turn keeps our state and nation competitive."

Said Bird, "I was all in when CU first came to me with the desire to do something creative to address higher education affordability and expand aid opportunities to more students while at the same time incentivizing ways to meet workforce demand. The final product demonstrates both CU and the state's commitment to making higher education accessible for all students – a great thing for the state's flagship institution to take a leadership role on."

House Bill 24-1325 [11] creates two tax incentives to support the development of the state's quantum technology ecosystem. CU Boulder is established as a global leader in quantum research and innovation.

The bill will create a multi-year, $74 million refundable tax credit program to leverage Colorado's private sector and academic research innovation, maximizing the state's competitiveness for the Phase 2 Tech Hub selection and federal funding. The bill would provide a critical $29 million tax credit to support the construction of translational lab space led by CU Boulder. CU's Government Relations team worked closely with partners at the Office of Economic Development and International Trade and EQ to develop and introduce this bill.

"CU already is poised to help establish one of the world's leading quantum economies," Saliman said. "By incentivizing investment in quantum research, the state is driving the development of a powerful engine for our workforce and economy."

Saliman also commended state leadership for approving a significant operating increase in funding for higher education, totaling $107 million in the next fiscal year. CU will receive $29.4 million, equal to an operating increase of 9.6%. The state is also increasing statewide student financial aid by $25.1 million.

"Keeping tuition in check is directly tied to state funding," Saliman said. "This state funding directly benefits college students and families throughout Colorado by helping slow college cost increases. We started working well before the legislative session began with other higher education institutions to develop a funding request to keep tuition in check. This funding increase enables us to do exactly that. We're grateful to the legislature for approving this significant increase and to the governor for signing it into law."

The state's funding includes $17.4 million in controlled maintenance, which covers repairs or replacement of existing facilities, for 12 projects across the four CU campuses.

SB24-221 Funding for Rural Health[12] is a CU-initiated bill that builds off of SB22-172 Colorado Rural Health-care Workforce Initiative, which creates "grow your own" health care pathways at institutions of higher education across the state. Under the leadership of Mark Deutchman, M.D., at the CU Anschutz Medical Campus, the bill provides additional one-time funding of $867,000 to support the buildout of the programs and scholarships for students. It also includes $1.74 million for rural hospitals.

Social distancing plus vaccines prevented 800,000 COVID deaths, but at great cost [13]

CU Social Justice Summit to be hosted at UCCS [14]

CU Denver Community Collaborative Research Center empowers communities [15]

Diabetes in youth may increase risk for Alzheimer's, other diseases[16]

CU Connections shifting to summer publication schedule[17]

CU Connections will begin its summer schedule after the May 30 issue, shifting to biweekly publication.

New issues are scheduled for publication on the following dates (subject to change):
June 13 June 27 July 11 July 25 Aug. 8
Weekly publication will resume with the Aug. 22 issue.

Throughout the season, the site will be updated with news should events warrant.

If you have a news item or story suggestion you'd like to pass along, please send to newsletter@cu.edu[18]. To be considered for publication, submissions are due by noon Friday prior to the following week's issue.

Begelman elected to National Academy of Sciences [19]

Lynn puts new CU Denver program in focus at national conference [20]

Soto builds bridges to cancer care [21]

'Black Men in White Coats' hopes to inspire more Black doctors [22]

Phil DiStefano named 44th Bolder Boulder official starter [23]

In a secret Aurora gallery, simple stories told in textiles[24]

Links
[1] https://connections.cu.edu/spotlights/crisis-action-cu-s-climate-health-champions-focus[2] https://www.linkedin.com/in/jay-lemery-a909639/[3] https://www.linkedin.com/in/katherine-james-b94a4b178/[4] https://www.linkedin.com/in/jjimenez6/[5] https://coloradosph.cuanschutz.edu/resources/directory/directory-profile/Karnauskas-Kristopher-EXTea6b7[6] https://medschool.cuanschutz.edu/climateandhealth[7] https://medschool.cuanschutz.edu/climateandhealth/diploma-in-climate-medicine[8] https://www.colorado.edu/research/abnexus/[9] https://connections.cu.edu/stories/cu-partners-state-leaders-improve-college-affordability-stimulate-industry[10] https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fleg.colorado.gov%2Fbills%2Fhb24-1340&data=05%7C02%7Cdedrick%40cu.edu%7C59dc855db05548d5c4fc08dc74568ecf%7Ce889e28f74d447f287e853732cbbe7ec%7C0%7C0%7C638513162314114285%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=dEce5I%2BfSN6I80tcJJwQFxR7kTRdTntALPug3wYpPwY%3D&reserved=0[11] https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fleg.colorado.gov%2Fbills%2Fhb24-1325&data=05%7C02%7Cdedrick%40cu.edu%7C59dc855db05548d5c4fc08dc74568ecf%7Ce889e28f74d447f287e853732cbbe7ec%7C0%7C0%7C638513162314129123%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=wPO9%2BU6E4%2BNrG%2BG8SMbranKObxjqNmJDdMICFWWqRk0%3D&reserved=0[12] https://leg.colorado.gov/bills/sb24-221[13] https://connections.cu.edu/stories/social-distancing-plus-vaccines-prevented-800000-covid-deaths-great-cost[14] https://connections.cu.edu/stories/cu-social-justice-summit-be-hosted-uccs[15] https://connections.cu.edu/stories/cu-denver-community-collaborative-research-center-empowers-communities[16] https://connections.cu.edu/stories/diabetes-youth-may-increase-risk-alzheimer-s-other-diseases[17] https://connections.cu.edu/stories/cu-connections-shifting-summer-publication-schedule[18] mailto:newsletter@cu.edu[19] https://connections.cu.edu/people/begelman-elected-national-academy-sciences[20] https://connections.cu.edu/people/lynn-puts-new-cu-denver-program-focus-national-conference[21] https://connections.cu.edu/people/soto-builds-bridges-cancer-care[22] https://connections.cu.edu/itn/black-men-white-coats-hopes-inspire-more-black-doctors[23] https://connections.cu.edu/itn/phil-distefano-named-44th-bolder-boulder-official-starter[24] https://connections.cu.edu/itn/secret-aurora-gallery-simple-stories-told-textiles