

March 2022



Global Futures: Now



"Another world is not only possible, she is on her way. On a quiet day, I can hear her breathing." *Arundhati Roy*

With each new record-breaking wildfire, massive hurricane, megadrought or other disaster, I find myself asking: Is this event going to be the turning point where humanity feels compelled to take action that will prevent moving from a planetary crisis to a global catastrophe?

We have learned a great deal about the Earth system from the natural and engineering sciences including direct insights into, for example, what needs to be done to keep global

warming from climate change within the 1.5 to less than 2 °C (2.7 to 3.6 °F) increase range. Despite this deep knowledge, we are in a perilous position after decades of denial and failure to alter behaviors that contribute to increasing pressures on our planet including global climate change. Fossil fuel emissions are roughly 60% higher than when the Intergovernmental Panel on Climate Change released its first report in 1990, an analysis that spotlighted the role of humankind in increasing global warming. We need to continue identifying the human impact on, and threat to, the life supporting systems of our planet; however, this alone is not enough. To solve the challenges we face in the 21st century and beyond, we need a holistic perspective of the problem that must include social sciences, humanities, medical sciences, and arts. Taking such a holistic view of the present state of our world and imagining possible futures we can build a more comprehensive, albeit complex picture of the problem because it takes into account our decision making when exploring the consequences of approaching environmental and societal planetary boundaries.

We frequently make the assumption that scientific findings alone are enough to guide people and policymakers in their decision making. But science is only one component of solutions; it cannot be transformative in isolation. At present, we lack the societal will to implement the change we so urgently require. We must find new ways of knowing, teaching and communicating. That is why the understanding of human motivation is central to research and solutions developed by the Julie Ann Wrigley Global Futures Laboratory. Pathways for the future must be informed by the study of human behavior and shared in creative and divergent forms of media to reach new audiences. The Global Futures Scientists & Scholars Network is populated by faculty and scholars with expertise ranging from physics to biology to political science to humanities to art and many, many other fields. These varied backgrounds bring new, system-based insights to global issues.

The Global Futures Laboratory is the home of multiple programs designed to integrate humanities and arts with science and social science, including the Humanities Lab, Leonardo, the annual Emerge festival, the Center for Science and the Imagination and the forthcoming UNESCO BRIDGES Flagship Hub, to name just a few. These programs bolster creativity and bring together people with different life experiences, cultures, training and mindsets to co-identify challenges and their roots. Inputs from diverse disciplines help contextualize history and spotlight previously overlooked obstacles, as well as bring to the surface different ways of knowing to develop a holistic response. For example, the Seize the Moment initiative—a cooperative effort between the Global Futures Laboratory, the Humanities Lab and Leonardo—was designed to address the “syndemic” of crises facing humanity: the COVID-19 pandemic, racial violence, inequality, environmental degradation and the climate crises, to name just a handful. When we dissect COVID-19, the synchronicity between crises is easily discernible. Habitat destruction leads to more

animal-human contact and the spread of zoonotic diseases. Marginalized communities, already subjected to higher rates of air pollution and lower quality healthcare, suffer more severely because the virus attacks the respiratory system. Migration caused by disasters and violence or impacts from war further necessitates a more nuanced and human response. The causes of global emergencies are interconnected, and so too must the solutions be. Programs such as Seize the Moment exemplify the power behind truly transdisciplinary, ground-up collaborations between arts, humanities, sciences and technology.

It is essential that we identify effective and compelling ways to propel society and decisions toward urgent action. Social and political outcomes cannot be divorced from planetary outcomes. As we navigate the Anthropocene, we must humanize our responses to crises to advance new pathways that create futures of opportunity rather than sacrifice. The Julie Ann Wrigley Global Futures Laboratory has been designed to create innovative solutions to the most pressing problems faced by humankind. By incorporating the societal perspective and communities' value systems in our work, we aspire to motivate society to make the right choices for positive change in the coming years.



Peter Schlosser
Vice President and Vice Provost of Global Futures

News



The first MechanicalTree™ is planted

The long-anticipated arrival of the very first passive carbon capture mechanism, developed by [Carbon Collect Ltd.](#) in partnership with ASU and the [Center for Negative Carbon Emissions](#), is the latest development in more than two decades of research and development. Based on the work of Klaus Lackner, this prototype will begin operations and testing by early April.

[Learn more](#)



Sustainability scientists explore the socio-psychological impacts of tracing COVID-19 among Chinese students

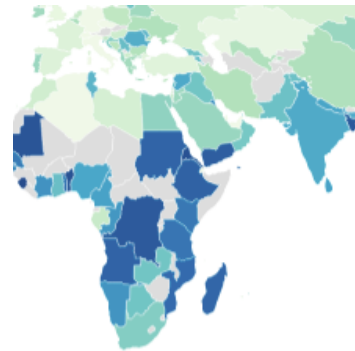
The School of Sustainability's Chuan Lao and Ding Fei published a study conducted with Huan Lang from

the Huazhong Agricultural University in China to investigate individual experiences with tracing activities at government and community levels and the impacts on students' socio-psychological wellbeing. Drawing upon a large-scale survey with students from four major universities in Wuhan, they determined that students experience moderate-to-high levels of anxiety and fear due to increased risks of privacy infringement and verbal abuse.

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Sonja Klinsky: Climate change is a justice issue

In an article published to The Conversation, Klinsky outlines six graphs to demonstrate that climate change impacts populations who typically have done the least to contribute to the problem.

[Read more](#)

New study examines climate change adaptation in the Gandaki River Basin, Western Nepal

Netra Chhetri and Rajiv Ghimire recently published an article examining the LAPA efforts in Western Nepal to address climate change, noting their successes while stressing the need for more grassroots efforts to combine traditional and modern knowledge

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Russia's invasion threatens Arizona's cybersecurity and food costs

Kathleen Merrigan, executive director of the Swette Center for Sustainable Food Systems, spoke with AZFamily on Russia's invasion of Ukraine on food security and supply for Arizona, noting that while the immediate effect for the United States would be low, other countries could be severely impacted by conflict and imposed sanctions on Russian exports.



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How COVID-19 is changing our ideas about the future

"It's a global destabilization, something we all experienced together," shared futurist and professor Brian David Johnson in an conversation with Steve Goldstein on KJZZ. The pair discussed how do we look ahead, and how much of a vision can we have when our focus so often has been on the next day or week, with changes caused by COVID-19?

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Urban green spaces can't beat climate change on their own

Diane Pataki, director of the School of Sustainability was featured in a recent piece in Popular Science, discussing

the adding of green spaces in cities to insure healthy and sustainable places to live.

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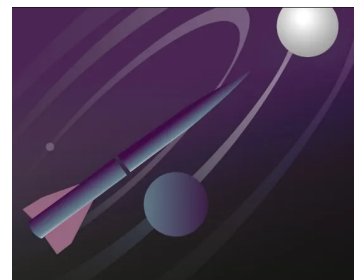
Climate change report 'another wake-up call' for Arizona, experts say

Dave White, Christopher Boone and Diane Pataki spoke with new Arizona Republic climate news and storytelling reporter Joan Meiners about the latest report from the UN's Intergovernmental Panel on Climate Change (IPCC). The report draws a link between a global pattern of urbanization and intensified impacts of climate change for those living in these metropolitan areas.

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Space sustainability has become a buzzword for the space industry. But what does the term mean?

Timiebi Aganaba, Assistant Professor of Space and Society, outlines the ecological roots of the term and why today's discussions often revolve around global security in episode 6 of the War and Space podcast



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Researchers show amount of sunlight and flow are master controllers for river ecosystems

A paper in the Proceedings of the National Academy of Science contributed by Arizona State University Regents Professor Nancy Grimm and led by her colleagues, Professor Emily Bernhardt and postdoc Phil Savoy of Duke University, has shown for the first time that the most important determinants of a river ecosystem's metabolism

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What should desert farmers grow?

Rimjhim Aggarwal, professor in the School of Sustainability, appeared in a recent article in The Fern discussing alternative crops for farmers in the Arizona desert facing record water shortages.



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People

Jennifer Vanos and Ariane Middel recognized with City of Phoenix staff for Cool Pavement Pilot Project

The City of Phoenix [Cool Pavement Pilot Project](#), conducted between July 2020 and July 2021, aimed to