



Division of Infectious Diseases

SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS



October 2022

Dear ID Division Members,

This is an initial Division newsletter in which I have compiled items that you have sent to me for sharing in this forum.

I am sure this introductory one is quite incomplete, so please email me news of papers, grants, awards, personal news, etc., for inclusion in future newsletters.

Thanks to Dr. Eric Poeschla for initiating this project and for helping me with editing.

Best regards,

Eleanor Shields

Communications and Logistics Coordinator

Some Recent Publications



Hillary Dunlevy, MD

Dr. Hillary Dunlevy was co-author on a key paper describing the strikingly good outcome of the ANCHOR study in the *New England Journal of Medicine*.

People living with HIV (PLWH) have a higher risk of developing anal cancer from anal high-grade squamous intraepithelial lesions (HSIL). The ANCHOR study is a phase 3 study at 25 U.S. sites in which PLWH with HSIL anal lesions were randomly assigned in a 1:1 ratio to treatment or active monitoring without treatment. This study enrolled 4459 individuals and demonstrated a 57% reduction in cancer in individuals in the treatment arm compared to the active monitoring arm. The results of this study are being used to develop guidelines on the screening and treatment of HPV-related anal dysplasia to prevent cancer. We enrolled 146 individuals at CU Anschutz and 217 at Denver Health and have appreciated the support that everyone has shown and the referrals to the study. Hillary notes that Jeff Logan, PA (Denver Health), Brande Ingrando (Denver Health), Ed Gardner, MD (Denver Health) and Christine Conageski, MD (OB/GYN at UCH) were part of the study as well. [Full article](#).



Kvaratskhelia Lab

The lab highlights two recent papers, one in *Nature Communications* (first author, Guchao Wei) and one in the ASM journal *mBio* (first author Stephanie Bester).

The paper in *Nature Communications* describes new mechanisms by which key human cell proteins interact with the complex three dimensional surface of the HIV-1 core after it enters the cell. Low complexity 'prion-like domains' are involved in several protein interactions the core makes as it traverses from entry to the nucleus and permanent integration. [Full article](#).

The paper in *mBio* discusses how all antivirals select for resistance when presented to the virus as monotherapy. Though problematic, that also confirms specific mechanism of action. This paper describes in vitro selected resistance to Lenacapavir, and determines its structural basis in the capsid protein. It also suggests a path forward to even better second generation capsid inhibitors. [Full article](#).



David Beckham Lab

Dr. David Beckham highlights two recent papers, one in *Brain* and one in *Vaccines*:

The paper in *Brain* describes the first mechanistic function for alpha-synuclein, the protein that causes Parkinson's disease. The Beckham lab, in collaboration with the Kunath lab at the University of Edinburgh, found that alpha-synuclein functions to modulate type 1 interferon signaling in neurons by localizing to the nucleus with STAT proteins. This new mechanism may provide novel insights into potential triggers and novel targets to treat Parkinson's disease. [Full article](#).

The paper in *Vaccines* describes the SARS-CoV 2 seroprevalence and decay in antibody responses in a cohort of essential agricultural workers in Guatemala. The research found that essential workers in Guatemala exhibited high SARS-CoV 2 seroprevalence and infection rates at very early stages of the SARS-CoV 2 pandemic followed by rapid decline in virus neutralization within 6 months of infection. These data show the importance of robust vaccination programs in essential workers independent of prior infection status. [Full article](#).



Poeschla & Santiago Labs

The Santiago and Poeschla laboratories published their collaborative project on innate immunity to SARS-CoV-2 in the *PNAS* on July 22.

Much prior focus in the COVID-19 field has deservedly been on understanding gradual escape of newer variants from neutralizing antibodies (adaptive immunity). However, their work shows that since it switched hosts and emerged into humans in 2019, SARS-CoV-2 has also adapted to resist a key component of the innate immune system, the system that forms the first line of defense in cells and tissues within minutes to days of the entry of a virus into cells in the body. Their data show that successive SARS-CoV-2 variants have evolved substantial resistance to interferons. Moreover, the potency of different interferons varied widely and this did not correlate at all with the activity pattern for HIV, indicating qualitative differences in interferon activity for different viruses. This team science effort included Kejun Guo, Brad Barrett, James Morrison and Kaylee Mickens as part of the ID Division team, while Eszter Vladar (Pulmonary Division) also contributed with a human lung tissue culture system (air-liquid interface). [Full article](#).

The work was also reported on by science writer Katharine Wu in [The Atlantic](#).

Grants Received



Kristine Erlandson, MD

As noted in the Dean's weekly message, the University of Colorado Anschutz Medical Campus is a recruitment site for the \$1.15 billion National Institutes of Health-funded nationwide study of people who have lingering health conditions after having COVID. This study, known as RECOVER, is a four-year research study designed to better understand long COVID and to develop new treatments. Kristine Erlandson, MD, associate professor of medicine, is co-principal site investigator.



Jose Castillo-Mancilla, MD

Dr. Jose Castillo-Mancilla, Associate Professor of Medicine, has received great news that his new R01 (multi-PI with Dr. Peter Anderson at SOP) has been selected for funding. This new grant will develop a platform to advance our understanding of the clinical pharmacology of long-acting antiretrovirals and how to solve patient management problems in the new era of ART.



Steven Johnson, MD

Dr. Steven Johnson recently received notice of the full Ryan White Award for fiscal year 3/1/22-2/28/23. The total amount is \$1,085,457.00. This is very similar to prior year funding allowing us to continue all programs and salary support. This is the 29th year of Ryan White funding. Steve thanks everybody again for their dedication to our HIV program and to the patients we serve!

Susan Mason Endowed Fund In Infectious Diseases

The division is pleased to announce the **SUSAN MASON, MD, ENDOWED AWARD FUND IN INFECTIOUS DISEASES**, which will provide funds to 1-2 trainees each year for professional development activities. This fund, previously administered through the Colorado ID Society, was transferred to our division through the Office of Advancement, on July 29, 2022. The Fund was established with a generous gift from the Susan Mason Education Fund (managed by her husband, Denver Attorney Richard Wedgle) in the amount of \$73,173. This principal will generate about \$3,000 in annual income (4-4.5% of principal annually).

Background: Susan R. Mason, MD was born in Cambridge, Massachusetts in 1952 and died in Colorado in 2016. She was 63 years old. Susan grew up in Worcester, Massachusetts where her father (Edward) was a psychiatrist and her mother (Ina) was a dean at Clark University. In 1979

she came to Colorado to be an intern in an Ob/Gyn program. Susan then realized her true passion lay in taking care of really sick patients and solving difficult medical problems. She completed an ID fellowship here in our division in 1985, and together with Dr. Norman Fujita formed Western Infectious Diseases PC. Susan was an outstanding ID physician and one of the first women to have an exclusive infectious disease practice in the Denver metro area. She was married to Richard J. Wedgle, an attorney, and they had one child, Julia Mason Wedgle, who now lives in Cambridge. To honor her legacy, family, friends, and colleagues set up a fund to financially assist trainees interested in infectious diseases at the University of Colorado Anschutz Medical Campus, to advance careers and advance their education in the infectious disease specialty.

Purpose and Donor Intent: “Distributions from the Fund will be used to provide annual award(s) to interns, residents, and/or fellows who demonstrate excellence in research, discovery, teaching, and clinical care within the Division of Infectious Diseases in the School of Medicine at the University of Colorado Anschutz Medical Campus. Awards will provide support to those participating in professional development opportunities such as trainings, conferences, and enrichment opportunities up to and including travel stipends, conference registration fees, course participation, and other expenses deemed essential by the division head or their designee. In the event there are no eligible trainees in the Division, awards may be given to students enrolled in the Doctor of Medicine (MD) Program.”

Committee and Selection Process: “Recipients will be selected in accordance with established procedures for merit-based and need-based awards. They will be awarded for one academic year; renewal will be considered based on criteria established by the review panel.”

Dr. Kristine Erlandson knew Dr. Mason, moonlighted for her during fellowship, and worked with Mr. Wedgle to transition the award to the Office of Advancement. Dr. Edward Janoff and Kellie Hawkins are both long-time family friends of Dr. Mason and Mr. Wedgle. Kristine will chair the committee, whose present membership will be:

Kristine Erlandson (Chair)

Jose Castillo-Mancilla (Anschutz representative)

Ed Janoff (VA representative)

Kellie Hawkins (Denver Health representative)

Christy Smith (Children’s Hospital representative)

You can be a benefactor for our fellows: This fund is also a nice one for our faculty to consider contributing to. The hope is that, as a first goal, we can raise donations to bring the corpus to twice its present value, i.e., a target of \$150,000, which would enable commensurately larger annual awards or multiple smaller awards to more than one trainee. There are various ways to do this including setting up a regular deduction from your paycheck. Please contact Kristine if you are interested.

Other Division News

5280 Magazine Top Doctors

Congratulations to **Dr. Shelley Kon** and **Dr. Michelle Haas** who both made the annual 5280 Magazine list of the metro areas top doctors. The doctors on the list are selected by Denver-area physicians in an online vote based on a ballot posted on the magazine's website from the end of January through mid-March. [Read more.](#)

Lorna Allen, Leigh Espinoza, and Hillary Dunlevy were recognized at UCH CEO and Faculty Patient Safety Rounds in October for being identified by a faculty member as exceptional patient safety role models. We thank them for delivering great care and for being an inspiration.

The Division was pleased to welcome new faculty **Dr. Alyssa Castillo** and **Dr. Michael Haden** at the Welcome Picnic on September 17 at Inspiration Point Park. Thanks to Hillary Dunlevy and others for arranging this outing.

Dr. Tom Campbell

The Novavax vaccine received an Emergency Use Authorization (EUA) for its use as a primary series for persons 18 and older who are unvaccinated. The two doses of vaccine are given 3 weeks apart. At this time, it has not been authorized for boosting although this is an area of study. As many of you know, the division's research group with Dr. Tom Campbell was a study site for this vaccine. Here are a couple of resources:

1. [The Novavax EUA Healthcare Provider Fact Sheet](#)
 2. The [link](#) to the ACIP meeting including the PowerPoint presentation slides
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Dr. Brian Montague and **Dr. Michael Haden** took on leadership of the I.D. Fellowship Training Program and **Chelsee McFarland** joined the division as Education Coordinator.

In July 2022 Dr. Brian Montague took on the I.D. Fellowship Program Director role alongside Dr. Michael Haden as Associate Program Director. Dr. Montague served as Associate Program Director for two years before stepping into the Program Director role and we thank Dr. Montague and Dr. Haden for their leadership. We extend gratitude to Drs. Katherine Frasca, Carlos Franco, Dave Beckham, Kristine Erlandson for their contributions in these roles in prior years. Many thanks also to Chelsee McFarland for her service as our Education Coordinator. The Division was pleased to welcome her to this role this month.

Dr. Maheen Abidi was an expert speaker for "Novel CMV therapeutics" during a session on Updates and controversies in CMV at the American Transplant Congress (ATC) 2022. She was also recognized as a Fellow of the American Society of Transplant (FAST) during ATC 2022, both for

exceptional commitment to the field of transplantation and outstanding service to the American Society of Transplant (AST).

Dr. Abidi also presented her research work with Dr. Adriana Weinberg during Rapid Fire Oral abstracts, entitled “CMV-specific Cell Mediated Immune Reconstitution in high-risk hematopoietic cell transplant recipients receiving letermovir prophylaxis”.

Dr. Andrés Henao-Martinez was appointed to the *PLoS Global Health* board and also as Associate Editor at *PLOS Global Public Health*. He continues to serve as Editor of *Therapeutic Advances in Infectious Diseases*.

Dr. Henao-Martinez will also receive a Research Mentor Award during the 2022 Anschutz Research Awards Ceremony. The award ceremony will take place Tuesday, October 25 at 4pm in the Elliman Conference Center at the Anschutz Health Sciences Building. For anyone interested in attending and joining the celebration, please [RSVP](#).

Four ID Division Faculty were featured in the School of Medicine Media Report:



[As monkeypox outbreaks grow, vaccine supply lags behind](#)

“So you’re not going to catch it on a bus. You’re not going to catch it in the grocery store,” said **Michelle Barron**, UHealth’s senior medical director of infection prevention and control [and professor of medicine at CU School of Medicine].

Greeley Tribune, Aug. 4, 2022



[Q&A: Nationwide long COVID-19 study needs more participants](#)

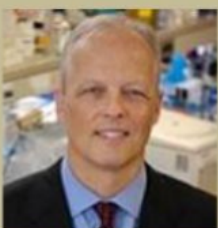
University of Colorado Anschutz Medical Campus is one of the locations partnering with NIH for the study. 9NEWS spoke with **Kristine Erlandson**, who is overseeing the study there.

9News, July 28, 2022



[Another Way the Coronavirus Is Dodging Our Immunity](#)

Strong, punchy interferon responses are essential to early viral control, acting as a “first line of defense” that comes online within minutes or hours, says **Mario Santiago**, an immunologist at the University of Colorado Anschutz Medical Campus.



Many researchers, such as Fish, are also testing interferon-based treatments in people who have very recently been infected by or exposed to the coronavirus. Several of these trials have produced mixed or disappointing results. Even so, “I think there’s every reason to think that interferons are still going to be effective” in some form, once scientists nail the timing, recipe, and dose, says **Eric Poeschla**, Santiago’s collaborator at CU Anschutz. The molecules are, after all, nature’s DIY antivirals.

The Atlantic, Aug. 4, 2022

Other Links/Events

2022 Tim Gill Lecture

The Division is pleased to announce that the Tim Gill Visiting Professor this year is **Dr. Jonathan Li** who will visit on Thursday, October 27. Dr. Li is an Associate Professor of Medicine at the Brigham and Women's Hospital and Harvard Medical School. The title of his talk is "When Viruses Go Wild: How HIV and SARS-CoV-2 Can Become Unsuppressible."

Dr. Li's talk will be from 12-1pm MST in person in the Donald E. Elman Conference Center MST and available over [Zoom](#) to the campus and community. Please [RSVP](#) if you will be attending in person as lunch will be served.

Visit the [ID Division Website](#)

