

SAIS NEWSLETTER – APRIL 24TH, 2020

Dear SAIS members

Hope you are all keeping well and safe during the national lock down. This week is a special week for Immunologists across the globe as we celebrate International Immunology Day on **Wednesday, 29 April 2020**. We encourage members to use this day as an opportunity to promote the positive impact of Immunology research.

Due to the increase in online content during this period members can expect to receive the newsletter weekly. Please find this week's newsletter below. The next newsletter will be sent out on Friday, 1 May 2020.

FUNDING CALLS, CONFERENCES, WEBINARS and ANNOUNCEMENTS

Webinar on Sequencing the SARS-CoV-2 Genome on the Highly Accurate, Low-cost GenapSys Platform

<https://landing.genapsys.com/webinarregformsarscov2>

Webinar: Use of a 48-plex quantitative immune panel to profile three different diseases

Quantitative analysis of 48 analytes with MILLIPLEX[®] Human Cytokine/Chemokine/Growth Factor Panel A
19 May 2020, 8:00AM PDT | 11:00 AM EDT | 4:00 PM BST | 5:00 PM CEST

For more information and to register, please visit:

<https://www.workcast.com/register?cpak=6124828488762480>

The Malaria endgame - Keystone Symposia free panel discussion - April 22 - 12:00 PM - 01:30 PM ET

This ePanel, filmed during the Keystone Symposia Conference: The Malaria Endgame: Innovation in Therapeutics, Vector Control and Public Health Tools at Addis Ababa, Ethiopia, features field leaders Gordon Awandare, Lilian M. Ang'ang'o, Lemu Golassa and Fitsum G. Tadesse as they discuss the current state of the field, and future directions and challenges in the fight to eliminate malaria from endemic countries. To register, please follow: <https://virtual.keystonesymposia.org/ks/live/418/page/2223>

H3D Symposium - Celebrating a decade of Infectious Disease Drug Discovery in Africa

We are pleased to advise that the H3D Symposium has been re-scheduled for 10-12 March 2021, Spier Conference Centre, Stellenbosch, Cape Town. Abstract submission will open soon. For more information, please visit: <https://www.h3dsymposium.co.za/>

2020 International Day of Immunology - Wednesday 29th April 2020

The day is dedicated to increasing global awareness of the importance of immunology in the fight against infection, autoimmunity and cancer. The IUIS and EFIS are working together to encourage national societies to participate in the Day of Immunology and to promote the benefits of immunology research. For more information, please visit: <https://iuis.org/events/2020-international-day-of-immunology/>

Webinar: Giuseppe Ippolito: The Global Scientific Response to COVID-19, 24 April 2020, 18:00 (UTC+2)

Giuseppe Ippolito, Scientific Director at the National Institute for Infectious Diseases in Rome, Italy, will share his opinion on why policy responses to COVID-19 must be based on scientific evidence – and why policymakers must invest in science to prepare for future infectious diseases. To register, please visit: <https://iuis.clickmeeting.com/264948493/register>

Webinar: Eleanor Fish: Global Outbreaks - Interferons as First Responders, 27 April 2020, 16:00 (UTC+2)

Can antivirals that target the host and not the virus improve outcomes for COVID-19 patients? Professor Eleanor Fish from the University of Toronto showed that treatment with interferon-alpha was beneficial in patients with SARS, and will share early data on COVID-19. To register, please visit: <https://iuis.clickmeeting.com/covid-19-interferons/register>

Free Virtual Partnering Event: 20 April – 6 May 2020 - #PartneringAgainstCovid19

To support the fight against COVID-19 and accelerate global collaboration, Lyonbiopole, Evaluate Ltd. and Inova are organizing a free Virtual Partnering Event for organizations with solutions for COVID-19 testing, treatment and prevention. To register, please visit: <https://virtual-partnering.com/>

World Immunization Week 2020 - starting April 24th - online events

Please visit <https://www.lshtm.ac.uk/newsevents/news/2020/world-immunization-week-2020> to find out more about the series of remote events on 'vaccines throughout the life course'. The theme of World Immunization Week this year is #VaccinesWorkforAll. The WHO has produced a series of case studies and materials highlighting the important impact of vaccines around the world.

Vaccine Centre webinars

Please visit <https://www.lshtm.ac.uk/newsevents/events/series/vaccine-centre> for more information and online registration.

Science & SciLifeLab Prize for Young Scientists

The Science & SciLifeLab Prize for Young Scientists is a global prize, established in 2013, aimed at rewarding scientists at an early stage of their careers. Science/AAAS and SciLifeLab, a coordinated effort of four universities, have joined forces in creating the Science & SciLifeLab Prize for Young Scientists to recognize excellence amongst young researchers from around the world. Applications close: 15 July 2020. For more information, please visit: <https://scienceprize.scilifelab.se/about-young-scientist-prize/>

PUBLICATIONS and INTERESTING READS:

Researchers Reveal Important Genetic Mechanism Behind Inflammatory Bowel Disease

The genetic mutation shares a link with the JAK2 pathway, an important target of multiple immunotherapies. <https://www.chop.edu/news/researchers-reveal-important-genetic-mechanism-behind-inflammatory-bowel-disease>

Pharmacologic Treatments for Coronavirus Disease 2019 (COVID-19) - A Review

https://jamanetwork.com/journals/jama/fullarticle/2764727?guestAccessKey=64fc2e1e-3af7-45c8-94da-603b7f3a2a35&utm_source=linkedin

Immunotherapeutic Blockade of CD47 Inhibitory Signaling Enhances Innate and Adaptive Immune Responses to Viral Infection

[https://www.cell.com/cell-reports/fulltext/S2211-1247\(20\)30383-1?dgcid=raven_jbs_etoc_email](https://www.cell.com/cell-reports/fulltext/S2211-1247(20)30383-1?dgcid=raven_jbs_etoc_email)

Projecting the transmission dynamics of SARS-CoV-2 through the postpandemic period

<https://science.sciencemag.org/content/early/2020/04/14/science.abb5793>

Stromal cells covering omental fat-associated lymphoid clusters trigger formation of neutrophil aggregates to capture peritoneal contaminants

[https://www.cell.com/immunity/fulltext/S1074-7613\(20\)30124-2](https://www.cell.com/immunity/fulltext/S1074-7613(20)30124-2)

Single-cell transcriptomics identifies an effectorness gradient shaping the response of CD4+ T cells to cytokines

<https://www.nature.com/articles/s41467-020-15543-y>

First Saliva Test for COVID-19 Approved for Emergency Use by FDA

The search for SARS-CoV-2 RNA in 60 saliva samples yielded the same results as conventional nasal swab tests taken from the same patients

<https://www.the-scientist.com/news-opinion/first-saliva-test-for-covid-19-approved-for-emergency-use-by-fda-67416>

Parkinson's Disease: Linking mitochondria to the immune response

<https://elifesciences.org/articles/56214>

Discovered: Metabolic Mechanism of Cytokine Storms

By studying influenza in mice and cells, researchers identify a glucose metabolism pathway critical to the dysregulated immune response that kills many infectious disease patients, including those with COVID-19.

<https://www.the-scientist.com/news-opinion/discovered-metabolic-mechanism-of-cytokine-storms--67424>

Who Is Immune to the Coronavirus?

https://www.nytimes.com/2020/04/13/opinion/coronavirus-immunity.html?utm_source=Nature+Briefing&utm_campaign=5806810d18-briefing-dy-20200415&utm_medium=email&utm_term=0_c9dfd39373-5806810d18-44620873

Visualization of T Cell migration in the spleen reveals a network of perivascular pathways that guide entry into T zones

[https://www.cell.com/immunity/fulltext/S1074-7613\(20\)30123-0](https://www.cell.com/immunity/fulltext/S1074-7613(20)30123-0)

South Africa flattens its coronavirus curve - and considers how to ease restrictions

<https://www.sciencemag.org/news/2020/04/south-africa-flattens-its-coronavirus-curve-and-considers-how-ease-restrictions>

Mitochondrial impairment drives intestinal stem cell transition into dysfunctional Paneth cells predicting Crohn's disease recurrence

<https://gut.bmj.com/content/early/2020/02/28/gutjnl-2019-319514.full>

Breastfeeding May Lead to Fewer Human Viruses in Newborns' Gastrointestinal Systems

Penn study finds breast milk is more beneficial than formula as gut microbiome forms.

<https://www.pennmedicine.org/news/news-releases/2020/april/breastfeeding-may-lead-to-fewer-human-viruses-in-newborns-gastrointestinal-systems>

CRISPR-Cas12-based detection of SARS-CoV-2

<https://www.nature.com/articles/s41587-020-0513-4>

Coronavirus latest: global infections pass two million

Updates on the respiratory illness that has infected more than two million people and killed more than a hundred thousand.

<https://www.nature.com/articles/d41586-020-00154-w>

An audience with John-Arne Røttingen

Over 180 clinical trials of proposed COVID-19 drugs are already recruiting patients, and another 150 are registered to start recruiting patients soon. But many of these trials are small and not designed to identify the best treatment strategies for the COVID-19 pandemic. For Chief Executive of the Research Council of Norway John-Arne Røttingen, a more collaborative approach is now needed. And as Chair of the Executive Group and the International Steering Committee of the WHO's recently launched Solidarity trial, he hopes this mega-trial can provide a blueprint, he told Asher Mullard.

<https://www.nature.com/articles/d41573-020-00072-6>

Plant-based production of highly potent anti-HIV antibodies with engineered posttranslational modifications

<https://www.nature.com/articles/s41598-020-63052-1>

ILC3s: Rhythmic Keepers of Gut Integrity at Mealtime

[https://www.cell.com/trends/immunology/fulltext/S1471-4906\(20\)30065-X](https://www.cell.com/trends/immunology/fulltext/S1471-4906(20)30065-X)

Artificial intelligence to enable fast-track review of COVID-19 research proposals

<https://blog.frontiersin.org/2020/04/17/artificial-intelligence-to-enable-fast-track-review-of-covid-19-research-proposals/>

Baloxavir treatment of ferrets infected with influenza A(H1N1)pdm09 virus reduces onward transmission

<https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1008395>

QTY code-designed water-soluble Fc-fusion cytokine receptors bind to their respective ligands

<https://www.cambridge.org/core/journals/qrb-discovery/article/qty-codedesigned-watersoluble-fcfusion-cytokine-receptors-bind-to-their-respective-ligands/6F70CCA13FD9E6841830A8A8C7D64EE2>

Ludwig MSK study reveals bile metabolite of gut microbes boosts immune cells that can help contain cancer-driving inflammation

<https://www.ludwigcancerresearch.org/news-releases/2515-2/>

Antibiotic treatment for COVID-19 complications could fuel resistant bacteria

https://www.sciencemag.org/news/2020/04/antibiotic-treatment-covid-19-complications-could-fuel-resistant-bacteria?utm_campaign=news_daily_2020-04-16&et rid=643223756&et_cid=3288773#

How Malaria Protects Itself from the Immune System

<https://www.labroots.com/trending/immunology/17351/malaria-protects-immune-system>

Links to articles: <https://www.nature.com/articles/s41564-020-0702-4>

https://www.crick.ac.uk/news/2020-04-13_deadliest-malaria-strain-protects-itself-from-the-immune-system

Reuse, Recycle - Clinical trial to evaluate rheumatoid arthritis medication for severe COVID-19

<https://hms.harvard.edu/news/reuse-recycle>

Cytokine release syndrome in severe COVID-19

<https://science.sciencemag.org/content/early/2020/04/16/science.abb8925>

Comparative pathogenesis of COVID-19, MERS, and SARS in a nonhuman primate model

<https://science.sciencemag.org/content/early/2020/04/16/science.abb7314>

RIT researchers build micro-device to detect bacteria, viruses

<https://www.rit.edu/news/rit-researchers-build-micro-device-detect-bacteria-viruses>

The lockdowns worked—but what comes next?

<https://science.sciencemag.org/content/368/6488/218>

How does coronavirus kill? Clinicians trace a ferocious rampage through the body, from brain to toes

<https://www.sciencemag.org/news/2020/04/how-does-coronavirus-kill-clinicians-trace-ferocious-rampage-through-body-brain-toes>

New Universal Ebola Vaccine May Fight All Four Virus Species That Infect Humans

https://scienceblog.cincinnatichildrens.org/new-universal-ebola-vaccine-may-fight-all-four-virus-species-that-infect-humans/?_ga=2.103077572.579341060.1587336377-505054940.1587081951

Nasal-specific IgE correlates to serum-specific IgE: First steps toward nasal molecular allergy diagnostic

<https://onlinelibrary.wiley.com/doi/full/10.1111/all.14228>

Physiological expression and function of the MDR1 transporter in cytotoxic T lymphocytes

<https://rupress.org/jem/article/doi/10.1084/jem.20191388/151682/Physiological-expression-and-function-of-the-MDR1>

Gut pain sensors help to combat infection

The mammalian gut must defend against a variety of infectious agents. Neurons, cells not usually thought of as first-responders during infection, are now found to aid the gut's barrier function and stop bacteria from spreading elsewhere.

<https://www.nature.com/articles/d41586-020-01105-1>

Human monoclonal antibodies block the binding of SARS-CoV-2 spike protein to angiotensin converting enzyme 2 receptor

<https://www.nature.com/articles/s41423-020-0426-7>

Chloroquine reduces Th17 cell differentiation by stimulating T-bet expression in T cells

<https://www.nature.com/articles/s41423-020-0432-9>

Rapid Detection of COVID-19 Causative Virus (SARS-CoV-2) in Human Nasopharyngeal Swab Specimens Using Field-Effect Transistor-Based Biosensor

<https://pubs.acs.org/doi/10.1021/acsnano.0c02823>

Antibody surveys suggesting vast undercount of coronavirus infections may be unreliable

<https://www.sciencemag.org/news/2020/04/antibody-surveys-suggesting-vast-undercount-coronavirus-infections-may-be-unreliable>

Coronavirus: South African Entrepreneurs to Transform COVID-19 Testing Process

<https://techfinancials.co.za/2020/04/17/coronavirus-south-african-entrepreneurs-to-transform-covid-19-testing-process/>

Evaluation of host-based molecular markers for the early detection of human sepsis

<https://www.sciencedirect.com/science/article/pii/S0168165620300158?via%3Dihub>

Antimalarials widely used against COVID-19 heighten risk of cardiac arrest. How can doctors minimize the danger?

<https://www.sciencemag.org/news/2020/04/antimalarials-widely-used-against-covid-19-heighten-risk-cardiac-arrest-how-can-doctors>

Coronavirus found in Paris sewage points to early warning system

<https://www.sciencemag.org/news/2020/04/coronavirus-found-paris-sewage-points-early-warning-system>

Hundreds of people volunteer to be infected with coronavirus

Support grows for a controversial 'human challenge' vaccine study — but no trial is yet planned.

https://www.nature.com/articles/d41586-020-01179-x?error=cookies_not_supported&code=076fee71-a5a1-461c-b5ac-e01a145ea061

COVID-19: A new virus, but a familiar receptor and Cytokine Release Syndrome

[https://www.cell.com/immunity/fulltext/S1074-7613\(20\)30161-8](https://www.cell.com/immunity/fulltext/S1074-7613(20)30161-8)

The researchers taking a gamble with antibody tests for coronavirus

Despite uncertainties, some scientists are betting that blood tests will help end lockdowns and get people back to work.

<https://www.nature.com/articles/d41586-020-01163-5>

Structure-based design of antiviral drug candidates targeting the SARS-CoV-2 main protease

<https://science.sciencemag.org/content/early/2020/04/21/science.abb4489>

Research reveals new target that could be a foundation for malaria vaccine

In a study that could lead to a new vaccine against malaria, researchers have found antibodies that trigger a "kill switch" in malarial cells, causing them to self-destruct.

<https://www.brown.edu/news/2020-04-22/malaria>

Researchers identify cells likely targeted by Covid-19 virus

Study finds specific cells in the lungs, nasal passages, and intestines that are more susceptible to infection.

<http://news.mit.edu/2020/researchers-cells-targeted-covid-19-0422>

Researchers develop new microneedle array combination vaccine delivery system

Novel vaccine delivery technology will contribute to efforts to develop universal vaccines and improve global immunization capabilities essential for combating coronavirus, reports the Journal of Investigative Dermatology.

<https://www.elsevier.com/about/press-releases/research-and-journals/researchers-develop-new-microneedle-array-combination-vaccine-delivery-system>

Researchers uncover mechanisms of protective antibody response during deadly Marburg virus infection

<https://www.utmb.edu/newsroom/article12433.aspx>

Shape selection and mis-assembly in viral capsid formation by elastic frustration

<https://elifesciences.org/articles/52525>

Challenges of CAR- and TCR-T cell-based therapy for chronic infections

<https://rupress.org/jem/article/doi/10.1084/jem.20191663/133867/Challenges-of-CAR-and-TCRT-cellbased-therapy-for>

Extended urbanisation and the spatialities of infectious disease: Demographic change, infrastructure and governance

<https://journals.sagepub.com/doi/10.1177/0042098020910873>

Dual-Functional Plasmonic Photothermal Biosensors for Highly Accurate Severe Acute Respiratory Syndrome Coronavirus 2 Detection

<https://pubs.acs.org/doi/10.1021/acsnano.0c02439>

Federal funding for rapid COVID-19 test goes to McKelvey Engineering researchers

The test is based on a new biolabeling technology called plasmonic-fluor.

<https://source.wustl.edu/2020/04/washu-engineer-awarded-federal-funding-for-rapid-covid-19-test/>

JOBS and Positions:

Master's Bursary: Molecular and Cell Biology - CSIR

The CSIR has a bursary opportunity in the Bioengineering and Integrative Genomics Group within the Next Generation Health cluster. Deadline for applications: **24 April 2020**

https://candidate.csir.co.za/psp/hr91prd_cgw/EMPLOYEE/HRMS/c/HRS_HRAM.HRS_CE.GBL?Page=HRS_CE_JOB_DTL&Action=A&JobOpeningId=310675&SiteId=1&PostingSeq=1

Please don't forget to send me any info you may have on funding opportunities, meetings, workshops and/or conferences, so I can post it on the SAIS LinkedIn page. Additionally, if you are recruiting/hiring, I am more than happy to advertise it on LinkedIn and in the newsletter.

Thank you.

Kind regards

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