Happy New Year!

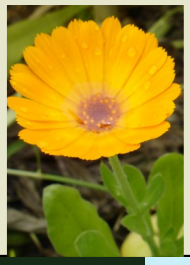
11 December 2022

Herbal Analysis Reporter

HERBAL ANALYSIS SERVICES

SPECIAL THANK YOU:

- Research collaborators
- Research students
- World-wide followers



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GREETINGS!

With COVID now largely gone, we have more reason to celebrate this Christmas - but, would the virus ever forget us? (... page 2)



EDUCATION BOOKS NEEDED!

If you ever have a chance to visit Ethiopia, a trip to Abrehot Library (image right) in the capital (Addis Ababa) is well worth it. Built to be one of the biggest libraries in East Africa, it is now offering free access to students and the general public. The book collection is vast and still expanding thanks to donations which are still being accepted. Instead of trying to equip every school, which is a challenging task in Africa, a centralised free resource of this kind appears to be a game changer. The Ethiopian Embassy here in London has been organising the collection of priority books and there are still opportunities to support this initiative in many ways — I can't wait to make my new book hit the shelf there too. (... page 3)

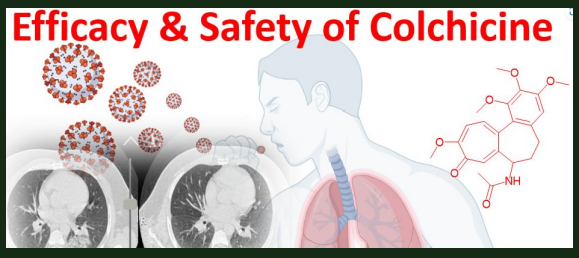


From COVID-19 Research Front

COVID-19 research: Clinical

Not just the drug but those who are in the clinical trial save life

While my laboratories here in the UK were effectively closed during the peak COVID-19 pandemic seasons of 2020/2021, my collaborators in Iran were very active and have been inspirational. To my delight, several of our studies did come to fruition this year and include a prospective, multicentre, randomised clinical trial study on the safety and efficacy of colchicine (image right). Indeed, the compound has some promise for treating COVID-19 patients



though further study is required as revealed in our publication. As with many drugs pushed for clinical trial in COVID-19 patients, the benefit of adding colchicine to the standard care regimen remains minimal. In fact, If It was not for the effort made in vaccine development, the war against COVID-19 could have been lost. With the number of research interests/papers on COVID-19 already showing a trend of decline, a breakthrough in drug therapy remains a long shot.

COVID-19 research: Diagnosis



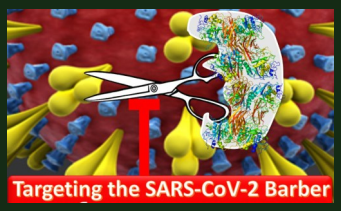
Since the symptoms of COVID-19 greatly vary, recording atypical symptoms remains a clinical priority to improve the management of the disease. Our publication in Future Biology (image left) reported two case studies: preauricular lymphadenopathy and enlarged cervical lymph nodes identified by Iranian clinicians. Since the publication of our report, cases of lymphadenopathies as serious COVID-19 complication have been observed in many countries. Other interesting development that we have not published, as others already have before us, include Herpes simplex virus lymphadenitis with disseminated infection and multiple organ involvement. Opportunistic infections by fungi, bacteria and virus are now known to be associated with COVID-19 — Misdiagnosis is a common problem too!

Diagnosis is the beginning of therapy.

COVID-19 research: Editorial

We continue to lead in our field

In continuation from the previous year, several of our therapeutic ideas have been tested and our expert opinions published. This include our publication on the applications of furin inhibitors for the treatment of COVID-19. In this case (image right), the enzymes that process the spikes to enable the virus entry into human cells can be targeted by drugs . Others include inflammasome inhibitors against COVID-19 driven acute respiratory distress syndrome (Link).

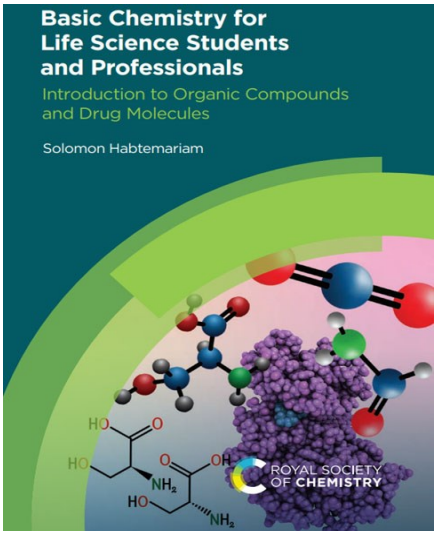


Our special issue entitled The Biochemistry and Molecular Pharmacology of COVID-19 is now complete. I thank my collaborators, Professors Nabavi of Iran and Sureda of Spain, for their hard work. The edited work in this Elsevier journal (Chemico-Biological Interaction, Impact factor 5.168) features 13 excellent papers along with our editorial note. With top class researchers in our team, we continue to lead in our field (... page 4).

EDUCATION BOOKS NEEDED!

(... from page 1) My newsletter last year highlighted my ambition to write a book in one of my teaching subject areas. This indeed was a tribute to the COVID era of home confinement for such a long time. This book (image right) entitled "Basic Chemistry for Life Science Students and Professionals: Introduction to Organic Compounds and Drug Molecules" is now scheduled to be published by the Royal Society of Chemistry (RSC) in February 2023. The choice of the publisher was not just to give the book the professional credit it deserves, but also to make the book more accessible to the readers. As a not-for-profit organization, the RSC was able to make the book price the lowest possible that can ever be made by a publisher. Ideal for undergraduate students in the natural sciences, this book is also an

Research-led teaching? We do it by the book!



excellent primer for postgraduates in a variety of disciplines including forensic science and allied-health programmes as well as professionals working in related fields seeking a comprehensive introduction to organic chemistry in the context of pharmaceuticals. The book has three sections and 13 chapters as follow:

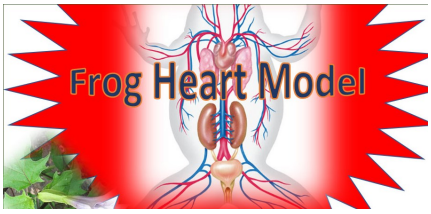
- Introduction to Organic Compounds and Covalent Bonding
- Polarity of Bonds, Electronegativity, and Intermolecular Forces
- Types of Organic Compounds, Nomenclature, and Basic Reactions (3 Chapters): Alkanes and Cycloalkanes; Alkenes, Cycloalkenes and Other Unsaturated Hydrocarbons; and Functional Groups
- Isomerism in Organic Compounds and Drug Molecules: Chemistry and Significance in Biology
- Organic Macromolecules in Cellular Structures, Metabolism, and as Drugs (4 Chapters): From Amino Acids to Proteins; From Monosaccharides to Complex Carbohydrates; From Fatty Acids to Complex Lipids and Fat; and From Nucleotides to Nucleic Acids
- Physicochemical Properties of Organic Compounds and Drug Molecules
- Drug-Target Interactions
- Structural Diversity and Sources of Drugs: From Nature to Synthetic and Recombinant DNA Technology

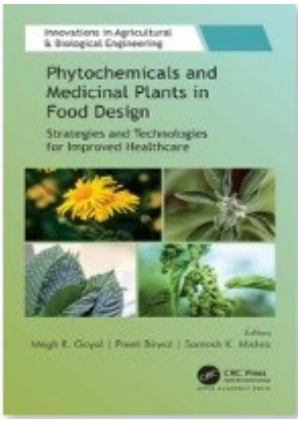
The best privilege I have as an academic is to run an independent research and making my findings accessible to others through publication. A book project is a long and painful process but also the most rewarding - Ending one project only means a new beginning so watch this space!

NATURAL PRODUCTS RESEARCH

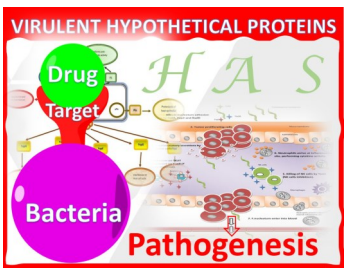
(... from page 2)

I thank Dr David E. Tsala's group (Cameroon) for their continued work on cardioprotection study using amphibian model (image above). The efficacy of the aqueous extract of the leaves and seeds of *Datura metel* were demonstrated by measuring antioxidant markers (such as superoxide dismutase, catalase and malonaldehyde levels) and score of cardiac arrest. My Kerala collaborators (led by Dr George K. Varghese) would be delighted to see our book chapter finally published this year (image right). Stay tuned for more news of this kind next year.





We have a great deal of interest in bacterial infection particularly those of drug-resistant strains, biofilm production and immune cells activation. Our extended review on virulent hypothetical proteins as



drug target in bacterial pathogenesis has been published (image above). We have had few other publications in this field including one on anti-trypanosoma properties of medicinal plants, a review, and have more in the pipeline ...

Our research is inspired by natural products



Dr Solomon Habtemariam

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Herbal Analysis Services was founded in 2006 and exclusively owned by Dr. Solomon Habtemariam. Its mission is three-fold: to discover novel drugs from natural sources; employ phytochemical and pharmacological assays to standardise plant medicines; and provide expert advice and services on the subject area. The website also provides resources and news both on our scholarly activities and expert opinions on hot research topics of interest. Dr Habtemariam leads an internationally renowned multidisciplinary team of scientists and published over 250 papers as well as books, editorials, patents, etc. He welcomes all collaborative requests on pharmacology, pharmacognosy and natural products businesses.

Elected Fellow:

the Royal Society of Medicine (2007); the Royal Society of Chemistry (2009); the African Scientific Institute (2014); the African Academy of Sciences (2015).

SPECIAL FAMILY MOMENT

Teaching my undergraduate/ postgraduate students is a job, publishing that one more paper in prestigious journal is a source of pride, and working with a team of experts on journals/books edition is the joy of my life - but all these happen with a generous family at home who have been patient with me throughout my academic career. This year, I travelled with my wife to the very source of Blue Nile (Abay). It was an eye opening experience with local farmers (image right), fishermen at the biggest lake in Ethiopia, and a visit to several monasteries in remote places. The Blue Nile Falls at the dry season of our visit (peak season to visit is

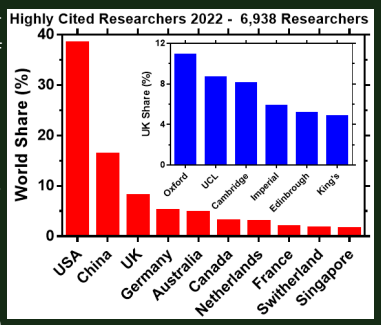


August/September) was not at its best but offered lots of memorable experience. The suspension bridge over the gorge is not for the faint hearted (image right) - I was very reluctant to step on to it until I saw a donkey with a full load on its back comfortably walking over it.



INSPIRED BY THE WORLD'S BEST

(... from page 2) The Clarivate Highly Cited Researchers ranking that recognises the top 1 in 1000 (top 6,938 citation elites) researchers in the world has been published for the year 2022. In this zero-sum game, the lion's share of recognition in the USA and UK is trending to shrink as China rises to take the second place (image below). For the very top ranking institutions, there has not been much change, however, and the game continues to be a source of institutional/personal pride and inspiration. The data also shows the continued polarisation of teaching/research in our higher education system. For the UK, 43.5% of these research elites are to be found in just six universities (image right). Stanford University has also published the list of the top 1% most influential or widely cited scientists in their subject fields—also called the world 2% given a long list made in the entry. I am delighted to feature in this list both in career-long (statistical data from 1960 to 2022) and the year-impact categories (Link). The number of scientific papers in the global literature which cited my work in 2022 has exceeded my last year's record of 2,658 (Link). I thank my collaborators from among the highly cited world top researchers to young academics around the globe who have all been my inspiration. My research activities are driven by my website which continue to attract several hundreds of thousands of visitors every year. Let us look forward to a better 2023 and my priority remains on collaborative research with established scientists and coaching, training and supporting young scientists wherever they may be. **I Wish You All a Prosperous New Year!**



****** Thank You! ******