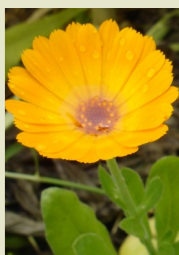


Herbal Analysis Reporter

HERBAL ANALYSIS SERVICES (H A S)

SPECIAL THANK YOU:

- Research collaborators
- Research students
- World-wide followers



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GREETINGS!

Celebrating the Year of Our Chemistry Book Publication, Continued Chemistry Research in the Lab and Conversations on Chemistry Research & Education ...



FROM COVID TO THE COST-OF-LIVING CRISIS

Here in the UK, we started the year with a gloomy outlook on life right at the peak of the cost-of-living crisis. Like any other sector, academics were expressing their frustration by seeking for a pay rise — some taking industrial action. The impact of the crisis on our students' ability to attend lectures and enjoy their university experience was even worse. As with

the COVID pandemic era, the UK universities, fortunately, showed remarkable resilience in maintaining financial stability. There was a lot of scrutiny, however, as shown by my [commentary article](#) on 2 February 2023. Since undergraduate tuition fees have been frozen at £9,250 (now said to be worth ~ £6,600 in 2012 prices), UK universities are being forced even more

to recruiting international students paying uncapped fees. This has its own challenges too — one being keeping the balance between the rising postgraduate taught programmes dominated by foreign students and the declining undergraduate portfolios for home students. The impact of this trend is most felt for courses like chemistry (... [page 4](#)).

OUR BOOK & EDITORIAL PROJECTS

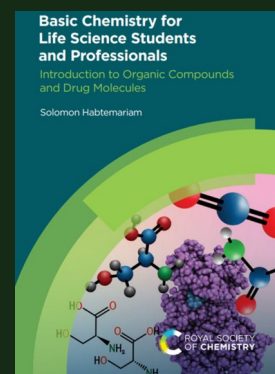
BASIC CHEMISTRY FOR LIFE SCIENCE...

We are not shy to promote what we do

Seeing my [book](#) published on 17 May 2023 was a source of pride and excitement for me, looking ahead to the summer holiday for a new adventure. As a lifetime advocate on the application of chemistry in other fields and addressing the needs of life science students and professionals in my book, I felt the need to engage in promotional activities to reach destinations far and beyond our boundaries. I thank the numerous friends and colleagues who introduced my

book to their libraries and students. My success in marketing remains to be seen but my book was a further demonstration of how current and relevant chemistry is to studying other science subjects. As to studying chemistry itself as an undergraduate subject, the science and art of promoting/marketing it is yet to be mastered by chemists in the UK who are renowned for their world-leading research (...

[page 3](#)). Reversing the decline in students' interest to study chemistry is utmost priority (... [page 4](#)).



BOOKS ON NATURAL PRODUCTS



Natural Molecules in Neuroprotection and Neurotoxicity

Edited by Marcos Roberto de Oliveira



Helping out our friends and colleagues to write books is another mission that we have successfully done over the years. A new book entitled *Natural Molecules in Neuroprotection and Neurotoxicity* (image left) was published on 24 November 2023 where I contributed a chapter entitled "Neuroprotection induced by salvianolic acids" (Habtemariam, S). This also underpins neurodegeneration

continuing to be our research and collaboration field for publications on natural products. We are currently working with colleagues on various other book projects including natural products as potential sources of drugs for treating cancer. As the saying goes, two heads are better than one and we are keen in encouraging others to work with us on joint authorship.

We do best as a global team

EDITORIALS & REVIEWS

We lead our field through hard work

Serving as an editor for journals takes up lots of time and effort but we must all do it to promote our research fields. Beside my own guest editorial adventure in this area, I am blessed to work with exceptionally good medicinal chemists such as Professor Giovanni Lentini of Bari (Italy). One of the special issues we worked on as

editors was entitled [Biologically Active Small Molecules Inspired by Plant Secondary Metabolites](#). For our review project, we gave this year special attention to cancer as a disease target for natural products. I am specifically grateful to my collaborator, Dr Javad Sharifi-Rad (Cuenca, Ecuador), with whom we published over six papers in the last six months. We are keen to



highlight the detailed mechanism of actions and promises of novel natural products identified from plants and marine sources.

CHEMISTRY RESEARCH QUALITY IN THE UK

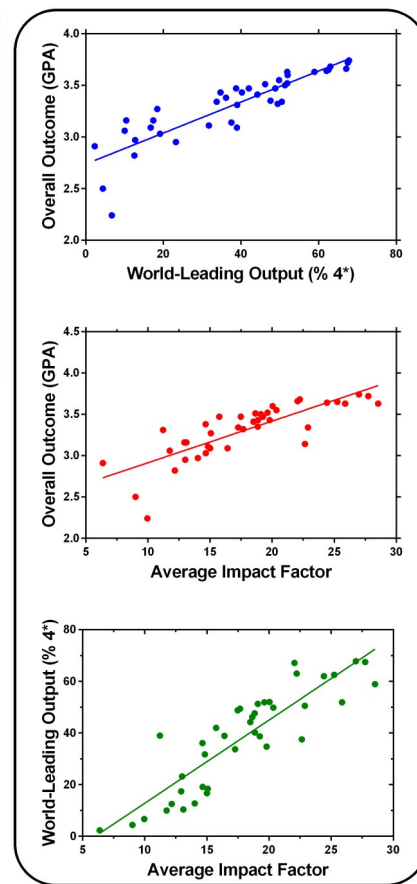
(... from page 2). So we asked whether or not journal impact factor (JIF) has any influence on the outcome of the recent

From Citation & Impact factor to chemistry research quality

research quality assessment (REF 2021) of UK universities. My commentary on the previous REF exercise (REF 2014) was prompt and questioned [How many UK lecturers really are 'research active'?](#) – given most selected staff (presumably the best researchers) were submitted for the research quality assessment. This question was by and large addressed during the recent submission and the results indeed demonstrated the true quality of research undertaken in UK universities. For my critical commentary this time round and ranking of universities, I assessed the impact factor of journals where all the 3692 papers in the chemistry unit of assessment (UOA) were submitted.



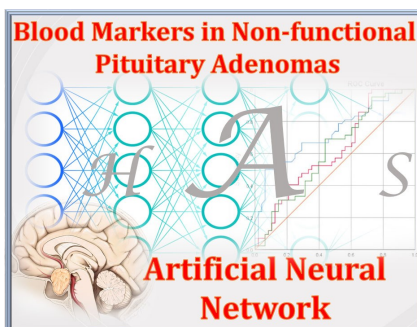
It was incredible to clearly show that a world-leading paper output quality as well as the overall REF 2021 outcome for the chemistry UOA can be seen influenced by JIF. Given the bulk of the overall REF 2021 assessment outcome (60%) came from paper quality measure and the observed correlation (image right), the power of JIF as a research quality measure is demonstrated. For details, readers are directed to the [full article](#). We also looked at various other factors influencing REF 2021 outcome which are being discussed through our conversation forum for topical issues in higher education (HE) – Herbal Analysis Services (HAS) Seminar Series. I thank colleagues and friends who showed interest and help making this exercise very popular.



REF 2021—Chemistry (UOA 8)

OUR NATURAL PRODUCTS RESEARCH

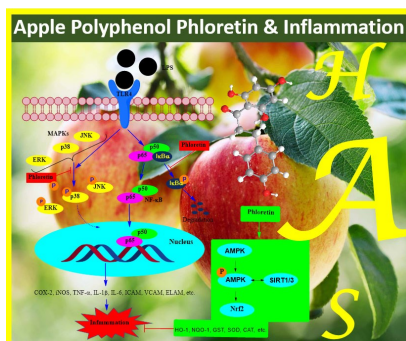
I thank my Iranian colleagues for their usual hard work on *in vivo* experiments and clinical studies on our promising natural product leads. One of the compounds of interest this year was *cinnamaldehyde* which [we have shown](#) to ameliorate pain and anxiety under sleep deprivation condition in rats. The expertise in our collaborative list is extended to using artificial neural network (image top right) as predictive value of blood markers in cancer patients, as shown by our [publication](#). While we offer our expert services on *in vitro* assays and natural products chemistry, we continue collaborating with our international partners on *in*



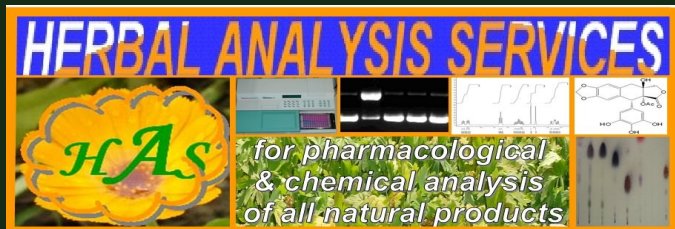
vivo and clinical studies. It is also interesting to note that we have a great deal of interest in European medicinal plants and herbal products both as medicines and sources of purified active constituents. The identification of rosemary diterpenoids as multifunctional bioactive compounds have been our research topics for a while. This included their antiinflammatory mechanisms of action that we extensively [reviewed](#)



We offer our expert services on natural products



another interesting natural product that attracted our attention for mechanism of action scrutiny was [phloretin](#) which is sourced from apple (image left). *More to come next year ...*



Dr Solomon Habtemariam



Elected Fellow:

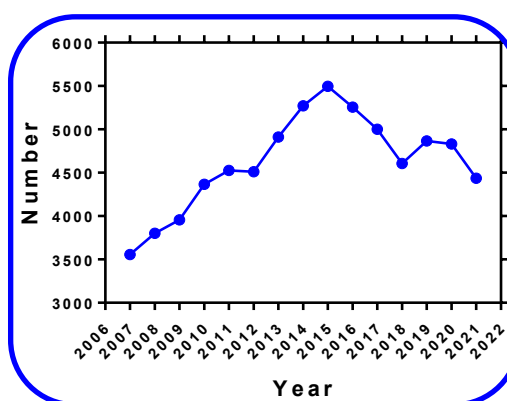
the Royal Society of Medicine (2007); the Royal Society of Chemistry (2009); the African Scientific Institute (2014); the African Academy of Sciences (2015).

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 education/research topics of interest. Dr Habtemariam leads an internationally renowned multidisciplinary team of scientists and published over 300 papers as well as books, editorials, patents, etc. He welcomes all collaborative requests on pharmacology, pharmacognosy and natural products businesses.

CHEMISTRY EDUCATION IN THE UK

(... from page 1)

Why undergraduate chemistry courses are losing popularity in the UK remains a mystery. As a matter of interest, I have been following the number of students accepted for chemistry programmes across the country for over a decade. The peak acceptance (image right) rate was seen in 2015 following which the trend of decline was a subject of nation-wide discussion between the years 2017 and 2019. The most recent figure for the year 2022 was equally worrisome, just 88% of the acceptance recorded in 2019.



Assessment of the actual student numbers in the UK chemistry departments shows a similar profile. For some universities, there has been a loss of over 50% of first degree chemistry students in just three academic years (2019/20-2021/22). What is interesting as a lesson to learn from this trend is the variation in recruitment profile for different UK regions and university types, as well as

strategies adopted by some universities to overcome this challenge. This is our topic of conversation in the upcoming *HAS Seminar Series 2024*.

TRAINING, EXPERIENCE & LONG SERVICE

I have been routinely asked on how I manage to have large numbers of expertise areas listed under my scholarly profile in the likes of ResearchGate where I hold a ranking of top 1%. Indeed, my work covers ethnomedicine, pharmacology and medicinal chemistry and/or *in vitro*, *in vivo* and clinical studies spanning over various science disciplines. I used to say my multidisciplinary training covering biology, chemistry and pharmacology was the key to my success. It is now apparent that it could also be attributed to the three decades that I have been in the UK academia. When I started writing education news commentary some 10 years ago, I was exercising an interest at the cost of research – a distraction that couldn't happen very often. Now, I have moved into routine conversation on topical HE issues via my own *HAS Seminar Series* as a forum. My university also reminded me of my age this year through a little surprise gift voucher of £250 as an acknowledgment of my 25 years of academic service at Greenwich. It is called a Long Service Award – very kind! Rest assured that I am not planning a seminar series on how to keep a job for this long— It is just to say that research is hard work, and it is even harder in teaching-intensive universities, but you can make it a success if you stick to it long enough through voracious curiosity for solving scientific problems. My [website](#) visitor count is in the hundreds of thousands and keeps increasing on an annual basis which makes me even more determined to continue doing what I have been doing over the last 30 years. I can't list the far too many good people who I wish to thank for helping me mature as a scientist - I wish you all a wonderful Christmas and a Happy New year.

Thank You!

Looking forward to the next 25 years of service!

