Happy New Year!

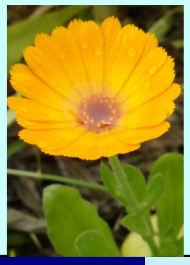
15 December 2024

Herbal Analysis Reporter

HERBAL ANALYSIS SERVICES (*HAS*)

SPECIAL THANK YOU:

- Research collaborators
- Research students
- Worldwide followers



GREETINGS!

Celebrating 2024 as our Year of Pharmacology, Continued Research from Bench to Clinical Trials & Conversations on Higher Education Issues



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FROM OUR CONVERSATIONS ON DIVERSITY

The logo on the right has been associated with my activities via Herbal Analysis Services (*HAS*) discussion forum where pertinent issues in higher education institutions (HEIs) are discussed and critical commentary articles published. One of the most popular conversation topics has been on the implementation of equality, diversity, and inclusion (EDI) policies



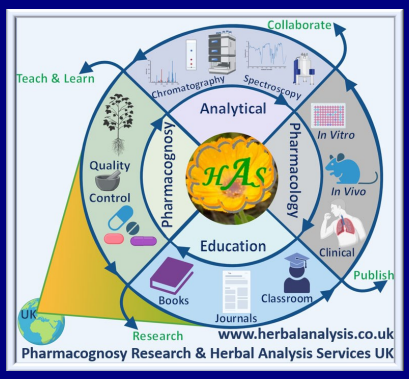
HAS Commentaries enshrined within every UK university's mission statement. The difficulties that Black, Asian and Minority Ethnic (BAME, now also called Global Majority) academic staff face in the UK academia took the lion's share of our discussions. My focus herein is on the challenge and opportunities of diversity issues related to BAME students. With 287 ethnic groups identified in the recent census (Census2021), the UK is not only among the most ethnically diverse countries in Europe but has also seen ethnic diversity growing. Our student demographics are drastically changing too but how about the pace of changes in UK HEIs to reflect on this reality? (... **page 3**).

From our R&KE activities

Book projects...

More books in the pipeline

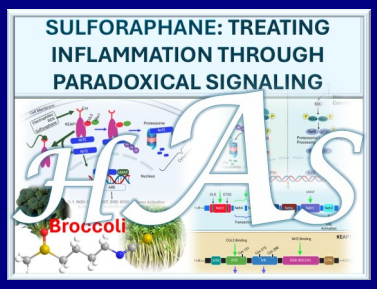
The four arms of my Research & Knowledge Exchange (R&KE) activities now appear on my logo (image right) - which includes educational and research reference book projects. My scholarly activities have always been based on pharmacology, pharmacognosy/phytochemistry, pharmaceutical/instrumental analysis and academic communications. After dedicating the year 2023 to celebrating the publication of my chemistry textbook, the focus of 2024 was on defining the next project. A new contract for a chapter in the Royal Society of Chemistry book series has been signed off. The next self-authored book has also been defined and I will give more updates to my readers in due course.



This year, a chapter entitled "Antiviral Activities of Naringenin and Its Derivatives as Adjuvant Treatment against SARS-CoV-2 Infections" has been published in a Book, Anti-SARS-CoV-2 Activity of Flavonoids. *More to follow ...*

On the Pharmacology front

In Pharmacology as a subject field, there is no area beyond our reach and readers can see a long list on our publication page. This year, we published around 20 pharmacology papers — I have selected one to showcase my activity (image right) which was written during my annual leave over the Easter period ... Memorable because despite the challenge of securing a two-week holiday during an academic cycle,



I wrote it while enjoying the Egyptian sunshine on the Red Sea coast. So, folks, there is time for academics to write a paper while they are on holiday. As one can see from this bulky paper on sulforaphane entitled "Anti-Inflammatory Therapeutic Mechanisms of Isothiocyanates: Insights from Sulforaphane", our focus both in the lab and communication with others/students is on mechanistic approaches in pharmacology. Inflammatory diseases and cancer have been our main interest this year (...**page 3**).

Pharmacology paper made in Sharm El Sheikh

Peer reviews: Journals & Grants

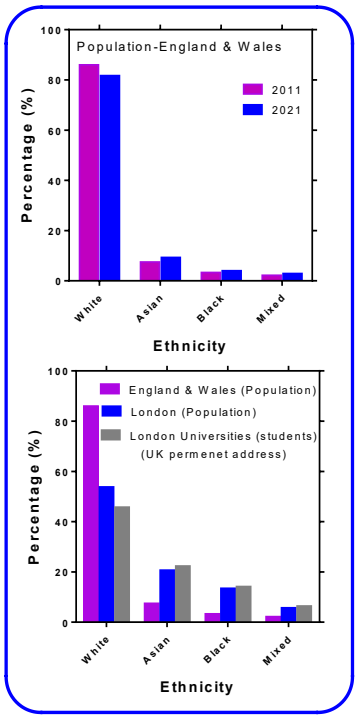
Have you learnt to live with rejection?

Assisting over 10 journals in editorial capacity added with routine manuscript quality checks make my nights and weekends shorter. As I am getting older, my '*peer review expert panel*' role in grant proposal evaluation has also become more and more demanding—I have done two assessments in the last two weeks. However, learning from the quality of scientific work being done across the globe is rewarding. As I look into the volume of papers and even worse, grant applications, being rejected, I always wonder how academics are trained to outperform people in other sectors to live with rejection. Only a small fraction of paper submissions in good journals are accepted - we move around from journals to journals to find home for our papers. Only those who can live with rejection survive in academia as research scientists, while those who take rejection as inspiration to work harder succeed. So, younger colleagues must learn this basic lesson when planning for the next funding proposal or writing research manuscripts.

I thank the inspirational editors that I work with and my good Italian (Giovanni Lentini) and Ecuadorian (Javad Sharifi-Rad) friends, just to mention a few.

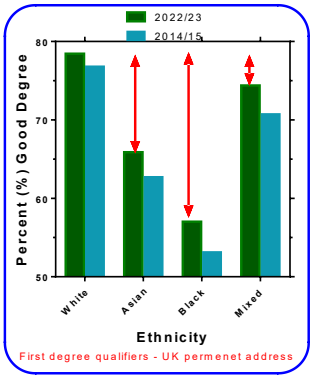
DIVERSITY & FINANCES— STUDENTS

(... **from page 1**). According to the Office of National Statistics, an overwhelming majority, 81.7%, of the population in England and Wales identified themselves as white. The figure below shows the percentage share of the BAME groups along with demographic changes over the years - a drop in white and rise in BAME proportion. Of note, the population dynamics of London is distinctively different with the BAME share far higher than other regions. Likewise, the ethnic diversity of students' population in the UK universities is also far higher in London. In fact, ethnically white students in London universities are no longer the majority group (image left). So, we ask—how many changes do *the now non-minority BAME students in London Universities* expect from us?



The difference in attainment (good undergraduate degree = 1st and 2:1 class) between white and BAME students in London universities is still large. When looking into HESA data for the year 2022/23, this BAME gap particularly for black graduates (with attainment gap of ~21.41% in favour of white) was shocking (image right). In recent years, there has been huge media coverage and efforts to reduce the attainment gap. For black graduates, this figure constitutes a tiny reduction from ~23.68% gap back in 2014/15 (image right). The aggregate attainment gap between white and BAME students for the sector overall is in double digits and is changing at a very slow pace. With this rate, we will need over 50 years to address the equality issues for our students. So much work is needed and hence the emphasis we must give to this topic in conversations through our discussion forum.

With the further barriers in the job market that BAME graduates face, you may wonder how this data translates into student satisfaction, particularly for black students. According to data from the Office for Students (OfS), black students in 2024 were the most satisfied group in almost all assessed criteria. It may be that our universities have done very well including in managing expectations.



Attainment gap in London Universities—Based on HESA Data: Good degree = 1st and 2:1 class

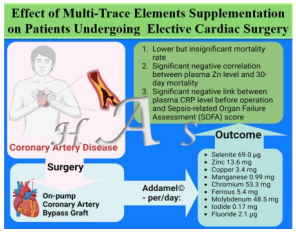
London HEIs — Mind the Gap!

The demographic reality of our students coupled with our universities increasing reliance on international students' market for financial stability will inevitability drive more positive changes for BAME students. In the mean time, the challenges and opportunities of the changing students' demography in UK universities will be our conversation topic in the new year (**... page 4**)

NATURAL PRODUCTS & PHARMACOLOGY

When I say we offer our expert services on natural products, it is based on decades of experience from highly successful international collaborative projects spanning from pharmacology to phytochemistry...from *in vitro*, and *in vivo* experiments to human clinical trials. I select a few examples to showcase what we have been doing this year. Oxidative damage being at the forefront of chronic diseases, we employ a range of bioassays for assessing antioxidant potential. I thank our Turkish collaborators this year for demonstrating using cellular model the Antioxidant Potential of *Salvia cadmica*. Natural products often give us incredibly promising results *in vitro* but most don't make it to our drug shelves due to poor bioavailability and pharmacokinetics profile. Considerable amount of current research is devoted to revisiting natural products' pharmacology to overcome these limitations. Through our Pakistan-Romania-Ecuador-UK collaborative effort, we showed the potential of Green Synthesis Approach as Silver Nanoparticles using three Plant Species. The target biological activity included antifungal effect against *Botrytis cinerea* — grey mould of agricultural significance. Beyond subject knowledge, clinical trial studies require high level of responsibility, dedication and collaborative skills — my Iranian friends proved to have it all! Our exemplary publication shows the completion of a trial that assessed the effect of multi-trace elements supplementation on outcome of patients undergoing elective cardiac surgery (**image below**).

From bench to clinical trial





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 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.

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).

Diversity & Finances – programmes

(... from page 3) You would recall from my last year's annual newsletter that, based on the declining recruitment profile, the fate of many undergraduate chemistry programme provisions was almost written on the wall. Indeed, this year was dominated by news of decline in financial position and deficit in many universities. The frozen student fees (fixed over a decade ago) in the face of high inflation and falling student numbers are among the many factors blamed for our financial worries. Whatever the cause may be, grim headline news like the "UK HE is shrinking" were used to highlight the current trend of restructuring of programmmes and redundancies in many UK HEIs. Increasing the number of international students, which has its own risks, appears to be a consistent strategy for many UK HEIs but competition for this market is heating up and the market itself has already started to show a declining trend. How can we then reduce costs, maximize our profit and diversify our programmes in readiness for future risks? What does cost-cutting mean to the most expensive to teach programmmes including laboratory-based subjects and our world-leading position in research? If indeed 72% of UK HEIs will tighten their belts next year as predicted by the OfS, and students and staff are expected to pay a price, how about help from the over 10,000 colleagues (so called "fat cats" by the media) in UK HEIs earning over £100,000? Surely, the coming year will attract our attention to assess the impact of financial insecurity on the diversity of our HEIs programmes and provisions, among others. *Let us watch this space.*



Recognition

Two years ago, I presented in my news forum that I was included in the world ranking of scientists by Stanford University/ Elsevier based on career-long and the latest one year publication matrices. This was what we called the world top 2% scientists. This year again this league resurfaced on which I have reflected by publishing my little article that some of you might have seen. It was a form of inspiration needed within academia where our entire life is dedicated to science. With reference to EDI principles that I mentioned in the previous pages and my own experience as a black academic, I went further in my article to highlight '*minding the gap'* between the top performer (me) and the second best in my institution in this global ranking. The ScholarGPS Ranking also showed this year my inclusion in the Highly Ranking Scholars list. Representing my University, I was ranked by this league as the World #2 in Pharmacology and Toxicology and World #10 for Pharmacy & Pharmaceutical Science. So, again, both in lifetime entry and recent 5 years, I seem to be doing well in global position as a scientist.



I am also delighted this year to hear exciting news from my good friend and a former PhD student from Sri Lanka, Malindra (Dr M. Priyabhashana Juan-Badaturuge). He received the Presidential Awards for Innovations 2024 for the patents he published — Well-done, Malindra!

I always finish by thanking my website visitors—another success when I have hundreds of thousands of people annually visiting my website to learn from me. My collaborators who helped and inspire me are far too many to thank in person—I wish you all a Merry Christmas and Happy New Year.

Thank You!