

ISE Newsletter

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A message from the new President

Greetings and thanks for electing me as the President of ISE for the next two years.

Many of us were able to meet at our joint meeting with the International Society of Ethnobiology and Society of Economic Botany at the University of Kent, a campus university with a wonderful view over the old English city of Canterbury with its dominant mediaeval cathedral. The weather was very kind to us and many of our delegates must have a very false idea of English summer weather!

Even if the weather had not been so nice, the Canterbury meeting would have been a success from the Society's point of view. The sessions that we sponsored and suggested were well attended and had excellent speakers. There was a good display of high quality posters and last, but not least, at the business meeting it was reported that our financial situation was much healthier than four years ago.

This is due only to the hard work put in by everyone on the board, by those organising our meeting in South Africa and by the diligence of *Ulla Wagner Smitt* and *Anna Jaeger*, our immediate past and present treasurers. Another encouraging aspect was the fact that we had three invitations for our next congress in 2006. An offer with promised generous financial support from the Chinese authorities made their offer the one of choice and we will be circulating more details in due course. An offer from Thailand came a close second and it is likely that our Society will have special concessions at a conference there held by the International Society of Ethnobiology (ISEb) very soon after our meeting in China.

At our business meeting, we discussed an invitation from the ISEb to start a dialogue with a view to eventual merger of the two societies. The general mood was very much in favour of this so we hope to liaise more closely with them. Please give me and the rest of the Board any views that you have about this.

The Journal of Ethnopharmacology continues to do well and increased its Impact Factor to 1.269 from 1.188 in figures just published.

I very much feel that we are entering a new and more certain phase in the life of our Society and it is gratifying and humbling to take on some of the responsibility for moving things forward. Please feel free to contact me on any points that you think will help the Society expand its influence and achieve its aims.

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A very brief message from the editor

Dear fellow member of the ISE,

In this issue I would like to cordially welcome our new president *Peter Houghton*. I am looking forward to fruitful teamwork for the creation of interesting up-coming ISE Newsletters. Being an editor is always exciting, deadlines are approaching too fast and one is waiting impatiently for the final bits to modify a text. I am grateful to *Elaine Elisabethsky*, our past-president, and all the other contributors of the past Newsletters for the collaboration and we all certainly would have wanted more time to edit our texts.

I hope you enjoy once more this ISE Newsletter in your hands and let me know if you liked it or not! Send me YOUR contribution for the Spring issue!

All the best,



Barbara Frei Haller, Editor

Conference Report

8th International Congress of Ethnopharmacology, June 2004, Canterbury, UK.

With the Society of Ethnobiology acting as host and main organizer, our 8th International Congress was held in collaboration with the 9th International Congress of Ethnobiology and the 45th Meeting of the Society for Economic Botany, at the pleasant campus of the University of Kent at Canterbury. The circumstance was unique in many respects, but especially in bringing up opportunities to explore the diversity of angles with which a single scientific issue can be viewed by disciplines that may overlap, but are certainly distinct. There were opportunities for ethnobiologists to learn that ethnopharmacologists are not bioprospectors, opportunity for ethnopharmacologists to get

closer to ethnobiology approaches -- which is inextricably linked to why ethnopharmacology has to be so different than natural products pharmacology, opportunities to foster our understanding of the paramount socio-economic issues that permeate these disciplines and affect every bit of our work. Participants had the chance to merge and listen to each other, to participate in sessions they usually would not, to sit at tables and benches with colleagues they never met before. Never so many prominent figures of these disciplines were present at the same time in one single event, which was quickly noticed by graduate students who made the most out of it.



Some of the prominent figures from the organizing societies and representatives of the indefatigable organizers during the opening ceremony of the congress. (Text by the editor)

The events specifically promoted by our society were all successfully accomplished. The panel on “*Safety Matters: Side Effects of Plants Used in Indigenous Medicine and Their Impact on Public Health*”, coordinated by *Michael Heinrich*, generated a lively discussion and was a great chance to discuss this issue in the light of ethnopharmacology.

We had the chance to see how ethnopharmacology serves as a platform for intercultural dialogue and to promote peace in the panel “*Ethnopharmacology in Europe and the Near East*” coordinated by *Cristina Inocência*. In line with the general theme of the Congress “*Ethnobiology Social Change and Displacement*”, the panel “*Ethnopharmacy and*



Migration”, coordinated by *Andrea Pieroni*, opened space for fascinating accounts on people’s survival strategies ranging from the Guianas to Vietnam, passing by migrant communities living in European countries. Socio-political issues were discussed from a diversity of viewpoints based on projects ongoing in various parts of the world, in the panel entitled “*Potential Contributions of Ethnopharmacology Research for Development of Traditional Communities*”, coordinated by *Elaine Elisabetsky*. All of these panels were very well attended attracting members from other societies. The Workshop: “*Data Collection and Management in Ethnopharmacology*”, given by *Sarah Edwards* and *Heather McMillen*, was found to be of excellent standard and extremely useful by the students engaged in analyzing field data or planning field work. Finally, the plenary lecture “*WHO Global Atlas on Traditional, Complementary and Alternative Medicine (TCAM)*”, by *Gerard Bodeker* was extremely well received and rated among bests. Poster and oral communications mostly happened in packed rooms, and several sessions were devoted to conservation, biodiversity and cultural change. Consequently, once one managed to master the somewhat unusual usage of the program book, choices were constant to be made and, at times, agonizing given the many good concomitant events. Our society was able to give three prizes for students, and the winners were:

Allison Adonizio, Kelsey Downum, Bradley Bennet and Kalai Mathee of Florida International University, Miami, Florida, USA: “*Identification of Quorum Sensing Inhibitors in South Florida Medicinal Plants: An Understudied Aspect of Efficacy.*” (Paper)

Megan Parker, Sophie Chabot, Mark K. Ole Karbolo, Brian J. Ward, and Timothy A. Johns of McGill University, Montreal, Canada: “*Traditional Dietary Additives of the Maasai are Antiviral Against the Measles Virus.*” (Poster)

Roberto Siguenza Lopez, Maria Dolores Mendez Robles, Maria Eugenia Jaramillo, Eugenia Lugo Cervantes of Centro de Enseñanza Técnica Industrial, Mexico: “*A Proposal for an Oleoresin Extraction Process*

from *Ditaxis heterantha* Oilseeds and Potential Usefulness in Semiarid Zones.” (Poster)

Our assembly was held in the nicest atmosphere. Our treasurer *Anna Jaeger* gave the financial report, with the good news of a balance of approximately USD 24,000 by the end of 2003. Her excellent work was acknowledged and duly thanked. *Andrea Pieroni* was elected the new treasurer. The efforts of *Barbara Frei*, editor of the Society Newsletter, received a hearty round of applause. We were happy that she accepted to continue with the task. Regarding the next meeting, we had proposals from Brazil, China and Thailand. After a heart wrenching discussion, the assembly voted to meet in China in 2006. The assembly then moved to the election of Officers which were elected as follows: *Nina Etkin* was made an Honorary Board Member, joining *Ulla Wagner Smitt, Laurent Rivier, and Xiao Peigen* as one of most illustrious members of the Society and its Board; *Patrick Owen, Cristina Inocência, Johannes van Staden, Sarah Edwards, Anwar Gilani, Peng Young, Barbara Frei, and Kobus Eloff* were (re)elected as board members; *Anna Jaeger* was elected to the position of Auditor, *Cristina Inocência* was elected to the position of Secretary, and *Dan Moerman* was elected to the position of President-elect. *Peter Houghton*, our new President, addressed the audience noting how the Society has gained momentum over the last few years and prompting all members to continue with their crucial support.

A significant amount of time and energy was devoted to planning and organizing by several members of the society in the many months that preceded the Congress. I am particularly grateful to *Andrea Pieroni* and *Michael Heinrich*, as well as the panel and workshop coordinators. It was very gratifying to see the society benefiting from the exciting intellectual exchange and certainly promoting education on relevant issues, thus consolidating its presence among fellow societies. I feel lucky to have had the chance of being part of all this. And shall I be so lucky to see you all in China.

*Prof. Dr. Elaine Elisabetsky, Past-president
Universidade Federal do Rio Grande do Sul,
Porto Alegre, Brazil*

Conference Report

More expertise needed in UK concerning TCM

Contrasts between the widespread use of traditional Chinese medicines (TCM) and the comparative lack of scientific knowledge about them were a major feature of a recent meeting (June 12th) held at the Royal Botanic Gardens Kew as a joint meeting between the Royal Pharmaceutical Society, the Academy of Pharmaceutical Sciences of Great Britain, the Society for Medicinal Plant Research and the International Society for Ethnopharmacology.

Professor *Kelvin Chan*, Hong Kong Baptist University School of Traditional Chinese Medicine gave the opening plenary lecture on the impact of Chinese medicine in the West. He contrasted the present situation with that of 10 years ago and showed that there have been significant changes for the better in scientific knowledge concerning the chemistry, mode of action and consumer awareness of Chinese medicines. TCM is becoming more widely recognised as having value and any improvements in health of those being treated are considered as not being due to only a placebo effect. Regulation and moves to improve quality and reduce consumer vulnerability have also occurred. TCM is attracting much attention in the Western world. Prof Chan mentioned that over 1000 people attended a meeting devoted to TCM in Melbourne, Australia in late 2003. Interest is growing in the academic community and among funding bodies making grants available for research on TCM. One third of the funds available from the National Institute of Health in USA for complementary medicine research was allocated to TCM projects, almost 14,000 clinics where TCM was used were estimated to exist in Australia, Canada, USA, UK and France and 10,000 tons of medicinal 'herbs' were now exported from China annually. Hong Kong occupies a key position in the trade because of its good management infrastructure and the commitment of its government. Hong Kong has led the way in the recent commitment by the government of the Peoples' Republic of China with measures such as Good Agricultural Practice, Good Laboratory Practice and similar measures to

enhance the quality of TCM materials, since it was realised that this was critical for acceptance of Chinese medicinals for use in much of the world. The need for accurate and selective methods for defining quality of crude drugs and extracts is being addressed, a need highlighted by the fact that a recent analysis of the drug Liu Shen Wan showed that only one of 17 samples was of good quality. The Hong Kong Accreditation Service constructed standards based on ten samples acquired from local and mainland China suppliers, and incorporated modern methods such as DNA fingerprinting, and functional genomic factors as well as the more conventional analytical methods.

Professor *Monique Simmonds* (Royal Botanic Gardens Kew) described the projects in which she is involved concerning authentication of Chinese herbs. This work arose as a response to consumer requests made to Kew about TCM plants, which increased from 2 in 1995 to 128 in 2002. She emphasised the comparative ease of authenticating samples of crude drugs compared with the many patent Chinese medicines which existed, which often contained several different extracts, usually a combination of several plant species. Kew is well-situated to carry out such work because of its almost unique range of specialist knowledge in the realms of comparative plant biology, biodiversity and interest in sustainable use. Professor Simmonds outlined the lack of authentic specimens for plant materials and of pure compounds for chromatographic comparisons and how this had driven collaborative projects between Kew and institutes in China to acquire voucher specimens of both plant material and the derived crude drug in recent years. A total of 1700 samples have now been acquired. Techniques such as chromatography (especially linked with mass spectrometry), polymerase chain reaction application and other molecular biological techniques are being used to provide multidimensional standards.

Using the standards established, 120 specimens from a variety of traders were obtained and analysed and all were found to be correctly labelled. Tests for pesticides and heavy metals showed that all the samples were within the permitted limits.

Professor *Paul But* (Chinese University of Hong Kong) discussed toxicological aspects of TCM. His first topic, the nephrotoxicity of TCM materials containing aristolochic acid, had already been mentioned by Professor Simmonds. It is unfortunate that the cases which have received much publicity over the last 10 years, have resulted in the introduction of the term 'Chinese herb nephrology'. Discussions of the paper supported Professor But's view that the term implies that all TCM is a safety risk. Nevertheless, in addition to fatalities and other severe toxic events reported from Belgium, the UK and several other countries, over 100 cases of nephrotoxicity have now been reported from China where *Aristolochia* and *Asarum* species, which contain aristolochic acid, were dispensed under the name 'Mu Tong.' The Chinese authorities have now introduced a ban on several species such as had happened in UK a few years ago. Professor But also mentioned other cases of toxicity due to the wrong drug being supplied, such as tropane alkaloid poisoning occurring because *Datura metel* flowers had been supplied instead of those from *Paulownia* species. He also mentioned poisoning occurring because of overdose and three fatalities that occurred in Hong Kong in recent years due to *Aconitum* toxicity. Contamination with heavy metals as a result of poor processing techniques, as well as contamination of 'herbal' products with conventional drugs has also occurred. Professor But summarised the various means by which toxicity arose and emphasised that quality control, training of suppliers and the provision of more information about the medicines could all help reduce the risk of toxic events occurring.

The final plenary speaker was professor *Rudolf Bauer* (Head of Pharmacognosy, University of Graz, Austria) who described various studies on the chemistry and in vitro biological activity of Chinese herbs, particularly those used for inflammatory conditions. 1318 species of Chinese herbs are in this category. Professor

Bauer described screening of almost 30 of these for inhibition of cyclooxygenase and 5-lipoxygenase, two key enzymes in the formation of pro-inflammatory eicosanoids, which he and his colleagues had carried out. He gave details about compounds which have been isolated from the most active extracts, such as the diterpene tanshinones from *Salvia miltiorrhiza*, known as 'Dan Shen' in TCM, a common ingredient in many prescriptions. Other anti-inflammatory compounds which have been isolated include prenylated flavonoids from *Sophora flavescens* and atractylochromene from *Atractylodes lancea*. Professor Bauer emphasised that the activity of the isolated compounds was often seen to be much weaker than that of the extracts and, in some cases, synergy has been proven by the use of isobolic graphs. He also mentioned some instances where activity noted in vitro was not translated when the same extract or compound was tested in animal models.

The great need for good clinical studies to be conducted was discussed by a panel of the speakers and Dr. *Linda Anderson* from the MHRA (Medicines and Healthcare products Regulatory Agency, UK). Some trials were being conducted in China but the quality was variable and it was difficult for Western researchers to gain access to results because of language problems. The panel also discussed the fate of TCM in the light of forthcoming licensing legislation on Herbal Products in the EU. It appears that a considerable number of TCM herbs in current use will be eligible to be included under the new category of Medicines based on Traditional Use.

As well as the plenary speakers, there were several interesting posters and short oral presentations on topics associated with TCM including a fascinating survey of the old literature showing that modern stories associated with the identity and traditional use of the herb 'Qing hao su' (the modern source of the antimalarial artemisinin) had little historical basis. Almost 100 delegates attended the meeting and feedback from those who attended has been very positive.

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Student Thesis Abstracts

Molecular, phytochemical and morphological approaches to the systematics of Eurasian plums (*Prunus* L. section *Prunus*)

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Funding institution: Fundación Séneca, Región de Murcia.

Plums are one of the most valuable fruits worldwide. The plum species, ranging throughout the northern hemisphere, belong to the family Rosaceae, genus *Prunus*. Botanically, two sections are distinguished, *Prunocerasus* (American plums) and *Prunus* (Eurasian plums). The latter is our study group, which is composed by both wild and widely cultivated species. Although the relationships among them have been studied since centuries, the origins of the cultivated species, some of them polyploids, still remain uncertain. To cope with this problem, we are attempting to compile information from different sources in order to construct a frame on which to reconstruct the systematics and phylogeny of this taxonomic group. Morphological, molecular and phenolic markers are being used to provide with enough information for this purpose. Concerning morphological approaches, characters from leaves, twigs, flowers and fruit stones are the most useful ones. For the molecular approaches we are attempting both microsatellite markers and chloroplast DNA sequences. Finally, phenolic compounds show a wide diversity among these species, and can also be used as taxonomic markers, especially when taking account of the presence or absence of a given substance. In the context of another related PhD thesis, phenolic compounds, such as flavonoids, are evaluated as a source of antioxidants in order to promote the use of plum extracts as nutraceuticals. The material for this work has been obtained from a wide range of locations; most of them research institutions with germplasm repositories, botanic gardens and other collections. Part of the material has been collected in the Iberian Peninsula, especially in the east and south of Spain, in the mountains of Cuenca and eastern Andalucía, where local cultivars are still kept in traditional orchards and some wild shrubby plums still grow wild in the slopes, and also some traditional orchards in Murcia's Segura river basin. Support for a monophyletic origin of most domestic plum cultivars is given mainly from the results of our molecular studies.



Wild grapevine populations in Spain. A botanical and molecular approach.

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Collaborators: University of Milano, INRA-Montpellier

Funding institution: Education and Culture Ministry

The area of distribution of wild grapevine ranges through the Mediterranean Basin up to the Caucasus and is thought to be the parental of actual grapevine varieties. The origin of viticulture and domestication are controversial issues, where a few theories have been proposed, from a unique point in Northern Iran as the primary centre, later introduced to other countries associated with commercial

activity; to multiple independent domestication events, as well as a mix of both, that is, domestication of local plants and crossing with foreign material.

From a classical morphological approach, we found great diversity within wild material, regarding leaf morphology, as well as indument.

Using both chloroplast and nuclear markers (SSRs), we found that even if samples of wild grapevine from the Iberian Peninsula, France and Italy share a common background, there are some patterns exclusive to each territory. In particular, the South West of Spain showed the highest inter- and intra-population diversity, specially regarding chloroplast genome.

When comparing wild grapevine samples and cultivars, we couldn't trace any of the later back to the original or as close to the original parents as could be found. In fact, we found that both groups, though closely related, could be clearly separated, which suggests that present varieties might be the result of many hybridization events between autochthonous germplasm and foreign varieties.



Valorization of by-products of the handling and commercialization of vegetables as source of antioxidant health-promoting phenolics.

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Funding institution: SPANISH CICYT 1FD97-1809

The canning houses and food processing industry dealing with vegetables produce large amounts of wastes and residues (leaves, stems, wastewaters, etc.). Sometimes, these by-products can reach around 60% of harvested vegetal as in the case of the industrial manipulation of artichoke. In general, by-products from handling and commercialization of vegetables have been traditionally valorised as animal feedstuff fiber production and fuel production. In the last years, a number of studies have proposed some vegetal by-products (grape, apple, cocoa, etc) as a source of natural antioxidants which could be used in the food, pharmaceutical, dietetic and cosmetic industries, in order to valorise these wastes. The aim of this thesis is to obtain different extracts from lettuce, broccoli, celery, artichoke and cauliflower by-products to evaluated their yield (mg of extract/kg of fresh by-product) as well as their phenolic content (mg/kg of extract and mg/kg of fresh by-product). In addition, the antioxidant activity of these extracts will be assayed in order to discuss the potential role of these by-products as a source of health-promoting phenolics associated with their antioxidant activity.



Biodiversity monitoring, protection and integrated development of the Mount Hombori region (a hot spot of biodiversity).

*Ioset Jean-Robert, Renaud Thierry, Diallo Drissa and Kissling Jonathan** (Co-directors of the project)

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Collaborations: Université de Neuchâtel, Département de médecine traditionnelle (Bamako), ISFRA (Bamako), Cesbio (France), Université de Lausanne, Association Diam Tam, Association malienne des guides de Montagne.

Fundings : Fondation Leenaards, WWF International, Dr Luc Hoffmann, Mammut, Kodak



In order to evaluate the respective impact of human and climatic factors on desertification, a multidisciplinary survey of Mount Hombori - one of the few remaining unspoiled zones of primary vegetation of the Sahel - was started in 2003 (www.hombori.org).

Mount Hombori consists of an inaccessible tableland of about 2 square km located south of Timbuktu (Mali), at the border between the Sahara desert and the Sahel area. Due to the high cliffs surrounding its summit plateau, its flora and fauna have been protected from pasture and agriculture. This ecological heaven is nowadays being threatened by the increasing pressure of tourism.

While continuing the first investigation of Mount Hombori biodiversity by a follow-up project and its long-term monitoring to evaluate changes due to climatic factors, a sustainable protection and integrated development of the Mount Hombori region will be implemented.

Therefore an "ethnobiology" module of the project has been created with the aim to focus, for the first time, on:

1. The relationship between plant usefulness and plant rarefaction as well as on the understanding of the mechanisms of plant rarefaction in the sub-Saharan region [1].
2. The socio-economical importance of rare plants in the Hombori Tondo area.
3. The plant biodiversity representation of indigenous people and the way this biodiversity is locally protected.
4. The structure of the societal plant knowledge.

Studies in Ethnobiology will be proposed for summer 2005 to a student from the University of Neuchâtel.

References: [1] Kissling et al. An ethnobotanical survey of rare plants of the Mount Hombori region (Mali), *Journal of Ethnopharmacology*, submitted.



Traditional horned cattle phytotherapy in the Dori region (Burkina Faso) breedings

Peverellii Chantal, Ganaba Souleyman, Dubugnon Lucie, Boubacar Diafrag and Renaud Thierry

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Collaborations: Institut de l'Environnement et Recherche Agricole (INERA), Burkina Faso, With S. Ganaba, C. Peverelli, T. Renaud, & B. Diafrag

For the pastoral population of the Sahel region, in particular the Fulani, traditional breeding is a major socio-economic factor. Fulani pastors take care of their cows as well as themselves and consider bovinds as a parent. In consequence the Fulani had developed important veterinary knowledge.

The aim of the study was to explore the understudied aspect of medicinal ethnobotany as defined by Berlin [1], called here "veterinary ethnobotany."

Traditional veterinary phytotherapy is an important aspect of the relation between humans and domestic animals. The way people take care and heal their animals reflects the relationship with them. In particular, the study of "ceremonies parallelisms" with human healing can give important information on the place of animals in the society.

From a pharmaceutical point of view, traditional veterinary medicine offers a particularly rich field of investigation for pharmacological research and can provide important information for human medicine.

We are collaborating with INERA for the valorization of the traditional veterinary phytotherapy of the Fulani group. The inventory of the uses and their diffusion within the Fulani group will facilitate knowledge exchange and the amelioration of traditional remedies. This inventory will also make local inhabitants more sensitive to endangered species, and eventually enable those species to be protected by breeders.

References: [1] Berlin B. (1999). Lexical reflections on the cultural importance of medicinal plants among Tzotzil and Tzelatal Maya, Gragson TL, Blount BG (eds.) Athens, USA: The University of Georgia Press, p12-23.

Upcoming Conferences

- April 11-13, 2005 – Le Meridien President, Dakar, Senegal -- 4th International Conference & Exhibition on Traditional Medicine --- Traditional Healing & HIV/AIDS.
<http://www.africa-first.com/4thICTM.asp> (more conferences: <http://www.africa-first.com/>)
- June 4-9, 2005 - Botanical Research Institute of Texas and Texas Christian University, Fort Worth, Texas, USA -- 46th Annual Meeting of the society for Economic Botany ---
<http://www.econbot.org/events/2005/>
- July 12-15, 2005 – Palenque, Mexico -- 4th International Ethnobotany Symposium --- Ethnobotany Disciplines. <http://www.phcog.org/4thSymp.pdf>
- July 17 – 23, 2005 - Vienna, Austria -- XVII International Botanical Congress, Nomenclature Section --- <http://www.ibr2005.ac.at/>
- August 21-26, 2005 - Yeditepe University, Istanbul, Turkey -- 4th International Congress of Ethnobotany (ICEB 2005) --- Ethnobotany: At the Junction of the Continents and the Disciplines. <http://www.iceb2005.com/>
- August 23-26, 2005 - Galway Radisson SAS Hotel, Galway, Ireland -- COHAB 2005: The First International Conference on Health and Biodiversity --- www.cohab2005.com
- August 21-25, 2005 – Florence, Italy – 53rd Annual Congress of Society for Medicinal Plant Research (GA) --- http://www.farmacia.unifi.it/ga_2005.htm
- September 11-15, 2005 - Marseille, France -- Medicine and Health in the Tropics.
www.iftm-pharo2005.org
- November 30 - December 4, 2005 - Marriott Wardman Park Hotel, Washington, D.C, USA - 104th Annual Meeting of the AAA (American Anthropological Association) ---
<http://www.aaanet.org/mtgs/mtgs>

Impressum

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As part of the Newsletter's general policy we want to share the personal views of the authors with our readers. Unless otherwise stated the opinions expressed in this newsletter are the ones of the authors and do not necessarily represent the opinion of the ISE, its board or the editors of the newsletter.