



Connecting Thinkers...



Editors' Message



There is no end to education. It is not that you read a book, pass an examination, and finish with education. The whole of life, from the moment you are born to the moment you die, is a process of learning. Jiddu Krishnamurti

In the path of knowledge acquisition, the aspect of learning has always emphasised. All the systems of knowledge, structured or unstructured, have a stage wherein the student is assessed. Without an assessment it is difficult, maybe even impossible, to go to the next level of learning. Assessment is a key tool for measuring our performance. If for the students it helps them to go to the next level, for the tutor it helps to gauge how much the student has understood and learnt. In our research programme, the research scholars of the current batch are going through this process of assessment, to be able to proceed with their research work.

As is the case with higher education, multiple methods are employed for this,. While it is critical to get a firm grounding of the theoretical framework of a concept, one should also be able to exhibit the capacity to apply it to real and live situations. From questions asked directly through case studies; and depending on memory, to open book examinations, assessment patterns have undergone many changes over the years.

As also the learning materials from just books to research papers and articles in journals and magazines, case studies, real data and so on. Everything is geared towards going beyond 'just gathering information', to the ability to locate and evaluate information, enhance the higher order thinking skills, apply observations and critical thinking processes to understand situations and answer questions appropriately. Even with open book examinations it is critical for the student to understand the question, know where to find the information in the given material, apply the information, analyse, think critically and answer. It is the individual's ability to extract the hidden truths and answer with independent insights that makes the answers magical!

The bottom line is that such assessments, some form of formal evaluation is inevitable. They will always exist in some form or the other. Instead of resisting or fretting about them, we will have to accept them and prepare ourselves to meet the challenge head-on!! Hard work will be the only key.

As the Sanskrit shloka says, "उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः, न हि सुप्तस्य सिंहस्य प्रविशन्ति मुखे मृगाः"

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GUIDE'S COLUMN

Entomophagy: Bug for a bite!

Insects in general are perceived as enemies to man's welfare in the form of crop pests or vectors of deadly diseases. But it may be a surprise to know that only a miniscule of total described species of insects is harmful to man while others are either beneficial or non-interfering. The role of insects as pollinators, silk, honey and lac producers and bio-control agents is highly acknowledged and thoroughly studied. Besides these widely known uses of insects, there lies a relatively lesser known but not so less important use of the hexapods to the humans, in the form of them being a nutritious food. Inclusion of a selective group of insects in diet has been a traditional practice across certain societies of human populations across the world. Considering the protein richness of a large section of insects, it is not strange that the interest in edible insects, both in terms of research and popularization, has taken off in the recent past. Insects are rightly considered as potential alternative sources of animal protein to meet the growing global nutrition demands.

Entomophagy simply means eating insects. Animals like lizards, spiders, birds and some predatory insects are natural members of this exclusive club. But soon man is going to compete in a big way with these creatures to grab a grub or two and this necessitates to add the prefix 'human' before the term 'entomophagy'. The fact that an exclusive International Conference on Entomophagy was organized under the aegis of the FAO during 2014 in the Netherlands in collaboration with Wageningen University enhances the value and the relevance of the topic. Though it is not an unfamiliar thing that insects form part of the traditional diet in some parts of the world, what is interesting is the seriousness with which this branch of entomology is being taken forward. A recent publication on edible insects brought out by FAO highlights the happenings and the progress in popularizing insects as delicacies and getting an industry status to this field (Arnold van Huis, 2013). Some basic facts from the publication are provided here to sensitize the taste buds of 'insect lovers'.

As per the latest inventory by Dr. Yde Jongema of Wageningen University, worldwide, there are 1900 edible insect species. Globally, the most common insects consumed are beetles (31%) followed by caterpillars (18%), bees, wasps and ants (14%), grasshoppers, locusts and crickets (13%), hemipterans (10%) and termites (3%) with least contribution (2%) from dipterans. Lepidoptera are consumed almost entirely as caterpillars while Hymenoptera are consumed mostly in their larval or pupal stages. Both adults and larvae of the Coleoptera are eaten, while those of Orthoptera, Homoptera, Isoptera and Hemiptera are mostly eaten in the mature stage.

The mopane caterpillar (*Imbrasia belina*) is the most popular and economically important caterpillar consumed in Angola, Botswana, Mozambique, Namibia, South Africa, Zambia and Zimbabwe. Insects are a highly nutritious and healthy food source with high fat, protein, vitamin, fibre and mineral content. For example, the composition of unsaturated omega-3 and six fatty acids in mealworms is comparable with that in fish and the protein, vitamin and mineral content of mealworms is similar to that in fish and meat. Besides nutritive value, other merits that add weight to insects as food source include their low emissions of GHGs, low requirements for land and the high efficiency at which they can convert feed into food (Jongema, 2012).

Hence edible hexapods are all set to compensate for the losses caused by their pestiferous counterparts and contribute to the global food security. Of course, the challenge before this new 'food' industry will be to ensure the cost-effective, reliable and hygienic production of an insect biomass with adequate regulatory frameworks in place.

It may not be very long before we come across beetle fry and caterpillar curry in menu cards at a nearby restaurants...

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Course Work to Source Work

“The journey transforms the destination.”

- Peter Morville

The plan to apply for a research programme elicited probably wide ranging advice (from my cohorts who have already obtained or enrolled for PhD) especially on the mandatory research course work mostly because it involves educative classroom learning. And the word ‘classroom’, irrespective of age and gender makes one align with the mood of *The School Boy*, a poem by William Blake. But one course work class at Jain University that began with research methodology was enough to make me thirsting to attend more. From being in that confused stage whether to attend or not to attend classes, now I am in a stage contemplating “why I did not...” or “why I could not...” possibly involved more differently and effectively.

The interdisciplinary nature of course work at Jain University exposes researchers to different useful research methods that would give a monumental g(r)ain of knowledge that could never be compensated. And impeccably careful, individual mentoring in course work especially in Research Methodology classes and core paper classes trains the researchers to attain minimum research skills pre requisite through guided activities that helps one to know different useful research methods in his/her area of expertise. The guided activities included panel discussions, group presentations and participation, role plays, analysing and interpreting videos and texts, knowing and respecting other’s points of views, class tests as in Research Methodology classes of Dr. Sandeep Shastri, writing CVs, creating profiles as part of professional approach to research, watching documentaries to understand Orientalism in Dr. Sushumna Kannan’s classes, watching videos and a movie *Ozivu Divasathe Kali* (the shocking climax of which, is still hauntingly refresh in our collective memory) as a part of cultural memory and gender studies in Dr. Sridevi’s classes, analysis of graphic posters, ads, images and texts as a part of textual analysis and research paradigms in Dr. Prakrithi’s classes, testing and tasting various literary theories, word demonstrations, thought provoking discussions in Dr. Yoganand Rao’s classes.

A diverse presence of interdisciplinary research scholars in Research Methodology classes gave a bird’s eye view of happening research in the other disciplines

The special lectures of Dr. Bhuvana Maheshwari on “Literary Research Today” and Dr. Etienne Rassen-dran’s “World Literatures” were very informative and inspirational. The pains taken by the entire faculty, the Pro Vice Chancellor and the Dean Dr. Mythili Rao, is palpable for meticulously planning the entire course work syllabus and executing it, which has helped us to stay open minded. Rather than warning, the mandatory course work warmed us to note the significance of why we are doing this research and how it should be done. That’s how this course work classes have become a (re)source work classes for our research.

A diverse presence of interdisciplinary research scholars in Research Methodology classes gave a bird’s eye view of happening research in the other disciplines and enhanced peer evaluation as well as support. Dr. Sandeep Shastri sir’s towering presence intrinsically motivated and a wide variety of assignments ensured researchers to acquire different writing needs of the research. Dr. Srividya and Dr. Reetika ensured expectant learning in sir’s vacancy. Core paper classes encouraged us to ask right questions, critically evaluate other works give feedbacks and more than that, accept feed backs. Writing assignments in course work helped to grasp the area of study better as well as improve writing skills.

The key will be propitiously using the skills acquired in course work to make a transition from this stage to independent researchers as the next step is dissertation phase. And the intricacies procured in course work classes help us like a road map to make the transition, and reach the destination safely and successfully.

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Report on 48th Saas-Fee Course: Black Hole Formation and Growth

The Swiss Society for Astrophysics and Astronomy (SSAA) has been conducting the Saas-Fee Advanced Course in Astronomy and Astrophysics since 1971. The 48th course was held at Saas-Fee village, in the Swiss Alps between 28 January 2018 and 3 February 2018. The course was co-hosted and sponsored by University of Geneva, University of Zurich and Société Académique de Genève. The course is intended mainly for post-graduate students, PhD and post-doctoral students, astronomers and physicists with interest in the field.

The theme of this year's course was '*Black hole formation and growth*', and it was designed to discuss topics such as foundations of gravity, early Universe, primordial black-holes, black holes at all scales, black-hole merging and gravitational waves, black-hole accretion and feedback, black hole growth on cosmological time scales etc. The course was split into three sections with each section having lectures by experts in the field such as Dr. Neil Cornish, Professor, Montana State University, who took us through a journey of how the Laser Interferometer Gravitational-Wave Observatory (LIGO) came into existence, how different components of science and technology were integrated into building such a huge detector, its functionalities and its contribution in detecting Gravitational Waves (GW); Dr. Tiziana Di Matteo, Professor, Carnegie Mellon University, who discussed several aspects of Black holes at different time scales right from the primordial black holes to the super massive black holes that are formed during mergers of galaxies during early universe and Dr. Andrew King, Professor, University of Leicester, who majorly discussed about the black hole accretion and feedback mechanism. Starting from the basics of Eddington luminosity limit to some of the open problems related to feedback mechanisms. During one of the discussions we were also involved in compiling some data from one of the simulations that was used to plot correlations and helped us understand some of the concepts more clearly with first hand data.

The course was designed to discuss topics such as foundations of gravity, early Universe, primordial black-holes, black holes at all scales, black-hole merging and gravitational waves, black-hole accretion and feedback, black hole growth on cosmological time scales

I am currently working on understanding the feedback mechanism in Active Galactic Nuclei (AGN) arising due to the interaction between the accreting super massive black hole in the centre of the galaxy and the host galaxy for my PhD. The study involves looking at AGNs in multiple wavelengths and understanding the physics behind the feedback mechanism. The lectures were directly relevant to my PhD problem and covered most of the topics that I had read about. It was also a wonderful opportunity to present some of the work that I have done so far as a poster and interact with the experts and peers from similar research backgrounds and get to know the ongoing research in the field. I was lucky to meet a couple of fellow researchers who are working on similar lines as me in understanding the AGN feedback mechanism. Another great opportunity to come my way was to visit the CERN/LHC- ATLAS detector in Geneva soon after the course. LHC is the biggest laboratory trying to understand the birth and evolution of the Universe by colliding particles at the speed of light. The guided tour included visits to one of the four detectors – ATLAS, one of the first synco-cyclotrons built on site and museums that house early research papers, scaled models, and original parts of LHC among others. This visit was a dream come true.

My supervisor, Dr. Swati Routh and co-supervisor Dr. Prajval Shastri, encouraged and supported me in all possible ways so I could attend the Saas-Fee course. Mentors at the Department of Physics and School of Sciences extended their encouragement and support. Vice-Chancellor, and the Dean of Sciences at Jain University provided timely advice and encouragement. I am thankful to each of them for contributing to this wonderful experience and great learning opportunity.

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Dasha-Lakshana Dhyan Shibir

As a doctoral scholar in Jain Studies, I am working on the topic of *Dasha Dharmas* in Jainism and Personality Development. As part of my work, I conducted structured interviews of 120 research participants. While analyzing the data, I observed that the role of Meditation to adopt and practice the *Dasha Dharmas* by heart to achieve the ultimate goal of happiness and to walk on the path of Liberation (Moksha), got highlighted. This finding was also supported by literature. The *Dasha Dharmas* are enumerated as *Uttama kshama* (Ultimate Forgiveness), *Uttama Mardava* (Modesty), *Uttama Arjava* (Straight-Forwardness), *Uttama Sauch* (Purity of mind), *Uttama Satya* (Truth), *Uttama Samyama* (Self-Restraint), *Uttama Tapa*, (Penance), *Uttama Tyaga* (Renunciation), *Uttama Akinchanya / Aparigraha* (Non-attachment), and *Uttama Brahmacharya* (Celibacy). To observe and practice these *Dasha Dharmas* or commandments is a continued process and should become a life style in order to achieve the betterment of individual personalities. Meditation (*Dharma-Dhyana*) is observed as a part of internal *Tapa Dharma* (Ultimate Penance or Austerity) to develop the concentration, purity and consciousness of mind to control the senses and to develop the power of renunciation (*Uttama Tyaga*) and non-attachment (*Uttama Akinchanya / Aparigraha*). So, meditation becomes the vital process for practice and conduct of *Dasha Dharmas* for individual behavioural transformation.

Meditation becomes the vital process for practice and conduct of Dasha Dharmas for individual behavioural transformation

With this idea in mind, I organized a *Dasha-Lakshana Dhyana Shibir* with my guide Dr. Rekha Jain and Dr. Vinay Jain, a Jain scholar from Delhi. It was a two-day program held on 28th and 29th of January 2018 under the aegis of *Jain Mahila Vikas Mandal*, in Solapur. The *Shibir* was attended by 80 participants, many of whom had been students of Jainology studies for more than two decades. The first day of the program saw discussions on the pivotal role of meditation to direct the aspirant to attain a Rational Perception (*Samyak Darshan*), Rational Knowledge (*Samyak Jnana*), and Rational Conduct (*Samyak Charitrya*) for knowing the Ultimate Truth and to walk on the path of Liberation (*Mokshamarg*). Information of the *Dasha Lakshana Dhyana* procedure was also a part of the day's deliberations. The second day witnessed actual *Dhyana Dharana* procedure practiced by the participants. We also had a dialogue with the *Shibirathris* to clarify their doubts and the session concluded with many of them expressing their views on the *Shibir*. Personally it was an exciting chance for me to share views with many people on my research topic, and as a researcher, it was a great learning experience to listen to different experiences and viewpoints.

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Learning All the Way

The experience of being a research scholar at Jain University was remarkable. The classes conducted by the lecturers were so informative, right from how the research work should to be conducted, how the statistical analysis should be done, and all the steps in between. The skill developmental workshops conducted by the university were well organized, and helped us in not only developing our own presentation skills but also training the research scholars for how a formal, academic presentation should be made. The soft skills education received as part of the journey will help us in our future endeavours. Programs such as Research Retreat facilitated us to know our drawbacks and areas that need working. An opportunity to present our work in front of our peers and experts was a welcome addition to the experience. The administrative and academic departments work seamlessly to provide a great opportunity for research.

Dr. Lekha S
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List of Ph.Ds Awarded-February and March 2018

Ajit S. Sabnis in Civil Engineering, for the thesis titled 'Sustainability Evaluation of Constructin Materials and Buildings' under the guidance of Dr. M.R. Pranesh and Dr. Shashishankar A.

Avin Thaliath in Management, for the thess titled 'Bench Marking Wine Tourism Mnagement and Development in Bangalore' under the guidance of Dr. D.N.S. Kumar.

B.J. Rajesha, in Chemistry, for the thesis titled 'Synthesis, Characterization and Application of Nano Metal Oxides and its Membrane Composites for the Removal of Emerging Contaminants from Water, under the guidance of Dr. Mahesh S. Padaki and Dr. Geeta Balakrishna

Bharathraj Shetty. A.K., in Management, for the thesis titled 'Employee Engagement – A Study of Middle Level Managers in Automobile Sector' under the guidance of Dr. H.R. Venkatesha

C.P. Aruna Kumari, in Management, for the thesis titled 'An Effective way to Optimise Key Performance Factors of Supply Chain Management' under the guidance of Dr. Y. Vijaya Kumar

Chetan. S., in Engineering, for the thesis titled 'Certain Investigations on the Development of Image Processing Algorithms for Medical Image Segmentation and Analysis' under the guidance of Dr. H.S. Sheshadri and Dr. V. Lokesha

Gayathri. K.M., in Engineering, for the thesis titled 'VLSI Implementation of PAPR Reduction in OFDM System by Combining Modified PTS with DCT Transforms' under the guidance of Dr. S. Bhargavi

Gulnaz Banu. P., in Management, for the thesis titled 'A study to Determine Factors Affecting Product Life Cycle strategies of Fashion Products with specific reference to Men's shirts and Wrist Watches for Bangaluru city' under the guidance of Dr. VijayaG.S

Hemanth Kumar. S., in Management for the thesis titled 'Adaption and impact of Information and Communication Technology (ICT) on Logistics Industry' under the guidance of Dr. Easwaran Iyer

Jyothish Kumar, in Engineering, 'Characterization of Titanium and Inconel Alloys Processed by Laser Metal Deposition Additive Manufacturing Technology' under the guidance of Dr. C.G. Krishnadas Nair

Lekha S., in Bio-Chemistry, for the thesis titled 'Persistence and dissipation of spiromesifen on cabbage, tomato and its degradation in soil' under the guidance of Dr. Soudamini Mohapatra

Murthy S.V.N, in Engineering, for the thesis titled 'Optimisation of video compression standard H.265 to enhance the quality of Video for Mobile Applications' under the guidance of Dr. B.K. Sujatha

N.Sivasankara Reddy, in Physics, for the thesis titled 'Electrical, Optical and Spectroscopic Investigations on Glasses containing Sulphate Ions' under the guidance of Dr. C. Narayana Reddy

N.L. Udaya Kumar., in Engineering, for the thesis titled 'Virtualization Security for Cloud Computing Services' under the guidance of Dr. M. Siddappa

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Nayak Vignesh Vittal., in Chemistry, for the thesis titled 'Development of Nanofiltration and Ultrafiltration membranes for Desalination and Heavy Metal Removal' under the guidance of Dr. Mahesh S. Padaki and Dr. R. Geeta Balakrishna

Nita Thomas., in Management, for the thesis titled 'Effect of Sexual Harassment at workplace – Evidence from the Hotel Industry' under the guidance of Dr. D.N.S. Kumar

Radhika. B., in Bio-Chemistry, for the thesis titled 'Persistence and Dissipation of Flubendiamide on Capsicum (Capsicum Annuum L), Grapes (Vitis Vinifera L) and Soil)' under the guidance of Dr. Soudamini Mohapatra

Rashmi Ainapur, in Management, for the thesis titled 'Sustainability reporting practices – it's impact on stakeholders' under the guidance of Dr. Batani Raghavendra Rao

Sanjana Malhotra., in Psychology for the thesis titled 'Underprivileged Adolescents with Type 1 Diabetes: The effect of Psycho education on Self-Management Based on Clinical and Psychosocial Correlates' under the guidance of Dr. Sherin P Antony

Sanjay H.S., in Engineering, for the thesis titled 'Psychophysics of Auditory Temporal Resolution in Human Being' under the guidance of Dr. Bhargavi S

Souravi. K., Department of Bio-Technology, in Bio-Technology, for the thesis titled 'Back from the Brink Bio-technological Approaches for Integrated Conservation of Madhuca insignis (Radlk.) H.J. Lam' under the guidance of Dr. P.E. Rajasekharan and Viswambharan Sarasan

Y.A. NarayanaSwamy., in Engineering, for the thesis titled 'Integrated Water Resources Management for Sustainable Irrigation Emerging Issues and Challenges' under the guidance of Dr. Shashishankar A. and Dr. Inayathulla M

Response to Thinklet Issues

Sahana B.S, Ph.D. Scholar in Management, Jain University

I would like to congratulate the entire Thinklet team for their commendable job in bringing the issues on time without any delay. Being a regular reader, I always keep waiting for the upcoming issues on the first day of every month. Thinklet is a platform where we can find articles from various disciplines, scholar experiences, guides' column, list of publications, achievements and lastly the comic section. The comic section though seems to be funny but indirectly conveys the necessary information for research scholars.

***"The greatest part of a writer's time is spent in reading, in order to write: a man will turn over half a library to make one book."* - Samuel Johnson**

Achievements and Publications

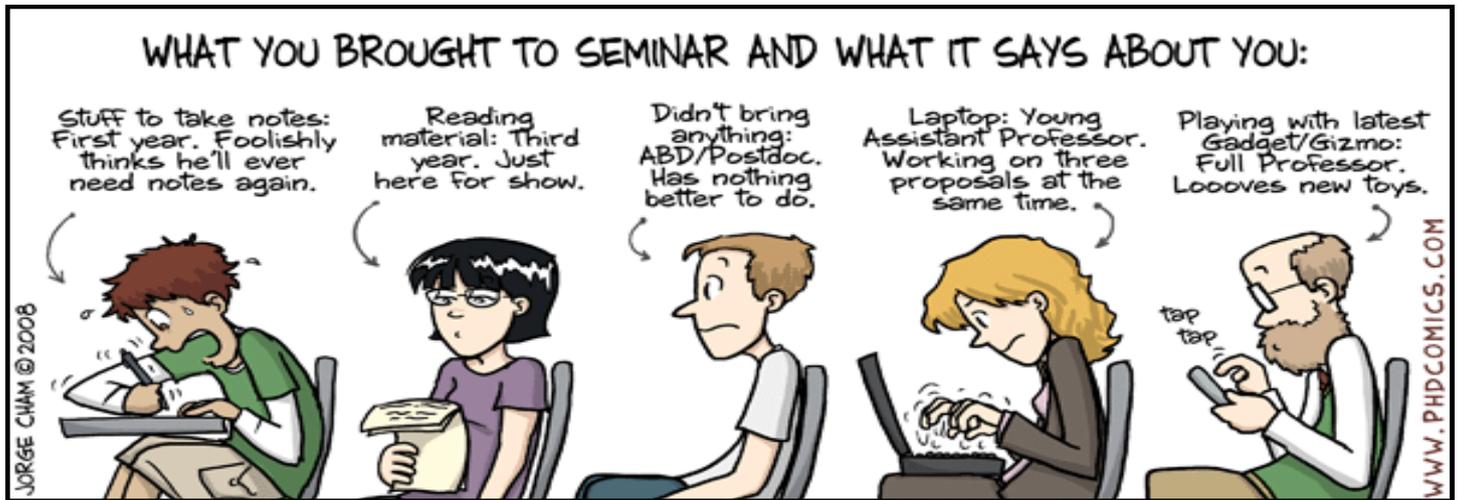
Mr. S. Illavarasu, Ph.D Scholar in Aerospace Engineering has published a paper titled 'An Approach to the Design of Composite Radome for Airborne Surveillance Application' in International Journal of Mechanical Engineering and Technology (IJMET), Volume 9, Issue 2, February 2018, pp. 36-48

Ms. Savita V Patil, PhD scholar in Biotechnology from CPGS, working under the guidance of Dr. Kumudini BS, has been selected as the only Indian candidate to participate in the International Congress of Plant Pathology (ICPP) 2018 at Boston, Massachusetts, USA. She has been selected for the 2018 - Indian Phytopathological Society Student Travel Award as well. This award is given to the selected student to represent India at the American Phytopathological Society (APS) meet.

Ms. Sahana B.S Ph.D scholar in Management at Jain University has published a paper titled 'An Empirical Study of Mediating Role of Skill Development on Operator Satisfaction: With Special Reference to SMEs Manufacturing Sector' in the *International Organization of Scientific Research Journal of Business and Management (IOSR-JBM)* volume 20, issue 3. ver. 4, March.

Ms. Rekha N., Ph.D scholar in Management at Jain University, was awarded second prize in paper presentation at the Malleshwaram Ladies' Association First Grade College for Women during a two day National Conference on *ICT and Skilling in Higher Education* on 12th and 13th April 2018. She presented a paper titled 'Uncovering Technology from Students' Perspective with Reference to Higher Education Institutions in Bangalore'.

Thinklet Congratulates the achievers and wishes them Good Luck for all their future endeavors!



Team Thinklet

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Articles for the next issue of Thinklet should be sent by **May 20, 2018** in not more than 250 words.

Guide's Column, Special articles, and reports of conferences organized/ attended can be 400-450 words

PLEASE INCLUDE YOUR NAME, E-MAIL ADDRESS AND THE KNOWLEDGE DOMAIN OF YOUR INTEREST