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VISION

To achieve excellence in academics and research in pharmaceutical sceinces with high degree of professional and ethical standards.

MISSON

To create an environment conducive for pursuing quality education and research in pharmaceutical sciences enabling the students and teachers attain high degree of competence to play a key role in national health mission.

'For Private Circulation Only'



The NGSMIPS Herald

The Official news letter of the Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, Mangaluru









NGSM Institute of Pharmaceutical Sciences

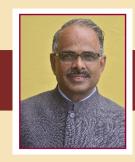
(A constitutent Institute of Nitte (Deemed to be University)

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From the Editor's desk

Moore's law predicts the doubling of the number of components per integrated circuit every two years. A similar explosion of knowledge is seen in the area of health science. The inventions and innovations in pharmaceutical, medical and biological science in recent years have dramatically changed the approach to healthcare. It is becoming increasingly difficult for the researchers to keep abreast of the developments.

I am happy to be a part of a three-day conference on International Conference on Advances in Pharmaceutical and Health Sciences (ICAPHS-2020) organised by NGSM Institute of Pharmaceutical Sciences. It is an attempt to bring together the researchers and scientists in pharmaceutical, medical and biological science from India and abroad to share their findings. The organisers have identified several key areas such as Pharmacology and toxicology, Ethnopharmacology, Drug discovery and development, Bioethics, Molecular biology & Radiation Biology, Omics Technology, Food Science and Nutraceuticals, Basic Science Research, Formulation development & Technology transfer, Novel Drug Delivery Technology & Biotechnology, Patient care and outcomes research, Regulatory Affairs for pharmaceuticals and healthcare products for deliberation. This multidisciplinary approach would open up several possibilities and bring scientists from the diverse area



together. The presence of researchers from across the globe would provide a perfect platform for the exchange of ideas and get to know each other.

In the Indian context, a major shortcoming is meagre participation of the health care industry in general and pharmaceutical industry in particular in the advancement of research. A meaningful collaboration between industry and academia is the need of the hour and will be a win-win proposition. The organisers have planned an industry-academia interaction in the side wings of the conference. The participants can deliberate on mutually beneficial strategies. One such strategy could be productive utilisation of large scientific human resource available in academia by the industry.

The conference will provide an opportunity for the students and young researchers to interact with the best brains in research, academics and industry. It is possible that the deliberations and interactions would answer many of their questions and open up new ideas and avenues.

I take this opportunity to invite you all to this conference and visit the beautiful beaches and temples of Mangalore and the hospitality of NGSMIPS.

Dr. C.S Shastry Editor-in-Chief

Glimpses of the ALVIDA-2K19 organised at NGSMIPS













Campus Buzz

International Yoga Day

The NSS Unit of NGSM Institute of Pharmaceutical Sciences organised International Yoga Day on 21st June 2019. Dr. Rashmitha A.P, Lecturer, Nitte Institute of Physiotherapy was the Chief guest. Welcoming the guest and the gathering, Dr. C. S. Shastry, Principal explained the importance of yoga and stated that yoga is more relevant today than ever before because it has been proven scientifically and internationally acclaimed to possess the amazing power to calm and soothe the stressed mind, body and the soul. Later, Dr. Rashmitha guided the staff and students to perform a few aasanaas which was much appreciated by all. The NSS Program officer, Dr. Santanu Saha delivered the vote of thanks.

Roundtable Discussion on Regulations for Electronic Nicotine Delivery Systems (ENDS)

Dr Anoop Narayanan V, Assistant professor, Department of Pharmaceutics, NGSM Institute of Pharmaceutical Sciences, Nitte (Deemed to be University) participated in a roundtable discussion on regulations for electronic cigarettes and nicotine delivery systems in India, held on 28th, 2019, at New Delhi. The discussion was organized and hosted by Heart Care Foundation of India, New Delhi, presided by Padmashri Dr. K K Aggarwal (past National President of IMA). The discussion aimed to bring together the stakeholders to discuss on regulations required for alternates to cigarettes and tobacco products that can potentially reduce harm caused by smoking and oral tobacco use. The discussion was arranged at India International Centre, Max Muller Marg, New Delhi and the panel included distinguished and leading experts from the medical and legal fraternity, bureaucracy, academia and civil society groups.

Dr Aggarwal presided the discussion with the panel including Dr. Anoop Narayanan V. Assistant Professor, Nitte (Deemed to be University), Mr. Arun Kapoor (Pharma and healthcare advisor), Ms. Ira Gupta (Advocate), Mr. Srijan Sinha (Advocate), Mr. Saurabh Aggarwal (Vice President, Marketing, Crescita Consultancy) and Ms. Diva Bhansali (Senior Executive, PR. Akhya India). Key features for drafting the regulations on Electronic Nicotine Delivery Systems (ENDS) was discussed by inviting critical inputs from the panellists. The draft included the definition of ENDS, its benefits, regulations required regarding the procurement, availability, sale, use and advertising of ecigarettes. It also included the quality control aspects of ENDS such as strength of nicotine, other ingredients and control of flavours allowed in them. The model regulation was finalized and will be processed for further submission to the Government of India requesting the legalization of ENDS by framing a law on the above grounds. The meeting was concluded with vote of thanks proposed by Mr. Saurabh Aggarwal and was followed by dinner.

Human chain to create voting awareness-NSS activity
A large number of people took part in the human chain formed
from Thalapady to Sasihithlu, Mangalore to create awareness
on voting on 7th April 2019. The program was organised by
Systematic Voters Education and Electoral Participation
Committee (SVEEP), DK and the District administration.
Students from K. S Hegde Medical Academy and Nitte Gulabi
Shetty Memorial Institute of Pharmaceutical Sciences along with
faculty, Dr. Vijay Kumar, Asst. Professor, NGSMIPS and Mr.
Shashi Kumar Shetty, NSS Programme Officer, KSHEMA
actively participated in the program.

	Seminars Attended					
1.	Mrs. Zeena Fernandes	Four day National Level Workshop on Understanding our adolescents, suicide prevention and introduction to Therapeutic Counselling for Teachers & Administrators in Higher Education organised by NMAM Institute of Technology, NItte	20.05.2019 to 23.05.2019			
2.	Dr. Sneh Priya	Seminar on Characterizing Exosomes & Nanoparticles: Visualizing, sizing and concentration held at AIMIL Limited, Bangalore	22.05.2019			
3.	Dr. Sneh Priya	International Conference on Affordable Strategies for Health and Environment organised by NMAM Institute of Technology, NItte	23.05.2019 to 24.05.2019			
4.	Jainey P James	International Conference on Affordable Strategies for Health and Environment organised by NMAM Institute of Technology, NItte	23.05.2019 to 24.05.2019			
5.	Mr. Ravi G S	Two days workshop on Basic Course in Educational Methodology (Level – I, Phase – I) organised by Yenepoya Pharmacy College and Research Centre, Deralakatte	27.06.2019 to 28.06.2019			

	Staff Achievements						
Seminars Attended							
6.	Dr. Pankaj Kumar	Two days workshop on Basic Course in Educational Methodology (Level – I, Phase – I) organised by Yenepoya Pharmacy College and Research Centre, Deralakatte	27.06.2019 to 28.06.2019				
7.	Mr. Prashant Nayak	Two days workshop on Basic Course in Educational Methodology (Level – I, Phase – I) organised by Yenepoya Pharmacy College and Research Centre, Deralakatte	27.06.2019 to 28.06.2019				
8.	Dr. B C Revana Siddappa	Two days workshop on Basic Course in Educational Methodology (Level – I, Phase – I) organised by Yenepoya Pharmacy College and Research Centre, Deralakatte	27.06.2019 to 28.06.2019				
9.	Dr. Jobin Jose	Two days workshop on Basic Course in Educational Methodology (Level – I, Phase – I) organised by Yenepoya Pharmacy College and Research Centre, Deralakatte	27.06.2019 to 28.06.2019				

Research/Review Publications/Paper Reviewed/Patent Applied/ Granted/Book/Chapter Published

Department of Pharmaceutical Chemistry

- K Ishwar Bhat, A Apoorva, Abhishek Kumar, Pankaj Kumar. Synthesis, Antimicrobial and Anti-inflammatory Activity of Some New Coumarin Incorporated 4-Thiazolidinone Derivatives. Indian Journal of Heterocyclic Chemistry, Vol. 29, Number 02, Apr-Jun 2019, pp. 141-144.
- Cristelle T Tiwo, Francois Tchoumbougnang, Elvis Nganou, Pankaj Kumar, Binay Nayak. Effect of different smoking processes on the nutritional and polycyclic aromatic hydrocarbons composition of smoked clarias gariepinus and Cyprinus carpio. WILEY Food Science and Technology, May 2019, pp. 1-7.
- K Ishwar Bhat, Ranee Kumari, Abhishek Kumar, Pankaj Kumar. Synthesis of Some Novel Flavanones and Evaluation of Antioxidant Activities. Research Journal of Pharmeutical and Technology, Vol. 12, Issue 5, May 2019, pp. 2141-2144.
- Jainey Puthenveettil James, Sneh Priya and Divya Jyothi. Synthesis, In-silico physicochemical properties and Antimicrobial Studies of Pyrazoline Loaded Nanoparticles. International Journal of Pharmaceutical Sciences and Research, Vol. 10, Issue 4, April 2019. pp. 1828-1837.
- Nishmitha Gretta Dsouza, Jennifer Fernandes, Sonal D'Souza, Roanld Fernandes. In Vitro Antioxidant Activity of Leaves Extracts of Areca Catechu. Research Journal of Pharmaceutical and Technology, Vol. 12, Issue 4, Apr. 2019, pp. 1536-1540.

Department of Pharmaceutics and Pharmaceutical Regulatory Affairs

- Divya Jyothi, Sneh Priya, Jainey P James. Antimicrobial Potential of Hydrogel Incorporated with PLGA Nanoparticles of Crossandra Infundibuliformis. International Journal of Applied Pharmaceutics, Vol. 11, Special Issue 2, Mar 2019.
- Srinivas Hebbar, Manasa P, Ravi G S, Akhilesh Dubey. Review on Multidimentional Application of Centella asiatica. Indian Journal of Novel Drug Delivery, Vol. 11, Issue 2, Apr-Jun 2019, pp. 67-73.
- Srinivas Hebbar, Akhilesh Dubey, Ravi G S, Hemanth Kumar, Santanu Saha. RP-HPLC Method Development and Validation of Asiatic Acid Isolated from the plant *Centella Asiatica*. International Journal of Applied Pharmaceutics, Vol. 11, Issue 3, March 2019, pp. 72-78.
- 4. Jobin Jose, Deepthi S. Hydrogels: A promising drug delivery carrier for ophthalmic applications. Pharma Times, Vol. 51, Issue 05, May 2019, pp. 9-12.
- Rishal Relita Mendonce, V Anoop Narayanan, D S Sandeep. Regulating E-cigarettes in India: A conundrum for the global giant in tobacco production. Indian Journal of Tuberculosis, Vol. 66, March 2019, pp. 288-293.
- Dhidhin Raju, Jobin Jose. Development and Evaluation of novel topical gel of neem extract for the treatment of bacterial infections. Journal of Cosmet Dermatol, March 2019, pp. 1-8.
- Ananth Prabhu, Marina Koland. Development and Evaluation of an in situ Thermogelling System of Ofloxacin for Controlled Ocular Delivery. Asian Journal of Pharmaceutical

and Clinical Research, Vol. 12, Issue 3, March 2019, pp. 567-570.

Department of Pharmacy Practice

- Anarghya V Naik, Hebsiba Joh, Nidhina Mathew, Sumanth Shetty, Rajesh K S, Bharath Raj K C, Juno J Joel, Gururaj M P, Nandakumar U P. Drug Prescription Pattern in Paediatric Respiratory Tract Infections. Research Journal of Pharm. and Tech., Vol. 12, Issue 3, March 2019, pp. 1280-1284.
- Rayees N M, Sampath Kumar, Bharath Raj K C, Rajesh K S, Juno J Joel, Prasanna Shama K, Gururaja M P, Nandakumar U P. A Prospective Observational Study on Adverse Drug Reactions in General Medicine Department of a Tertiary Care Teaching Hospital. Research Journal of Pharm. and Tech., Vol. 12, Issue 5, May 2019, pp. 2289-2298.
- Mohammed Shabil, Rajesh V, Bharath Raj K C, Rajesh K S, Juno J Joel, Prasanna Shama K, Gururaja M P, Himanshu Joshi. A Study on Treatment Defaulters in Tuberculosis

- Patients on Dots Therapy. Research Journal of Pharm. and Tech., Vol. 12, Issue 5, May 2019, pp. 2245-2253.
- Anisha Marita D'Souza, C S Shastry, Uday Venkat Mateti, Shamaprakash Kabekkodu, Sharad Chand. Drug Utilisation and Evaluation of Proton Pump Inhibitors in General Medicine Ward of a Tertiary Care Hospital. Journal of Pharm. Sci & Res., Vol. 11, Issue 6, 2019, pp. 2174-2179.
- Roshna Roy, Architha Ajithan, Anisa Joseph, Uday Venkat Mateti, Subramanyam K. Satin-induced new onset of diabetes in dyslipidemic patients: a retrospective study. Postgraduate Medicine, Taylor and Francis Group, 2019, pp. 1-5
- Lavanya Voora, C S Shastry, Ramesh Bhandary, Degam Sukeerthi, Kala Bahadur Rawal, Sharad Chand. Phenytoin-Induced Erythroderma. Journal of Young Pharmacists, Vol. 11, Issue 3, Jul-Sep. 2019, pp. 320-321.

Green chemistry tools to influence a medicinal chemistry and research chemistry based organisations

The success of the pharmaceutical industry is, in large part, built on the towering achievements of organic chemistry, a mature science which emerged as a distinct discipline well over 150 years ago. This long history is both a blessing and a curse. Many of our most reliable strategies for assembling target molecules employ reactions which are fifty to one hundred years old and often named in honour of their discoverer. During these early years, the chronic toxicological properties of chemicals were often completely unknown and many unwittingly became indispensable tools of the trade. Infamously, benzene was widely employed as a solvent, a hand-cleaner and even as an aftershave, decades before its carcinogenicity became appreciated. Today chemists are still taught the efficacy of chromium, osmium and lead compounds as oxidants, the virtues of chlorinated solvents and the use of atom-inefficient methodologies, while the curricula in most undergraduate chemistry programs provide little or no training in toxicology, environmental science or sustainable technology.

Early pioneers in green chemistry included Trost (who developed the atom economy principle) and Sheldon (who developed the E-Factor). These measures were introduced to encourage the use of more sustainable chemistry and provide

Dr. Pankaj KumarAssistant Professor
Department of Pharmaceutical Chemistry

some benchmarking data to encourage scientists to aspire to more benign synthesis. Later, green chemistry became formalised by the publication by Warner and Anastas of a holistic set of principles designed to raise awareness of the safe, environmentally sensitive and sustainable practice of chemistry. While many of these principles were second nature to process development chemists and their manufacturing colleagues in the wake of the pollution control legislation over the last 30 years, the same cannot be said of their medicinal chemistry colleagues. The modern practice of drug discovery relies heavily on speed of execution, which in turn relies on robust methodologies emphasising reliability rather than environmental impact. While the scale of the reactions conducted at the early stages of a program is usually small, the cumulative footprint generated by tens or hundreds of laboratories in a pharmaceutical company becomes significant. Moreover, the delay that may be incurred by the necessity to reengineer a 'discovery route' to achieve a scaleable process impacts the development timeline, as well as its cost. This paper describes ongoing initiatives in Pfizer to equip its medicinal chemists with a working knowledge of the principles of green chemistry, favouring restraint over constraint, and providing access to tools which guide the selection of greener solvents and reagents. We believe the success of these initiatives will reduce our environmental impact, improve worker safety and reduce the time taken to deliver important new medicines addressing major unmet medical needs

Development of the solvent selection tool

A number of companies have previously published solvent selection guides, more recently Fischer et al. published a detailed and comprehensive approach to the environmental selection of solvents, though in our view this assessment is too generous to volatile solvents. Volatile solvents have more potential for environmental release and may also have more flammability issues (e.g.,pentane or diethyl ether). In reviewing previous work, we felt that because of the challenges and time pressures associated with the medicinal chemistry job, any tool needed to be extremely simple for the end user scientist. However, this does not mean that the information behind the tool is simple. The work to produce a tool was initiated in our environment, health and safety (EHS) group, and solvents were assessed in a thorough and systematic way in three general areas.

- Worker safety including carcinogencity, mutagenicity, reprotoxicity, skin absorption/sensitisation, and toxicity.
- Process safety including flammability, potential for high emissions through high vapour pressure, static charge, potential for peroxide formation and odour issues.
- Environmental and regulatory considerations including ecotoxicity and ground water contamination, potential EHS regulatory restrictions, ozone depletion potential, photoreactive potential. Of course compliance with regulations and company guidelines provide the baseline of Pfizer's environmental policy.

This was much more challenging than the solvent guide because of the wide variety of reagents and by the fact that reagents by their very nature are designed to be reactive (whereas solvents are ideally inert), potentially causing additional safety and environmental issues. To our knowledge, no other company has tried to develop a guide of this nature. We wanted the guide to achieve three purposes. To provide a

balanced assessment of chemical methodologies, taking into account the many constraints that scientists have to take into account when making decisions in their work. To our mind the ideal reagent would have three ideal characteristics:

- (i) The ability to work in good yield in a wide variety of "drug like molecules" this is a characteristic highly valued by medicinal chemists.
- (ii) The ability of a reagent to be used for scale-up to prepare multi-kilogram batches a characteristic valued by our chemical R&D, Kilo Lab and Pilot Plant chemists and engineers.
- (iii) To be as green as possible. Our green chemistry teams would like to introduce the greenest possible reagent as early as possible in the discovery/development process. The assessment of greenness included worker safety, ecotoxicity and atom economy.

Conclusions

The experience within Pfizer has demonstrated that the medicinal chemistry population is very receptive to changing work habits in response to our green chemistry outreach initiatives. Particularly encouraging has been the remarkable response to two separate solvent reduction campaigns targeting chlorinated solvents and selected ethers. In addition, the replacement of hexane and pentane in our stockrooms with the less toxic and less volatile heptane has been extraordinarily well received. Key to these successes has been the philosophy of encouragement and education rather than obligation and scrutiny. The advantage of this Pfizer solvent tool over previous work is its simplicity, in many ways the replacements given in are obvious. Nevertheless, the results are outstanding and we wonder if a similar approach could also work in academic laboratories and make a huge environmental difference. Chemists are highly creative individuals and when provided with the new guidance they have proved willing to adopt or invent new, greener practices. We are now moving forward with a new suite of on-line tools designed to promote greener synthetic reagents. These tools provide simple access to a diverse range of documentation and literature, which can rapidly provide the working chemist with the information they need to try new procedures. We are optimistic that this guide will share the success of our solvent initiatives and will influence our scientists to adopt safer and greener syntheses.

B.PHARM SEMESTER TOPPERS - MAY/JUNE 2019



Mr. Krishna Kishor H G I Place (B.Pharm II Sem) SGPA: 9.64 (495/550)



Ms. Viona Princia Rodrigues II Place (B.Pharm II Sem) SGPA: 9.64 (483/550)



Ms. Pooia III Place (B.Pharm II Sem) SGPA: 9.45 (490/550)



Mr. S. Pramatha I Place (B.Pharm IV Sem) SGPA: 9.57 (621/700)



Ms. Abida C M II Place (B.Pharm IV Sem) SGPA: 9.21 (608/700)



III Place (B.Pharm IV Sem) SGPA: 9.21 (601/700)



Ms. Apoorva I Place (B.Pharm VI Sem) SGPA: 9.07 (636/750)



Ms. Nikitha Alisha Gaga II Place (B.Pharm VI Sem) SGPA: 9.07 (623/750)



Ms. Reshal Dsouza III Place (B.Pharm VI Sem) SGPA: 8.87 (623/750)



I Place Ms. Reenal Shwetha Alva IV B.Pharm (1024/1200)



II Place Ms. Anusha M IV B.Pharm (1014/1200)



Ms. Alafiya Matcheswala IV B.Pharm (1005/1200)

M.PHARM I SEMESTER TOPPERS **DECEMBER 2018**



Ms. Anjali Krishna M M.Pharm II Semester (Pharmacology) SGPA: 9.31 (569/650)



Ms. Seethalakshmi H M.Pharm II Semester (Pharmacy Practice) SGPA: 9.23 (558/650)



Ms. Deeksha S M.Pharm II Semester (Pharmaceutics) SGPA: 9.23 (552/650)



Ms. Chinchumol Cyriac M.Pharm II Semester (Pharmaceutical Chemistry) SGPA: 9.38 (565/650)



Ms. Jean Sandra Pinto M.Pharm II Semester (Pharmaceutical Regulatory Affairs) SGPA: 9.85 (588/650)



Ms. Anupriya N R M.Pharm II Semester (Pharmaceutical Quality Assurance) SGPA: 7.77 (499/650)

PHARM.D TOPPERS OF THE YEAR 2018-19



I Place Ms. Ayshath Sahlunnisa I Pharm D (898/1000)



II Place Ms. Rahifa Ziyad Karjal I Pharm D (867/1000)



II Place Ms. Revathi Raghunath P I Pharm D (867/1000)



III Place Mr. Ananthesh L I Pharm D (864/1000)



I Place Ms. Sagara M K II Pharm D (798/900)



II Place Ms. Saundarya II Pharm D (746/900)



III Place Ms. Shivani S II Pharm D (742/900)

II Place

Ms. Angel Mariam Thomas

IV Pharm D (895/1000)



III Place Ms. Praneetha Jain IV Pharm D (883/1000)



I Place Ms. Fathima Fahima M A III Pharm D (937/1100)



I Place Ms. Srinidhi B C V Pharm D (450/500)



II Place Ms. Nidhi K III Pharm D (921/1100)



II Place Ms. Shebin P. Kurian V Pharm D (449/500)



III Place Ms. Megha Sunny III Pharm D (909/1100)



II Place Ms. Daniel Anila Rov V Pharm D (449/500)



I Place Ms. Dhanushree IV Pharm D (926/1000)



II Place Ms. Anitta Merin M. V Pharm D (445/500)



M.PHARM IV SEMESTER TOPPERS - MAY 2019



Ms. Kadeejath Rizwana M.Pharm IV Semester (Pharmacology) SGPA: 10 (477/500)



Ms. Aiswarya Vijaya Krishna M.Pharm IV Semester (Pharmacy Practice) SGPA: 10 (469/500)



Ms. Mahananda R Prabhu M.Pharm IV Semester (Pharmaceutics) SGPA: 10 (472/500)



Mr. Swapnil Dylan Fernandes M.Pharm IV Semester (Pharmaceutical Regulatory Affairs) SGPA: 10 (476/500)



Ms. Chaithra R. Shetty M.Pharm IV Semester (Pharmaceutical Chemistry) SGPA: 10 (482/500)



Mr. Edwin Paul
M.Pharm IV Semester (Pharmaceutical
Quality Assurance) SGPA: 9.2 (471/500)

International Yoga day, Round table Discussion & NSS Activity 2019







Book Post