

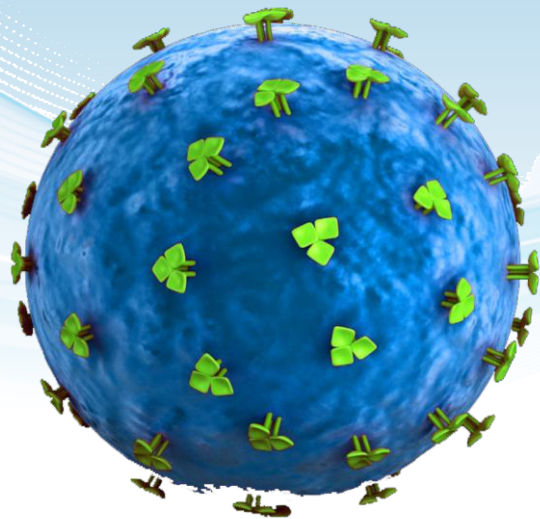


# ERA'S

## RESEARCH NEWSLETTER

IN COLLABORATION WITH  
AMERICAN UNIVERSITY OF BARBADOS(AUB)

VOL -1 NO - 3 2015



### Chief Editor's Note : Prof. A.N. Srivastava

First it was Telomerase enzyme regulating Telomere length & repair of DNA for which Prof. Elizabeth Blackburn received Nobel Prize. Now it is Fumerase enzyme which has been found to be responsible for DNA repair. We have advanced much ahead from just knowing about XRCC-1 and XRCC-3 DNA repair genes. These fumerase enzymes can perform other than their designated functions in genetics or elsewhere, where crisis destined them through evolutionary process.

Prof. Zhimin. Lu, M.D, Ph.D, Professor of Neuro-Oncology & his team in Nature Cell Biology 2015 has reported their works on Fumerase enzyme & its product Fumerate. On stem cell front, scientists have now discovered stem cells and their signaling pathways for bone & Cartilage. Now Cancer Stem Cells in various cancers have become the target of regulation and treatment. Only deep understanding and working at Chemical-Genetic & Molecular Biology level will reveal the mysteries of cell biology & are worth pursuing by any basic scientist/clinical researcher in ELMC& H, Lucknow, as their future vision.

The young researchers of Era, a team of 6 undergraduate students brought laurels to our college in Medicon-2015 held at Nagpur-India, by winning maximum number of trophies won by any single college. Besides, faculty is achieving accolades day by day on research front and I believe, more and more young teachers will come forward to do research in field necessary for our country and mankind.

### From Editor's Desk : Dr. Navbir Pasricha

The beginning of the new Academic year of 2015 has special meaning for Era's Lucknow Medical College and Hospital. On the one hand, it indicates that ELMC&H has proven its capacity, potency and consistency to maintain its name on the list of best medical Institutions in the country as well as achieving the distinction of having its own scientific journal and research news letter. Both of these serve in dissemination of research findings which are relevant among researchers and persons engaged in delivery of health care at various levels.

In this issue apart from our regular features, we have specially published a write up from one of our own students, now an intern, which can be an inspiration for other medical students and young doctors. I would again like to request our learned faculty members to please share information of their achievements and recent developments in their respective fields.

### Global Research News

#### Researchers identify stem – like progenitor cell that exclusively forms heart muscle

Scientists from Perelman School of Medicine at the University of Pennsylvania have just taken an important step towards a future therapy for failing hearts using stem-like cells and associated growth factors. They have defined the progenitor cell that is committed to make heart muscle, which they term cardiomyoblast and this they call as Hopx. Initially they thought that Hopx would be a multipotent progenitor cell and were surprised to know that it was marking only the cells that were going on to make heart muscle. This novel finding may include not just cell based therapy but also implantable bio-engineered patches of heart muscle.

#### Study finds link between citrus fruit consumption and melanoma risk

A new analysis of two long-term studies has revealed a potential association between malignant melanoma risk and frequent consumption of grapefruit and oranges. The study found that compared with people who consumed these fruits less than twice a week, those who had them at least 1.6 times a day were at a 36% higher risk of developing melanoma. As reported in the *Journal of Clinical Oncology*, over a follow-up period of 26 years, 1,840 participants were diagnosed with melanoma. A higher overall intake of citrus fruit was associated with an increased risk of melanoma in both men and women. Of the citrus fruits, grapefruit was the most strongly associated with increased melanoma risk. Even after adjustment for factors such as age, geographic location, alcohol intake, smoking and sun exposure, the link between citrus fruit consumption and melanoma was still strong.



**ERA'S LUCKNOW MEDICAL COLLEGE & HOSPITAL**

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## HIV Vaccine Progress in Animal Studies

HIV, the virus that causes AIDS, attacks and destroys immune cells. For those infected with HIV, antiretroviral therapy helps to prevent the virus from multiplying. But scientists haven't yet been able to design a vaccine that protects people from HIV. Researchers have identified human antibodies that can neutralize multiple strains of HIV by binding to a small portion of gp120. The antibodies fail to control the virus in the people who make them, but they can prevent infection in animal models. Researchers have been studying these antibodies in the hope of designing a vaccine that prompts the human immune system to mount an effective defense against HIV.

## Intramural Faculty Projects Approved by Institutional Ethical Committee

1. Color Doppler Study of Endometrial Spiral Artery in Unexplained Infertility, Dr. Shivani Singh, Obstetrics & Gynecology
2. Comparison between two regimens of second trimester medical abortions-mifepristone with misoprostol vs misoprostol alone, Dr. Mona Asnani, Obstetrics & Gynecology
3. In-Vitro effects of Azadirachta Indica (Neem) on breast cancerous cell line and influence of alkaline pH, Dr. Aparna Mishra, Biochemistry
4. Establishment of Reference Values for Liver Function Tests in Apparently Healthy North Indian Population, Dr. Nikhil Gupta, Medicine
5. Prevention of endothelial cell injury in vitro model of cerebral ischemia with diabetes using Human brain microvascular endothelial cells, Dr. Ali Ahmad, Pharmacology
6. Isolation and Purification of Lagenin, a Novel Ribosome-Inactivating Protein from Seeds of Bottle Gourd (*Lagenaria siceraria*) and of its Anticancer Activity on Human Breast Cancer and Hepatoma Cells, Dr. Rumana Ahmad, Pathology
7. Pattern of Anaemia Among Children of Rural Lucknow, Dr. Sharique Ahmad, Pathology
8. Association of stem cell markers CD34+, CD133 and CD44 expression with clinicopathological profile in lung cancer, Dr. A.N. Srivastava, Pathology
9. Epidemiology, Characterization and Drug Resistance Profiling of Candida Isolates from Vulvovaginitis at a Tertiary Care Centre, Dr. Vinita Khare, Microbiology
10. "Determination of combined effect of pH withania somnifera on Human Breast cancer cell line MDA MB-231." Mr. Mohsin Ali Khan
11. A study of changes in viability of cell line culture through cell surface electric charge Mr. Mohsin Ali Khan

## Lymphatic Vessels Discovered in Central Nervous System

Scientists discovered that the brains of mice contain functional lymphatic vessels that can carry fluid and immune cells from cerebrospinal fluid. Further work will explore whether problems in this system might play a role in neurological disorders such as Alzheimer's disease, meningitis, and multiple sclerosis. To better understand the connections between the lymphatic system and the brain, a team led by Drs. Antoine Louveau and Jonathan Kipnis of the University of Virginia School of Medicine used high-powered microscopes to examine the brains of mice. Their research was funded in part by NIH's National Institute on Aging (NIA) and National Institute of Neurological Disorders and Stroke (NINDS).

## STS ICMR Project sanctioned in 2015

1. Correlation Of ALDH1 Stem Cell Marker In Urinary Bladder Cancer With Invasiveness. Miss Anum Aziz, Dr. Noorin Zaidi, Pathology
2. Fungal infections in Oral scraping smears in patients of Oral Cancers and Pre-Cancers, Miss Chitra jain, Dr. Nishi Tandon, Pathology
3. **Association of glucocorticoid receptor gene polymorphism in type 2 diabetes mellitus among north Indian population**, Miss Kisa Saiyada, Dr. S. Tasleem Raza, Biotechnology
4. A Study of SLC22A1 Polymorphism In Patients of Type 2 Diabetes Mellitus in North Indian Population, Miss Monica Sharma, Dr. Pooja Shukla, Pharmacology
5. To study insulin resistance in patients with viral hepatitis patients and type 2 diabetes mellitus, Miss Zara Ahmad, Dr. Devendra Kumar, Medicine
6. Stem Cell Marker CD 133 in Cervical Cancer Pathology Mr. Paarth Garg, Dr. Fiza Mustaqim.



**Era's Journal of Medical Research being released by Shri Ram Naik, The Honourable Governor of UP**





## Recent developments in ELMC&H



**PROF. STUART RALSTON, EDITOR OF DAVIDSON'S TEXT BOOK OF MEDICINE GIVING GUEST LECTURE TO FACULTY AND STUDENTS**



**WORKSHOP ON ETHICS IN MEDICAL RESEARCH HELD ON 16<sup>th</sup> APRIL 2015**



**Dr. Saakshi Chhabra, S.R. Deptt. of Radiology bagged 1st price in competitive oral presentation amongst all medical colleges of Lucknow at the Lucknow city chapter CME of Indian Radiological and Imaging Association at SGPGI, Lucknow**

## Achievement At National Platform

Ninth International undergraduate medical students research conference (MEDICON 2015) was held in Nagpur in **NKP SALVE INSTITUTE OF MEDICAL SCIENCES AND RESEARCH CENTRE** from 29<sup>th</sup> of July to 1<sup>st</sup> of August. Students from all over India participated in research paper presentation, teacher student panel discussion, debate and photo essay competition.

Era's Lucknow medical college was represented by eight students and this college won 5 trophies in the fields of :-

- Best presentation
- Teacher student panel discussion
- Debate and photo essay competition
- Research presentation

All eight students received certificate of participation and performance of Era's medical college was best amongst all the colleges which participated. The students who won the trophies are :-

- Shivam mehra (2 trophies)(teacher student panel discussion 1<sup>st</sup> prize ,photoessay competition 2<sup>nd</sup> prize)
- Vedansh chandra (1 trophy)(1<sup>st</sup> prize research paper presentation)
- Shipra shukla (2 trophies)(1<sup>st</sup> in photo essay competition, 2<sup>nd</sup> in debate)

The other students who participated were :-

1. Anjali giri ,2.Chandni jain, 3.Parth garg, 4.Aliya gul, 5. Amber rana



Following were the mentors & guides of the above students :

- Prof. A.N. Srivastava
- Prof. Nirupma Lal
- Dr. Sharique Ahmad

## REQUEST

Please send information about your achievements in the field of research, any Awards won, Recognition gained and Honours bestowed upon you for possible inclusion in Era Research Newsletter.







**ADVANCED NRP COURSE CONDUCTED  
BY DEPARTMENT OF  
PEDIATRICS AND NEONATOLOGY**

**Ailment Diagnosis System**

Ailment Diagnosis System is a software developed by Era's Lucknow Medical College and Hospital with an aim to give the patient quality care and a step further towards excellence. The main highlight of the software is its user-friendly interface that allows it to search according to his own needs under 6 headings: Search by Problem, Search by Metabolic Pathway, Search by Medicine, Search by Ailment Name, Search by herb or fruit, Search by active constituents. This allows the user to know about drugs either directly, searching by medicine's name or to find the correct medicines by searching under various headings.

Another salient feature of the software is that, as the patient's input (i.e. history and symptoms) and the doctor's input (signs) are given, it takes us to the list of probable ailments and the next step of investigation. Once all the details are given the software gives a provisional diagnosis with its emergency/immediate treatment and the definitive medicine. The definitive medicine gives an insight on varied aspects of medicine at a glance. Along with the name of medicine, the definitive medicine chart under 12 columns displays the brand name, both adult & Pediatric doses, strength of the available formulation, its uses, side effects with a separate column for rare side effects, contraindications, route of administration, mechanism of action & drug-drug interaction including its interaction with herbal drugs. It is a handy tool for clinicians with the abundant information pool available at the click of cursor or tab. The software also includes the details about herbal alternatives (medicines) under the heading of its desirable

herbal dose, chemical composition mentioning its active constituent, mechanism of action, metabolic pathways & enzymes, cooking temperature with special mention to its optimum value at which its activity is fully maintained.

**Research Opportunities for  
Undergraduate Students: Dr Anjali Giri, Intern**

It is tempting to look at one's undergraduate college years as a time to work hard and party harder. However, if you are at Era's Lucknow Medical College your motto becomes work hard and work harder. Setting yourself apart from other medical undergraduates is an elite experience. One way to have that is by undertaking research during the undergraduate years. Research work teaches persistence. Though it was once uncommon for undergraduates to be in research labs, it is now seen as critical component of comprehensive undergraduate experience and also an asset for those who want to pursue further studies overseas. Under the mentorship of expert researchers and professors, you learn to create a hypothesis and test them. It enables you to gain practical experience which sets your knowledge apart from those who stick to textbooks. You get an opportunity to witness concepts in action. An early exposure to medical research not only improves your attitude and skills in field of research and teaches you to critically appraise medical literature, but also helps in independent learning and writing. Undergraduate research is still at its nascent stage in Indian medical schools and every effort is made at Era's Lucknow Medical College and Hospital to tap this untapped potential. Above all, medical research being an essential component of efficient medical care, helps you graduate as patient centered physicians.

**Upcoming Conferences**

- **AIIMS Neuroanaesthesia Update 2015**  
JLN Auditorium, AIIMS, New Delhi, India ,  
9-26-2015 to 9-27-2015, Speciality:  
**Anaesthesia**
- **National Conference on Stem Cell Research:  
Concepts and Applications 6-11-2015,**  
**Era's Lucknow Medical College & Hospital,**  
**Lucknow**

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