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مركز التميز لبحوث الجينوم الطبية

Center of Excellence In Genomic Medicine Research

Newsletter

# Center of EXCELLENCE In Genomic Medicine Research

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http://cegmr.kau.edu.sa

# Highly Cited Researchers Visit

## *Prof. Nader Rifai*

CEGMR was delighted to receive Prof.Nader Rifai on the 27th of March, 2013 (corresponding to 15/05/1434H). He is currently working as a Louis Joseph Gay-Lussac Chair of Laboratory Medicine, Children's Hospital, Harvard University, Boston, Massachusetts, USA. He was received by the CEGMR management including Dr. Mohammed H. Al Qahtani (CEGMR Executive Director) and the Vice Directors: (Dr. Adel Abuzenadah and Dr. Adeel Chaudhary). His visit was commenced by group meetings involving the CEGMR researchers' affiliates with each one of the Hi Ci Professors followed by cutting edge seminars given by Prof.Nader Rifai on the second day of his visit. He met Prof. Adnan Zahed, Vice President for Graduate Studies and Scientific Research, to discuss aspects of mutual cooperation in scientific research in line with KAU's policy of seeking to provide a high-quality education and taking advantage of the capacity and expertise of other local and foreign universities and scientists.

Prof.Nader direct the Clinical Core Laboratory, a laboratory that provides testing in the areas of hematology, chemistry, coagulation, endocrinology, therapeutic drug monitoring, biochemical genetics, allergy/immunology, and trace metals. In addition to directing the day to day operation, setting strategic clinical and financial objectives, and providing interpretive services to clinicians, he develops new techniques to improve patient care and support clinical investigators. Driven by clinical and research needs, he has developed methods for the measurement of over 25 drugs including busulfan, tacrolimus, sirolimus, and ropivacaine. Clinical laboratories throughout the world have adopted many of these assays. His research focuses on the development and the evaluation of assays for biochemical markers of coronary disease and myocardial injury. Initially, the work focused on lipid, lipoprotein and apolipoprotein testing, and the value of these markers in a variety of pathological and physiological conditions. In the process, several of the assays I developed were adapted into commercial kits [apolipoproteins AI & B (Diasorin) and apolipoproteins CII, CIII, and E (Daiichi Pure Chemical Company)]. More recently, he has concentrated on the role of inflammatory biomarkers in vascular injury, and has built a unique research laboratory that is designed to bring newly developed assays for esoteric biomarkers such as cytokines, growth factors, procoagulants, acute phase reactants, oxidants and antioxidants, and adhesion molecules into clinical trials and epidemiological studies. The synergy between our unusual technical expertise and the creative and energetic clinical research enterprise directed by Dr. Paul Ridker at the Brigham and Women's Hospital and investigators at the Channing Lab has proved to be exceptionally productive. Together

they demonstrated the ability of these markers to predict future myocardial infarction, ischemic stroke, peripheral arterial disease and sudden cardiac death; and identified C-reactive protein (CRP) as the strongest predictor of future coronary events in both men and women. The work has changed the practice of preventive cardiology, and has provided new insights into the biology of vascular injury. The work has also changed the practice of clinical chemistry, allowing us to move the FDA to clear several CRP assays for clinical use, to represent the US clinical chemistry community in the CDC-sponsored international effort to standardize the CRP assay, and to participate in writing the new CDC/AHA-sponsored national guidelines for the use of inflammatory markers in cardiovascular disease.

His laboratory also investigates methods to detect subtle myocardial injury, particularly important in pediatrics where classical acute myocardial infarction is rare. They concentrated on measuring plasma troponin at very low concentration – well below the standard cutoffs for diagnosis of acute myocardial infarction. For example, working with Dr. Steven Lipshultz at the University of Rochester, they were able to demonstrate that very low levels of troponin elevation in children with ALL treated with doxorubicin is predictor of future cardiac complications – an observation that has led to changes in standard pediatric chemotherapy protocols. Their work led to the FDA approval of new clinical indications for two troponin assays. Prof.Nader direct Children's Hospital's ComACC accredited postgraduate fellowship in clinical chemistry that has an excellent track record in producing and placing strong clinical chemists. In addition, he teaches pediatric clinical chemistry to students and pathology residents who rotate through Children's as part of formal courses and training programs at Brigham and Women's Hospital. He has organized and led major courses for national clinical chemistry professional societies, and lecture nationally and internationally - largely to professional societies of cardiologists and clinical chemists. His most gratifying teaching experience is giving high school students, college undergraduates, and medical students the opportunity to work on projects in his lab. Most of them have gone on to careers or research in medicine or the basic sciences.

## New Highly Cited Researcher's Visit to CEGMR, KAU

The Highly-cited Researcher Programme of the Center of Excellence in Genomic Medicine Research (CEGMR) has incorporated several new highly-cited researchers in its team. The CEGMR's Highly-cited Researcher Programme is aimed at collaborating and working in tandem with scientists and their laboratories that have made highly significant contributions to the advancement of science and technology in past decades.

The new Hi Ci Professors, Prof. Frank Hu, Prof. Ashok Agarwal, Prof. Sudhir Kumar and Prof. Angel Carracedo who are affiliated with CEGMR have visited the center from 27th to 29th of April, 2013 (corresponding to 17/06/1434H – 19/06/ 1434H). They were received by the CEGMR management including Dr. Mohammed H. Al Qahtani (CEGMR Executive Director) and the Vice Directors: (Dr. Adel Abuzenadah and Dr. Adeel Chaudhary). The two days visit was commenced by group meetings involving the CEGMR researchers' affiliates with each one of the Hi Ci Professors followed by cutting edge seminars given by all the

new Hi Ci Professors. They met Prof. Adnan Zahed, Vice President for Graduate Studies and Scientific Research, to discuss aspects of mutual cooperation in scientific research in line with KAU's policy of seeking to provide a high-quality education and taking advantage of the capacity and expertise of other local and foreign universities and scientists.

## Prof. Frank Hu

Prof. Frank Wu has visited the center as a part of his Hi Ci visit to the KAU on the 27th of April, 2013. He has presented a scientific seminar on "Gene-Diet Interaction and Risk of Obesity & Diabetes". Prof. Frank Hu graduated with a Medicine degree from Tongji Medical University in Wuhan, China (1988). He later on finished both his M.P.H. (1994) and Ph.D (1996) degree at the University of Illinois at Chicago School of Public Health, USA.

Currently, Prof. Frank Hu is the Director of the Boston Obesity Nutrition Research Center (BONRC) Epidemiology and Genetics Core. Among the notable list of his other current assignments are: Co-Director of The Donald and Sue Pritzker Nutrition and Fitness Initiative, HSPH (since 2006), Associate Professor of Medicine, Harvard Medical School and Brigham and Women's Hospital (since 2006) and Professor of Nutrition and Epidemiology, Harvard School of Public Health (since 2008).

Prof. Frank Hu's research has focused on obesity and diabetes epidemiology in both U.S. and Chinese populations. He is the Principal Investigator of the diabetes component of the Nurses' Health Study, and leads two NIH-funded projects to study biochemical and genetic risk factors for cardiovascular complications among patients with diabetes in the Nurses' Health Study and Health Professionals' Follow-up Study. His group uses an interdisciplinary approach that leverages resources from large cohort studies and integrates novel biochemical and genetic markers into nutritional and lifestyle epidemiologic studies. His group has conducted detailed analyses of dietary and lifestyle factors and risk of diabetes. These findings have contributed to current public health recommendations and policies for prevention of chronic disease. His current research has expanded to investigate complex interactions among nutrition, biomarkers, and genetic factors in the development of diabetes and cardiovascular complications. His group is currently conducting a large genome-wide association study (GWAS) to examine gene-environment interactions in the development of obesity and type 2 diabetes.


In summary, his major research interests are on the following areas: (1) Novel biomarkers and genetic markers for obesity and type 2 diabetes, (2) Gene-environment interactions and metabolic diseases, (3) Novel methods for analyzing nutritional data and disease outcomes, and (4) Nutrition, genetics, and metabolic diseases in Chinese populations.

He has published 370 original publications, 52 reviews, editorials, and commentaries, 13 book chapters, and 1 text book on Obesity Epidemiology. Prof. Frank Hu has also been invited as chairperson and/or key note speaker to numerous conferences and seminars across the globe.

## Prof. Ashok Agarwal

Prof.Ashok Agarwal has visited the center as a part of his Hi Ci visit to the KAU on the 28th of April, 2013. He presented a lecture on "Oxidative Stress and Sperm Chromatin Damage in Male Infertility - An Evidence Based Review". Ashok Agarwal is the Director of the Clinical Andrology Laboratory and Reproductive Tissue Bank, and the Director of Research at the Center for Reproductive Medicine. He holds these positions at The Cleveland Clinic Foundation, where he is a Professor at the Lerner College of Medicine of Case Western Reserve University and, since 1993, Senior Staff in the Glickman Urological and Kidney Institute, Obstetrics-Gynecology and Women's Health Institute, Anatomic Pathology, and Immunology. Dr. Agarwal is also on the faculty of the Cleveland State University and the University of Alabama, Mobile. Dr. Agarwal received his Ph.D. in 1983 from Banaras Hindu University, India. He did his postdoctorate training in Reproductive Biology under a fellowship from The Rockefeller Foundation at Harvard Medical School in Boston, Massachusetts, where he was an Instructor in Surgery and then an Assistant Professor of Urology at Harvard Medical School from 1988 to 1993. Dr. Agarwal is a board certified Clinical Laboratory Director in Andrology by the American Board of Bioanalysis and an Inspector for the College of American Pathologists "Reproductive Laboratory Program" for accreditation of Andrology & IVF Laboratories. He served as the Chairman of Board of the American College of Embryology from 2009 to 2012. Dr. Agarwal is selected to "International Who is Who Historical Society", "International WHO'S WHO of Professionals", "Marquis Who is Who" and "Strathmore's Who's Who". He was the recipient of 2011 Innovator Award for the development of "Remote Sperm Banking Kits" from the Cleveland Clinic Innovations, a recipient of 2011 Star Award from the American Society for Reproductive Medicine and the 2011 "Scholarship in Teaching Award" from the CASE Medical School for his innovative Summer Internship Course.

Dr. Agarwal has published over 500 scientific papers and review articles in peer reviewed scientific journals, authored over 100 book chapters, and presented over 700 papers at both national and international scientific meetings. Dr. Agarwal is currently an editor of 14 medical text books/ manuals related to male infertility, ART, fertility preservation, DNA damage and antioxidants. He is the guest editor of 4 special journal issues. He is a member or office bearer of several professional societies including: American Society for Reproductive Medicine, American Society of Andrology, American

Urological Association, Society for the Study of Male Reproduction and Society for the Study of Male Reproduction and Urology. Dr. Agarwal is on the Editorial Board of Andrology, Andrologia, Asian Journal of Andrology, Bulgarian Medicine, Clinics, European Urology Review, Fertility and Sterility, Human Andrology, Human Fertility, Indian Journal of Experimental Biology, International Brazilian Journal of Urology, International Journal of Biotechnology and Bio Sciences, Journal of Clinical Embryology, Journal of Reproductive and Stem Cell Biotechnology, National Journal of Andrology, Chief Editor: Open Reproductive Science Journal, Section editor: Reproductive BioMedicine Online, Reproductive Biology &

Endocrinology and Translational Medicine: Current Research - Open Access.

He is also an ad hoc reviewer for over 50 scientific journals. Dr. Agarwal is active in basic and clinical research and his laboratory has trained more than 150 basic scientists and clinical researchers from the United States and abroad. In addition, over 150 medical, undergraduate, and high school students have worked in his laboratory. Dr. Agarwal has been invited as a guest speaker to over 25 countries for important international meetings. He has directed more than a dozen ART and Andrology Laboratory Workshops and Symposia in recent years. His laboratory has provided hands on training to over 100 candidates in Andrology laboratory and ART techniques. Dr. Agarwal is the Program Director of the highly successful Summer Internship Course in Reproductive Medicine. In the last 5 years, over 100 pre-med and medical students from across the United States and overseas have graduated from this highly competitive program.

Dr. Agarwal is the recipient of 85 research grants. His current research interests include studies on molecular markers of oxidative stress, DNA integrity, and apoptosis in the pathophysiology of male and female reproduction, effect of radio frequency radiation on fertility and fertility preservation in patients with cancer.

## Prof. Sudhir Kumar

Prof.Sudhir Kumar has visited the center as a part of his Hi Ci visit on the 28th of April, 2013 and presented a lecture on "Phylomedicine: Evolutionary Lessons and Solutions for Genomic Medicine". Sudhir Kumar leads a team of interdisciplinary scientists who are developing new computer-based methods of studying and analyzing the tens of thousands of genes in humans and related species, enabling researchers to learn their functions and origins. Dr. Kumar is a renowned expert in the field of evolutionary bioinformatics, who received an Innovation Award in Functional Genomics from the Burroughs-Wellcome Fund in 2000. In 2004 he joined the elite ranks of most-cited researchers, being among the top ten in number of citations in the field of computer science over the last decade. Among his more than 120 papers and books are four ?Hot Papers? Which were cited among the most of any in their fields, and three of his papers were designated? Current Classics?.

Dr. Kumar is an interdisciplinary scientist who merges the problem-solving skills from his undergraduate engineering background with his knowledge of evolutionary genetics from his doctoral work to tackle long-standing questions in personalized medicine and evolutionary genomics. He has made pioneering efforts in developing bioinformatics tools and databases for the analysis of gene expression patterns from early stages of the fruit fly development. He has also conducted breakthrough work using protein molecular clocks to illuminate the Evolutionary Timescale of Life. Over the last decade, Dr. Kumar has led the team that developed the Molecular Evolutionary Genetics Analysis (MEGA) software in order to make useful methods of comparative sequence analysis easily accessible to the scientific community for research and education. His research is funded by National Institutes of Health and National Science Foundation, among other agencies.

Dr. Kumar is professor of biology at ASU, where he teaches undergraduate-level evolutionary biology/evolutionary medicine and graduate-level evolutionary genomics classes. He is a standing member of the NIH review panel and a member of many journal editorial boards, including Molecular Biology and Evolution, Evolutionary Bioinformatics Online, Molecular and Developmental Evolution, and Quarterly Review of Biology. Dr. Kumar is currently a member of the American Association for the Advancement of Science (AAAS) and founding fellow of the Arizona Arts, Sciences and the Technology Academy. He holds degrees in genetics (doctoral), biological sciences (masters) and electrical & electronics

## Prof. Angel Carracedo

Prof.Angel Carracedo's (AC) has visited the center as a part of his Hi Ci visit on the 29th of April, 2013 and presented a lecture on "Searching for genes involved in colorectal carcinoma using genomic tools" In a first step of his career AC activity was mainly devoted to population and forensic genetics, becoming an outstanding forensic geneticist, pioneering the use of new technologies in forensic identification and creating a center where visiting scientists from all over the world are trained. His group leads scientific production in the SCI area of legal and forensic science worldwide (http://sciencewatch.com/ana/fea/11julaugFea).

Director of the Institute of Legal Medicine (USC) from 1995. From 2002 he has been working also in the clinical genetics area where he has set up the Galician Foundation of Genomic Medicine. This center is carrying out most of the molecular genetics and cytogenetic analysis requested by the Galician system of Health, covering a population of 3.5 million inhabitants and being one of the most important public genetic services in Spain (with more than 25000 cases diagnosed per year including Mendelian traits, cancer genomics, prenatal diagnosis and pharmacogenomics) . AC with other colleagues from Barcelona and Madrid has implemented the Spanish

National Genotyping Center (2002) (actually he is the coordinator of this center under the umbrella of the ISCIII).The research activity of his group in integrated into the Spanish Network Center for Rare Diseases (CIBERER). Most of AC recent research is now mainly concentrated in the genetics of Mendelian and complex traits (particularly on sudden cardiac death, colorectal and breast cancer, psychiatric diseases and pharmacogenomics).

AC has published 10 books and over 450 papers in SCI journals, the majority in Clinical and Molecular Genetics, (Nature, Nature Genetics, Science, PNAS, Oncogene, Human Mutation, Human Molecular Genetics), Biochemical separation methods (Electrophoresis, Biotechniques, Clinical Chemistry), Human Population Genetics (American Journal of Human Genetics, Gene, European Journal of Human Genetics, American Journal of Physical Anthropology, Human Heredity) and specially Forensic Science (Forensic Science International: Genetics, International Journal of Legal Medicine) (See PubMed Carracedo A) (H index 50).

Regularly invited as a keynote speaker at meetings, workshops and symposia in virtually all European and North & South American countries, Japan, Australia and other countries. Board member and external adviser of different national and international institutions, foundations and societies on Forensic Science (I,e IALM, ISFG, MAFS), Genetics, Cancer and Pharmacogenomics. Director of 70 Ph.D's all with the highest qualification and 18 with University or National Awards.

Representative of Spain in the European Medicine Agency (Pharmacogenetics Working Group) and different regulatory boards (i.e. IRDiRC, ICRC, Forensic DNA Regulator UK ). Participation in a number of national and international networks and consortia (STADNAP, RIGEMAMEF, RGBio,SNPforID, RGEPs, RECAVA, Red Nacional Bioinformática médica, EPICOLON, RGCCR, HVP, GOGENT,CHIBCHA, LACE,EUGEI, EUROFORGEN,GEUVADIS, HELIX, among others) Coordination of the Country Node (Spain) for the Human Variome Project

Editor of Forensic Science International Genetics and member of the editorial board of a number of the international and national journals on genetics, cancer and forensic science.

Prizes and distinctions: Jaime I Award, Adelaide Medal, Galien Medal, Medal Castelao, Medal of Galicia, Medal to the Police merit, Galician Prize of Research, Fernandez Latorre Award, and various prizes from foundations and scientific societies. Doctor Honoris Causa for different universities in Europe and the Americas.

## Joining of New Staff

### Dr. Muhammed Abu-Elmagd

Associate Professor in Developmental Biology and Cancer Therapy

At the CEGMR, Dr Abu-Elmagd's research will be focussing on exploring changes in gene activity patterns and regulation during embryonic development and in cancer aiming to find clues that would help in cancer therapy.

Dr Abu-Elmagd's research focuses mainly on studying gene expression and regulation during early embryonic development aiming to understand the molecular mechanisms which control early embryonic development. He is especially interested in studying pivotal early embryonic events such as the nervous system (neurogenesis), skeletal muscle (myogenesis) and heart (cardoigenesis) formation using different embryonic model systems such as chick and mouse embryos. Dr Abu Elmagd published all his work in outstanding international journals. During his PhD in Professor Scotting's lab, he was able to identify and show that Sox3 is the earliest known marker during the induction of neural cell precursors (epibranchial placodes) which participate in sensory ganglia formation. In addition, he collaborated on a number of projects to show the role of other Sox genes (Sox4, Sox10 & Sox11) during nervous system development in chick and mouse embryos. As a Senior Research Associate, Dr Abu Elmagd showed an interested in studying cell signalling research during early embryonic development especially Wnt and FGF signalling. He was able to show in Dr Wheeler's lab at UEA that Wnt receptors Frizzled7 and Frizzled10 mediates neural crest induction and promotes sensory neuron development respectively. In

addition, he showed with other colleagues that three Matrix Metalloproteinases are required during macrophages migration. In Professor Munsterberg's lab at UEA, Dr Abu-Elmagd extended his interest in study cell signalling to explore the early skeletal muscle formation and showed that Wnt signalling regulates myogenesis via Lef1/Pitx2 interaction. After that, he was interested in identifying new players in myogenesis and showed that a number of microRNAs such as mir-133, mir-206 and mir-455 are key molecules that control skeletal muscle and cartilage formation (chondrogenesis).

At the CEGMR, Dr Abu-Elmagd's research will be focussing on exploring changes in gene activity patterns and regulation during embryonic development and in cancer aiming to find clues that would help in cancer therapy.

## CEGMR Research Publications in International Peer Reviewed Journals

### A Research Paper was published in the Journal of Translational Medicine by Ms. Huda Banni

CEGMR would like to congratulate Ms. Huda Abdulrehman Banni, an assistant researcher and one of the founding members of DGMU, for publishing her research in the September issue of the Journal of Translational Medicine, a high impact factor, ISI journal. After recently completing her Master's degree successfully in collaboration with the University of Bristol, UK, she published as a co-first author of her research entitled: Five novel glucose-6-phosphate dehydrogenase deficiency haplotypes correlating with disease severity.

Mrs. Huda received praise and appreciation from the CEGMR executive board members, her supervisor Dr.Ashraf Dallol and her international collaborators; Dr. Wael Kafienah and Prof. Jeff Bidwell. We wish that Mrs. Huda will continue to progress and contribute to scientific research in the milieu of personalised medicine.

### Dr.Peter Natesan Pushparaj has published high impact research articles in ALLERGY and IMMUNOLOGY Journals

Komai-Koma, M, Brombacher, F, **Pushparaj PN**, Arendse B, McSharry C, Alexander J, Chaudhuri R, Thomson, NC, McKenzie ANJ, McInnes, I, Liew FY, Xu D **(2012). Interleukin-33 amplifies IgE synthesis and triggers mast cell degranulation via interleukin-4 in naive mice.** ALLERGY 67: 1118–1126 (doi:10.1111/j.1398-9995.2012.02859.x)


**(ISI 2012 Journal Citation Report Impact Factor: 5.883)**
**Journal Ranking: Number Two in the World (2/23) in Allergy and 19/135 in Immunology in terms of Impact Factor**

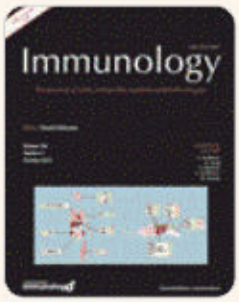
**Pushparaj PN**, Li D, Komai-Koma M, Guabiraba R,1 Alexander J, McSharry C, Xu

D (2013). **Interleukin-33 exacerbates acute colitis via interleukin-4 in mice.** **IMMUNOLOGY**. 140:70-77.

(doi:10.1111/imm.12111)

**(ISI 2012 Journal Citation Report Impact Factor: 3.705)**

**Journal Ranking: 42/135 in Immunology in terms of Impact Factor**




## CEGMR Representation at KAU Oncology Conference 2013

The Faculty of Medicine and the Research Endowment Fund (REF) have organized KAU Oncology Conference 2013. The conference was inaugurated by President of King Abdulaziz University (KAU), Prof Osama S. Tayeb, on Tuesday January 15th, 2013 at King Faisal Convention Centre.

As the center of excellence in genomic medicine research (CEGMR) has been always a part of all important events at KAU, it also participated as expected in the activities of the third day of the conference which included an exhibition for stands and booths representing different departments of KAUH and KFMRC. The exhibition was held on Thursday 17th of Jan 2013 at King Faisal Convention Centre.

A number of CEGMR staff represented the center at the two stands organized in both male and female sections of the exhibition. CEGMR staff introduced the research and diagnostic activities and services of CEGMR and also they shed the light on the different cancer research groups established at CEGMR. In addition the exhibition included distribution of CEGMR newsletters and brochures introducing workshops and training programs conducted yearly at CEGMR.

## Thomson Reuters Scientific Seminar Organized by CEGMR/KAU

Thomson Reuters and KAU had organized a scientific seminar on the Functional Analysis of High Throughput Data in Human Diseases, Personalized and Traditional Medicine on 5th February, 2013 at CEGMR. Dr.Mohammed Al Qahtani, CEGMR Executive Director had given the opening remarks and introduced the speaker Dr. Yuri Nikolsky - Vice President Research & Development at Thomson Reuters. He had presented scientific seminar on the Pathway Analysis to Extract Biological Significance from High Throughput Data: The presentation included the Systems Level OMICs data analysis, the "Knowledge base": Data Annotation, Semantics and Quality, Systems Level OMICs data analysis using Case Studies on Pathway Analysis

# THOMSON REUTERS & KAU* - SCIENTIFIC SEMINAR

## Functional analysis of high-throughput data in human diseases, personalized and translational medicine

THOMSON REUTERS IP & SCIENCE

THOMSON REUTERS

and Causal Networks and Cross-data type analysis of NGS and other OMICs data in cancer. The seminar was followed by question and answer (Q&A) session and concluded by a talk given by the CEGMR Director Dr. Mohammed Al Qahtani.

## Introduction of Weekly Scientific Seminars by CEGMR

CEGMR is very proud to introduce weekly scientific seminars presented by junior researchers in field of personalized medicine, functional genomics and proteomics. The junior staff presents their research work at the King Fahd Medical Research Center (KFMRC) - new basement theater on Monday at 1.30 pm.

Ms. Shireen Hussain presented a seminar on "Mutations: Breast Cancer Susceptibility" and Ms.Roaa Daini presented a seminar on "The Relevance of VDR polymorphism and breast cancer in Saudi women" on Monday 17/12/2012 (corresponding 4/2/1434).

Ms.Samira Daini presented a seminar on "Introduction to immunohistochemistry and breast cancer biomarker" on Monday 07/01/2013 (corresponding 25/2/1434). Ms. Maha Al-Quaiti and Ms.Fai Tala presented a seminar on "CGH microarray technology: Overview " on Monday 28/01/2013 (corresponding 16/03/1434).

Ms. Asmaa Al-Attas presented a seminar on "Molecular Marker in Colorectal Cancer " on Monday 04/02/2013 (corresponding 23/3/1434). Ms."CEGMR Biobank Establishment and acheivments " Ms. Wafa Abu-Nuqairah and Ms. Hanan Basheer on Monday 11/02/2013 (corresponding 01/04/1434).

Mr.Hani Rashed presented a seminar on "Embryology and Stem Cells Seen from a Different Angle" on Wednesday 20/02/2013 (corresponding 10/4/1434). Ms.Samah Al Layati presented a seminar on "Flow cytometry in CEGMR and its application" and it was presented by Ms. Samah AL-Layati on Monday 04/03/2013 (corresponding 22/04/1434).

Mr. Wajdi Samrgandi presented a seminar on "Monitoring the Chemical hydroxylation of complex phenolic compounds by mass spectrometry MS "on Wednesday 11/03/2013 (corresponding 29/4/1434).

Ms. Rawan Maimani and Ms. Zainab Allala presented a seminar on "Analysis DMD gene in Saudi Arabia" on Monday 18/03/2013 (corresponding 06/05/1434).

Ms. Shylu Mathew presented a seminar on "Biomarker discovery in colon cancer cases from Saudi Arabia" on Monday 25/03/2013 (corresponding 13/05/1434).

Readers should feel free to write their views, opinions and feelings directly to the Editor by email: cegmr.info@kau.edu.sa