

# Curriculum Vitae

*I am a Doctor of Medicine (pharmacology) with more than eight years of medical education and clinical research experience. My research interests include integrated approach to clinical therapeutics by utilizing pharmacogenomics tools with special focus on diabetes, cardiovascular and respiratory disorders; search for novel biomarkers; and exploration of cellular/molecular pathways for novel therapeutic targets.*

## PERSONAL INFORMATION

### Dr. Misbahuddin

📍 Faculty of Medicine, Rabigh campus, King Abdulaziz University, Jeddah 21589, PO Box 80200, Kingdom of Saudi Arabia

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✉ drmisbah98@gmail.com, marafeeq@kau.edu.sa

Male | Date of birth 10/04/1981 | Indian

**SCHOLARLY PROFILES** <https://orcid.org/0000-0002-7219-9149>, <http://www.researcherid.com/rid/D-7339-2012>  
[https://scholar.google.com/citations?user=LS4G3\\_UAAAAJ](https://scholar.google.com/citations?user=LS4G3_UAAAAJ) <HTTP://WWW.IAOMC.ORG/>

## WORK EXPERIENCE

November  
2010 –  
present

### Assistant Professor

*Department of Pharmacology, Faculty of Medicine in Rabigh, King Abdulaziz University, Saudi Arabia*

- Planning & delivering lectures / tutorials, flip class, SDL, CBL and PBL sessions
- Teaching general pharmacology core course and systemic pharmacology courses, Codes (PHAM311, SYS-22, SYS-324, SYS-325, SYS-326, SYS-327, SYS-329)
- Coordinating and conducting the modules and examinations / Assessments
- Giving inputs in designing study guides, student feedback and course evaluation forms
- Deep understanding of traditional, integrated, Theme based and PBL curricula
- Writing research proposals and reports and guiding students on short term research projects

**Sector:** Academia, Ministry of Higher Education, Saudi Arabia

August  
2009 –  
October  
2010

### Senior Resident / Demonstrator

*Department of Pharmacology, Faculty of Medicine, Aligarh Muslim University, India*

- Teaching, assessment & orientation of medical students
- Developing lesson plan, Seminars and Journal / Therapeutic clubs
- Giving inputs in research projects and strategic planning, Student counselling
- Management of out-patient Diabetes, hypertension, dyslipidemia & metabolic syndrome

**Sector:** Academia, Central Government Teaching Hospital, India

December  
2004 – June  
2006

### General Medical Officer

*Radharani Hospital, a private healthcare clinic, Aligarh, India*

- OPD and IPD clinics, Initial assessment, investigation and admission of the patient
- Follow-up of the management, referral and discharge of admitted patients

**Sector:** Healthcare, Private Hospital, India

## EDUCATION, TRAINING & CERTIFICATIONS

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- July 1998 – Oct 2003**     **Bachelor of Medicine and Bachelor of Surgery (MBBS)**  
Faculty of Medicine, Aligarh Muslim University, India
- 4.5 years full time taught degree course with basic medical and clinical sciences
- Nov 2003 – Nov 2004**     **Rotatory Hospital Internship**  
J N Medical College & Hospital, Faculty of Medicine, Aligarh Muslim University, India
- Assisting the Consultant and residents in overall management of patients
  - Collecting blood, urine and other biological samples; and administering injectable medication
  - Participating in the scientific activities organized by the department
  - 4 weeks posting as Asst. Casualty Medical Officer
- June 2006 – June 2009**     **Doctor of Medicine (MD)**  
Faculty of Medicine, Aligarh Muslim University, India
- 3 year full time residency training program with thesis and exit exam
  - Rotatory postings in Experimental, Clinical Pharmacology and Pharmacy and Alternative Labs
  - Seminars, journal & therapeutic clubs and 1 month posting in Emergency & Accident
  - Assigned Undergraduate teaching activities
- August 2014**     **ESP Fellowship for Research Training in Genetic Epidemiology**  
Erasmus Medical Centre, NIHES, Netherlands
- Sep 2015 – Dec 2015**     **ESME Certificate in Medical Education**  
AMEE, Dundee, UK
- April 2018**     **Certified Basic Life Support (BLS) & Advanced Cardiovascular Life Support (ACLS) Provider**  
American Heart Association, USA

**RESEARCH GRANTS** (Total funding: 2429930 Saudi Riyal)

<b>Title of the project (Grant No.)</b>	<b>Role</b>	<b>Funding Organization</b>	<b>Amount (SAR)</b>	<b>Year</b>
Effects of Genetic Polymorphisms in the SREBP-SCAP pathway on lipid lowering response to rosuvastatin in metabolic syndrome patients in Saudi Arabia (ARP-129-34)	PI	King Abdulaziz City for Science & Technology	1360000	2015
A retrospective pharmaco-epidemiological study of drug utilization pattern of antidiabetic drugs.(G-69-828-37)	PI	Deanship of Scientific Research, King Abdulaziz University	45000	2016
Exploration of the potential protective effect of <i>Paradol</i> compound from Ginger extract in an experimental model of inflammatory bowel disease in rats (G-128-828-1438)	PI	Deanship of Scientific Research, King Abdulaziz University	49000	2016
Evaluation of blood Osteoprotegerin as a biomarker for Inflammatory Bowel Disease (G-103-828-39)	PI	Deanship of Scientific Research, King Abdulaziz University	52930	2018
Comparative clinical evaluation of rosuvastatin and a combination of atorvastatin and ezetimibe in metabolic syndrome and its pharmacogenetic analysis	MD Thesis	Aligarh Muslim University	-	2009
Effects of inhaled roflumilast or formoterol alone and in combination with fluticasone on airway response and hyper-reactivity in murine model of asthma (ARP-64-34)	Co-I	King Abdulaziz City for Science & Technology	795000	2015
Pattern of use and awareness of contents, benefits and adverse effects of energy drinks among university students in rabigh city, western Saudi Arabia (828/287/D1435)	Co-I	Deanship of Scientific Research, King Abdulaziz University	10000	2014
The potential therapeutic effects of loop diuretics in ovalbumin-induced asthma in mice (G-43/828/1438)	Co-I	Deanship of Scientific Research, King Abdulaziz University	59000	2016
Urinary calprotectin level as a non-invasive biomarker in healthy and diabetic youth: a community-based analytical study. (G-67/828/1438)	Co-I	Deanship of Scientific Research, King Abdulaziz University	59000	2017
Exploration of cognitive and neuroimaging abnormalities as potential endophenotypes in treatment- naïve and treated Saudi patients with schizophrenia	RA	King Abdulaziz City for Science & Technology	Under Review	2017
The potential protective effects of <i>Saussurea lappa</i> L. root extract and its major component, costunolide, in experimental and human	RA	King Abdulaziz City for Science & Technology	Under Review	2017

inflammatory bowel disease				
Phospholipidomic recognition as potential biomarkers in psychotic disorders in Saudi patients	Co-I	King Abdullah International Medical Research Centre	Under Review	2018

## PUBLICATIONS (35)

### Research Articles

- **Rafeeq MM**, Habib HS, Murad H, Gari MA, Gazzaz ZJ. Effect of genetic polymorphisms in SREBF-SCAP pathway on therapeutic response to rosuvastatin in Saudi MetS patients. *Pharmacogenomics* 2018; 19(3): 185-196. [PMID: 29318930](#) (**IF:2.35**)
- **Rafeeq MM**, Murad HAS, Gazzaz ZJ, Sain ZM. Anti-diabetic drug utilization pattern in a government hospital in Saudi Arabia. *Trop J Pharm Res* 2018; 17(6): (**IF:0.57**)
- Murad HAS, Ghabrah MT, Shakir SA, **Rafeeq MM**. Subdiuretic dose of furosemide enhances albuterol effects in asthmatic mice rather than bumetanide. *Allergologia et Immunopathologia* May 2018 (Accepted) (**IF:1.51**)
- Murad HAS, **Rafeeq MM**, Malatani NN. Effects of Candesartan and Losartan on Thioacetamide induced low grade Renal Dysfunction in Rats. *Int J Pharmacol* June 2018 (Accepted) (**IF:1.5**)
- Murad HA, Habib HS, **Rafeeq MM**, Sulaiman MI, Abdulrahman AS, Khabaz MN. Co-inhalation of roflumilast, rather than formoterol with fluticasone more effectively improves asthma in mice. *Experimental Biol Med* 2017;242(5):516-526. [PMID:28056550](#) (**IF:2.68**)
- **Rafeeq MM**, Habib HS, Murad H, Gari MA, Gazzaz ZJ. Effect of rosuvastatin on dyslipidemia and other parameters associated with metabolic syndrome in Saudi patients. *Niger J Clin Pract* 2017;20(4):445-53. [PMID:28406125](#)(**IF:0.61**)
- **Rafeeq MM**, Murad HAS. Evaluation of drug utilization pattern for patients of bronchial asthma in a government hospital of Saudi Arabia. *Niger J Clin Pract* 2017;20(9):1098-1105. [PMID: 29072231](#)(**IF:0.61**)
- Murad HA, Habib HS, **Rafeeq MM**, Sulaiman MI, Abdulrahman AS, Khabaz MN. Therapeutic effects of coinhaled roflumilast and fluticasone on asthma-induced ultrastructural changes in murine airways. *Trop J Pharm Res* 2017;16 (11):2637-2644 (**IF:0.57**)
- **Rafeeq MM**, Ahmad F, Rahman SZ, Siddiqi SS, Shakeel S. Effect of a Single Nucleotide Polymorphism in SCAP Gene on lipid lowering response to Rosuvastatin in Indian patients with Metabolic Syndrome. *Pharmacogenomics* 2016; 17(18):2015–2024. [PMID:27885915](#) (**IF:2.35**)
- Murad HA, **Misbahuddin M**. Pattern of use and awareness of contents, benefits and adverse effects of energy drinks among university students in Rabigh, Saudi Arabia. *Biomed Res* 2016; 27 (2):458-464 (**IF:0.23**)

- Siddiqi SS, **Misbahuddin**, Ahmad F, Rahman SZ, Khan AU. Dyslipidemic drugs in metabolic syndrome. *Ind J Endocrinol Metab* 2013;17:472-9. [PMID:23869305](#) (**IF:0.62**)
- Mohiuddin M, Jaleeli KA and **Misbahuddin**. Evaluation of the relationship between lung function and anthropometric parameters in normal healthy volunteers and sport persons. *Int J Biol Pharm All Sci*, 2013, 2(12): 2257-2266
- **Misbahuddin**, Mohiuddin M and Wali AM. Protective effect of vitamin E treatment on cold restraint induced oxidative stress in rats. *Ind J Fundamen App Life Sci* 2013; 3 (4): 116-120
- Elewa KA, **Rafeeq MM** and Mohiuddin M. Effect of vitamin D supplementation on cold restraint induced oxidative stress in rats. *Afr J Pharm Pharmacol*. 2012. Vol. 6(41), pp. 2880-2883.
- **Mohammad M**, Ahmad F, Rahman SZ, Gupta V, Salman T. Knowledge, Attitudes and Practices of Bioethics among Doctors in a Tertiary Care Government Teaching Hospital in India. *J Clinic Res Bioeth* 2011; 2:118
- **Misbahuddin**, Gupta V, Mehdi SM, Yogesh KK, Meshram G, Ahmad F. Drug Utilization Pattern in a Pediatric High Dependency Unit of a tertiary care government teaching hospital in India. *Indian J. Pharm. Pract.* Oct-Dec 2009; 2(4)

#### Review Articles

- Murad HAS, Tayeb HO, **Rafeeq MM**, Tarazi FI. Pharmacotherapy of Schizophrenia: Towards a Metabolomic-Based Approach. *CNS Spectr* 2018 Jun 5:1-6 (**IF: 3.58**)
- **Rafeeq MM**, Murad HAS. Cystic Fibrosis: current therapeutic targets and future approaches. *J Transl Med* 2017; 15:84. [PMID:28449677](#) (**IF: 4.26**)
- **Mohammad M** and Habib HS. Pannexin channels: the novel therapeutic targets. *Curr Drug Targets* 2014; 15: (3) 72-80. [PMID:24041333](#) (**IF: 3.34**)

#### Case Report

- Singh NK, Haleem S, Gupta V, Ansari MM, Khan AQ, **Mohd MU**. Tramadol induced seizure. Is Isoniazid the culprit. *Neurosciences*. 2009;14(3):294-5. [PMID:21048636](#)

#### Book Chapter

- Rahman, SZ; Khan RA, Gupta V, **Misbah Uddin**. "Chapter 2: Pharmacoenvironmentology – Ahead of Pharmacovigilance". In Rahman SZ, Shahid M & Gupta A. An Introduction to Environmental Pharmacology (1st ed.). Aligarh, India: Ibn Sina Academy of Medieval Medicine and Sciences. 2008. pp. 35–52. ISBN 978-81-906070-4-9.

#### Commentary

- Rahman, SZ; Khan, RA; Gupta, V; **Uddin, Misbah**. "Pharmacoenvironmentology – A Component of Pharmacovigilance". *Environmental Health* 2007; 6:20. [PMID:17650313](#)(**IF:4.15**)

## E-poster

- Hussam A.S. Murad, Hamed A.S. Habib, **Misbahuddin Rafeeq**, Mansour Sulaiman, Amer A.S. Abdulrahman, Mohamad-Nidal Khabaz. Impact of combined inhalation of Roflumilast or formoterol plus fluticasone on matrix metalloproteinase-9 and its inhibitor in ovalbumin-asthmatic mice

## Abstracts

- Hussam A.S. Murad, Hamed A.S. Habib, **Misbahuddin Rafeeq**, Mansour Sulaiman, Amer A.S. Abdulrahman, Mohamad-Nidal Khabaz. Effects of Co-inhalation of Roflumilast or Formoterol plus Fluticasone on Inflammatory Mediators and White Cell Counts in Blood in Asthmatic Mice. *FASEB J* 2017;31:1(Suppl), lb631 (**IF:5.49**)
- **Misbahuddin Rafeeq**, Hamed Habib, Hussam Murad, Mamdouh Gari, Zohair Gazzaz. Rosuvastatin therapy for dyslipidemia and other associated parameters in Saudi metabolic syndrome patients. *FASEB J* 2017;31:1(Suppl), lb630 (**IF:5.49**)
- Ishrat Jahan Saifi, Km Neelofar, **Misbahuddin Mohammad** and Sheelu Shafiq Siddiqi. Impact of glycation on human serum albumin and its role in diabetes mellitus. *J Diabetes Metab* 2017, 8:1(Suppl). DOI: 10.4172/2155-6156.C1.063
- **Misbahuddin Rafeeq**, Hamed Habib, Hussam Murad, Mamdouh Gari, Zohair Gazzaz. Association of atherogenic index of plasma (AIP) with non-lipid parameters, and influence of SREBP-SCAP pathway genetic polymorphisms on AIP reduction by rosuvastatin therapy in Saudi metabolic syndrome patients. *Endo Pract* 2018;24:Suppl 1. <https://doi.org/10.4158/1934-2403-24.1.1A> (**IF:2.07**)
- Hussam A.S. Murad, Hamed A.S. Habib, **Misbahuddin Rafeeq**, Mansour Sulaiman, Amer A.S. Abdulrahman, Mohamad-Nidal Khabaz. Impact of combined inhalation of Roflumilast or formoterol plus fluticasone on matrix metalloproteinase-9 and its inhibitor in ovalbumin-asthmatic mice. Proceedings, 9<sup>th</sup> Annual European Pharma Congress, Spain 2017
- **Misbahuddin Rafeeq**, Hussam Murad, Shoeb Ahmad. Rational Therapeutics: The ‘Omics’ Perspective. Proceedings 9th Annual Conference of ISRPTCON 2017
- **Misbahuddin Mohammad Rafeeq**. Effect of single nucleotide polymorphism on lipid lowering response to rosuvastatin in insulin resistance syndrome. *Proceedings: 2nd World Congress on Diabetes & Metabolism*. USA 2011
- **Misbahuddin**, Rahman S Z, Coma: An ADR of Antiretroviral therapy. *proceedings: 7th Annual Conference of Society of Pharmacovigilance India*, Oct 2007, NIMS, Jaipur
- Gupta V, **Misbahuddin**, Rahman SZ. European Union and FDA guidelines on the environmental risk assessment of medicinal products for human use. *Conference proceedings on National Symposium on Pharmacovigilance for Indian System of Medicine* 2006.
- **Misbahuddin**, Rahman SZ, Gupta V, Salman MT. Bioethics In Clinical Research: The Indian Scenario (Abstarct). *Ind J Pharmacol* 2006;38 (Supplement), S87
- **Misbahuddin Mohd Rafeeq**, Mohammad Mohiuddin & Khaled Abd-Elsater Elewa. Vitamin D

supplementation on oxidative stress in animal models, *Proceedings: 1st Annual Conference of APPICON-UP*, India 2012

- **Misbahuddin**, Rahman S Z, Varun Gupta “Unani Medicine Approach in HIV/AIDS”. *Proceedings: 3rd International Congress on Traditional Medicine and Materia Medica*, Malaysia 2007

## REVIEW OF ACADEMIC / ADMINISTRATIVE WORK

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- *Research Article*: Development of an ICT-based framework towards sustainable optimal diabetes management in Nigerian health sector, Journal: *Informatics in Medicine Unlocked*, Elsevier 2018
- *Research Article*: Delphi poll to assess consensus on issues influencing long-term adherence to treatments in cystic fibrosis among Italian healthcare professionals. Journal: *Patient Preference and Adherence*, Dove Press 2018
- *Research Article*: Classification of Coronary Artery Disease and Normal Subjects Using Multi-Channel Phonocardiogram Signal. Journal: *Computers in Biology and Medicine*, Elsevier 2018
- *Research Article*: Pharmacist’s Knowledge, Attitude and Practices towards Written Prescription in Dispensing and Substitution of Drugs in Riyadh (Saudi Arabia), *Majmaah Journal of Health Sciences* 2015
- *Research Project Grant*: Assessment of Medication Use in the Majmaah Community of Saudi Arabia, DSR, Majmaah University, KSA 2013
- *Research Project Grant*: Bioavailability enhancement of poorly bioavailable selective estrogen receptor modulators used in breast cancer with shilajit, KACST 2015
- *Technical Report* for the accreditation of Medical College, University of Sfax, Tunisia 2016

## HANDS-ON WORKSHOPS (16)

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- *1 week course on clinical research*, sponsored by DBT, Govt of India, 2010, Seth GS Medical College & KEM Hospital, Mumbai
- *1 week clinical research training course* sponsored by DBT, Govt of India, 2010, MAMC, New Delhi
- Hands-on Workshop on *Good Clinical Practices (GCP)*, 2010, KEM hospital, Mumbai
- Workshop on “In silico analysis of Biomacromolecules” at Interdisciplinary Biotechnology Unit, 2010, Aligarh
- Workshop on *Therapeutic Drug Monitoring*, 2007, AIIMS, New Delhi
- Workshop on *Genome Analysis, A Bioinformatics Approach*, Sponsored by DBT, Govt. of India, 2007, A.M.U, Aligarh
- Hands-On 4th National Workshop on Basic Techniques in *Molecular Biology* and *Bioinformatics* in *Pharmacogenomics*, 2007, JIPMER, Pondicherry
- National Workshop on *Intellectual Property Rights*, 2007 sponsored by Ministry of HRD, I.I.T, Kanpur

- Short Course in *Biostatistics*: “Clinical trial, Cluster Design and Diagnostic tests” conducted by CMC, Vellore funded by INCLEN, IndiaCLEN and USAID. 2007
- Workshop on *Good Laboratory Practices (GLP)* for Academia, Sponsored by DST, Govt. of India, 2006, AIIMS, New Delhi
- *Management Development Workshop*, IDB Headquarters, Jeddah 2010
- *Medical Education Workshop*, MEU, F/o Medicine, KAU, Jeddah 2011
- Erasmus Summer workshop on *Principles of Research in Medicine*, Erasmus MC, Netherlands 2014
- Erasmus Summer workshop on *Principles of Genetic Epidemiology*, Erasmus MC, Netherlands 2014
- Erasmus Summer workshop on *Genomics in Molecular Medicine*, Erasmus MC, Netherlands 2014
- Erasmus Summer workshop on *Genome Wide Association Analysis*, Erasmus MC, Netherlands 2014

### CONFERENCES /CMEs (21)

- 
- CME on Diseases of Pancreas, 2005, J.N.M.C, Aligarh
  - Midterm Pediatric Gastroenterology, 2005, J.N.M.C, Aligarh
  - National Symposium on Pharmacovigilance for Indian System of Medicine, 2006, A.M.U. Aligarh
  - Traditional Indian Medicine for HIV / AIDS, A Research Agenda Conference, 2006, New Delhi
  - NIH Sponsored Symposium on *Bioethics*, Conducted by ICMR, 2006, K.G.M.U, Lucknow
  - Clinton Foundation Sponsored CME on HIV / AIDS Prevention & Treatment Awareness, 2006, Aligarh, Conducted by NACO & IMA, Approved by MCI.
  - Sensitization Program on PPTCT, 2006, J.N.M.C, Aligarh
  - Symposium on creating awareness on hazards of nuclear weapons, 2006, Aligarh
  - International Symposium on *Herbal Drug Therapy and Research*, 2006 V. P. Chest Institute, New Delhi
  - 40th Annual Conference of Indian Pharmacological Society, Nov 2007, NIPER, Mohali
  - National Symposium for Promotion of *Pharmacovigilance*, an Academia-Industry Synergy Continuum 2007, AIIMS, New Delhi
  - International Conference in Forensic Medicine & Toxicology 2007, India
  - CME on *Medical Ethics: Concepts, Praxis & Gaps* (MCI), 2007 held at J N Med. College, Aligarh
  - Mini International Symposium on *Drug Discovery & Development* Oct, 2007 AIIMS, New Delhi
  - International conference on *translational pharmacology* & 41st Annual Conference of Indian Pharmacological Society, Dec 2008, AIIMS, New Delhi
  - IPSCON Pre-conference traveling symposium on *Current Issues in Clinical research*, 2009, A M U, Aligarh
  - Symposium on Head & Neck Cancer, 2009, J N Med. College, Aligarh
  - CME on Basics of *Clinical research* by Piramal academy, 2009, Aligarh

- National symposium on sports physiology, 2010, JNMC, AMU, Aligarh
- International conference on integrative medicine, Feb 2011, Aligarh
- 1st International conference on genomic medicine, Feb 2011, Kingdom of Saudi Arabia

## MEMBERSHIPS (06)

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- Fellow (overseas), Royal Society of Medicine, UK
- Member, American College of Clinical Pharmacology (ACCP), USA
- Member, American Society of Pharmacology & Experimental Therapeutics (ASPET), USA
- Member, Clinical Research Society (CRS), India
- Member, Society of Pharmacovigilance, India
- Member, Ibsina Academy of Medieval Medicine & Sciences (IAMMS)

## HONOURS AND AWARDS (07)

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- **Bronze prize for best oral presentation** at 15<sup>th</sup> World Congress of Insulin Resistance, Diabetes and Cardiovascular Diseases, *Los Angeles, California, USA*
- **Expert Panel member** of International Association of Medical College (IAOMC) for Accreditation of Faculty of Medicine, *University of Sfax, Tunisia*
- **ESP Fellowship for Research Training in Genetic Epidemiology**, *Erasmus MC, NIHES, Netherlands, 2014*
- **Excellent Leadership Award** (ELA 1431 H) by Islamic Development Bank, 2010
- **Distinguished Achievement Award**, Vice Deanship for Graduate Studies & Scientific Research, Rabigh College of Medicine, KAU 2014
- **Travel award** by IDB to attend international conference at *Malaysia 2007*
- **Islamic Development Bank Merit Scholarship** throughout MBBS, 1998-2003

## PERSONAL SKILLS

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|-----------------------------|---|
| <b>Languages spoken</b>     | ▪ English ( <b>CEFR level: C1</b> ), Hindi / Urdu, working knowledge of Arabic  |
| <b>Communication skills</b> | <ul style="list-style-type: none"> <li>▪ Clear and concise, Good listener</li> <li>▪ Good communication skills achieved through teaching students by interactive lectures</li> <li>▪ Short group discussions, Student forums and college council meetings</li> <li>▪ Presentation and justification of research proposals and departmental reports</li> </ul> |

- Organisational / managerial skills**
- Motivation, Delegation of responsibilities, Creativity, Feedback, Positivity
  - Module coordinator for urinary module, Phase I MBBS curriculum
  - Founder member of a NGO working in slum areas
  - Organization of free health camps and charitable clinic in poverty struck areas
- Job-related skills**
- Traditional, Integrated, Theme based and PBL based curricula teaching skills on multimedia / smart boards
  - Well versed with learning management softwares like *MOODLE, BLACKBOARD, TURNITIN*
  - Formulation of learning outcomes, teaching strategies & alignment with evaluation methods
  - Design of Assessment blueprint, course specs and timetable, conduct module meetings
  - Statistical analysis skills (SPSS), Basics of R
  - Molecular Biology skills e.g. DNA isolation, PCR, Gel Electrophoresis, RFLP, Sequencing
  - Animal experimentation including behavioural, locomotor and respiratory pharmacology.
  - Software based animal simulation experiments for undergraduate teaching
  - Independent Project / Grant writing

## REFERENCES

- **Hussam AS Murad** MBChB, MSc, MD  
  
Professor of Pharmacology and Head of department  
Faculty of Medicine, Rabigh campus  
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- **Syed Z Rahman** MBBS, MD, PhD, MAMS, FIMSA, CMCL-Faimer Fellow  
  
Professor  
Department of Pharmacology, J N Medical College & Hospital  
Aligarh Muslim University, Aligarh 202002, India  
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- **Sheelu S Siddqui** MBBS, MD, DM, PhD  
  
Associate Professor and Director  
Rajiv Gandhi Centre for Diabetes & Endocrinology  
Faculty of Medicine, Aligarh Muslim University, Aligarh 202002, India  
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