***CURRICULUM VITAE***

Dr. Tanvir Ahmad

***Citizenship:*** Pakistani

***Date of birth:*** 29 August 1965

***Current position:*** Deputy Chief Scientist, Head Life Science Group

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***Residence:*** 195-B, lane 18, street 7, Gulraiz-II, Rawalpindi, Pakistan

***Education:*** Ph.D. Biochemistry 2008 PMAS Arid Agriculture University Rawalpindi

 M.Sc. Botany 1990 Punjab University Lahore

B.Sc. Botany, Zoology, Chemistry 1987 Punjab University Lahore

***Job description:*** Presently working at Isotope Application Division of PINSTECH and responsible for routine maintenance and troubleshooting of Isotope Ratio Mass Spectrometers (IRMS) and Laser Water Isotope Analyser (LWIA).

Current assignments include the application of stable isotopes in nutrition, health and diagnostics. The three main areas of interest are:

1. Deuterium dilution method to determine the body composition (body fat) and breast milk intake of infants, and doubly labelled water (deuterium & 18O) method to determine the energy expenditure.
2. 13C breath tests for the diagnosis of various diseases/functions of human body e.g., *Helicobacter pylori* infection in gastritis patients by using 13C urea breath test, gastric emptying time through 13C octanoic acid breath test etc.
3. Use of stable isotopes to determine the bioavailability of micronutrients such as iron and essential amino acids and evaluate the different methods to improve their bioavailability.

***Expert Missions under IAEA Programs:***

Conducted three IAEA expert missions to assist the research teams at Morocco, Senegal and Kuwait in analysis of doubly labelled water (deuterium and oxygen­18 enrichment) by IRMS, helped in making new internal standards, discussed importance and calibration of new internal standards, advised the teams on quality control criteria and data screening, and provided training to the nutrition teams on the calculation of total daily energy expenditure and body composition from doubly labelled water results using an Excel spreadsheet. In addition, the teams were provided hands on training on routine service/maintenance of IRMS.

1. CNESTEN, Rabat, Morocco in October 2015
2. Cheikh Anta Diop University, Dakar, Senegal in July-August 2016
3. Kuwait Institute for Scientific Research (KISR), Kuwait City, Kuwait in January 2024
4. Provided consultancy services to the team at Aga Khan University Hospital Karachi in body composition studies in infants using the deuterium dilution method. The team is involved in an IAEA CRP and saliva samples from the study are also being analyzed here at PINSTECH.

***Current Research expertise:***

1. D2O method for measuring body composition (body fat) and breast milk intake, and doubly labeled water method for determining the energy expenditure.
2. 13C breath tests for diagnosis of *Helicobacter pylori* infection and half gastric emptying time.
3. Use of nuclear techniques in measuring the bioavailability of iron and essential amino acids.
4. Operator training for BreathMAT Plus IRMS at Thermo Finnigan Factory, Bremen, Germany, April 2002.

***National and IAEA projects:***

1. IAEA project RAS/6/073, Using Stable Isotope Techniques to Monitor Situations and Interventions for Promoting Infant and Young Child Nutrition.
2. IAEA project RAS/6/080, Preventing Overweight and Obesity, and Promoting Physical Activity among Children and Adolescents.
3. IAEA CRP-19243, Bioavailability of proteins from plant based diets.
4. PSF project, Prediction of Gastric Cancer in *Helicobacter pylori* Infected Gastric Mucosa.
5. IAEA project PAK/6/018, Strengthening the Infrastructure at PINSTECH to Support the Use of Stable Isotopes in the Evaluation and Optimization of Nutrition Programs in the Country.
6. PAEC project, Commercialization of 13C urea breath test for the diagnosis of Helicobacter pylori infection in gastric disease patients
7. PSF project, Helicobacter pylori in Children: Prevalence and Strain Identification
8. IAEA project RAS/7/014, Use of nuclear techniques for measuring bioavailability in iron fortified wheat flour in Pakistan
9. IAEA project PAK/9940, Establishment and application of deuterium dilution method for measuring breast milk intake in Pakistani infants
10. IAEA project PAK/11530, Application of stable isotopes in determining the body composition and its co-relation with the quality of breast milk in Pakistani malnourished mothers

**Previously worked** at National Institute of Biotechnology & Genetic Engineering (NIBGE) Faisalabad from May 1992 to March 1999. During this period the main involvement was in the application of stable isotope of Nitrogen (15N) in agriculture. Also participated in the preparation of a biofertilizer (BioPower) for legumes and conducted many lab and field trials to investigate the host specificity and effectiveness of different rhizobial strains on various legume hosts.

***Other facts:***

Have a good knowledge of hardware and different software packages such as word processors, spreadsheets, statistical analysis, graphics, photo editing etc. and keen interest in instrumentation and electro-mechanics.

Contributed in around 30 national / international papers with impact factor of about 33 and having more than 600 citations.