

Curriculum Vita



Meritorious Professor Dr. Syed Arif Kamal

PARENTS

Syed Ishtiaq Raza, an educationst, and **Asia Begum**

DATE OF BIRTH

Wednesday, Shawwāl-ul-Mukarram 14, 1375 AH ⇒ May 23, 1956 AC

PRESENT POSITION

Project Director, [the NGDS Pilot Project](#) and Visiting Faculty, [Department of Physics, University of Karachi \(UoK\)](#), Karachi, Pakistan

CNIC

42101-4790 -3, reissued on Monday, January 02, 2017 valid for life, citizen of **Pakistan** by birth (**NO dual/foreign** citizenship)

TOTAL EXPERIENCE — 42 years 4 months 25 days as of June 10, 2026: R&D (research and development), administration, policy making, project management, teaching in institutions of higher education and research (**NO inquiries** from previous jobs)



SECURITY CLEARANCE: Highest level due to affiliation with [Pakistan Space & Upper Atmosphere Research Commission](#), Ex-SSO, Control-Systems Laboratories and Consultant, Guidance, Navigation & Control Laboratories, [SUPARCO](#) (Plant)

LEADERSHIP POSITIONS: Leadership vision demonstrated in 25 roles played in carrying out progressively-increasing responsibilities (motivation, administration, crisis management, conflict resolution, and establishment of national projects/laboratories)

Dean, Faculty of Computer Science, NICE, Karachi, 01-01-2020 to 31-12-2020

Acting Vice Chancellor, UoK, 02-04-2016 to 07-04-2016

Dean, Faculties of Science and Engineering, UoK, 29-09-2015 to 22-05-2016

(Headed selection board and awarded construction tender for [HEJ Research Institute of Chemistry](#)) — additional charges of **Chairman of Departments of Applied Physics, Biotechnology, Chemical Engineering and Computer Science** 29-09-2015 to 22-05-2016 as well as **Department of Health, Physical Education and Sports Sciences** 08-02-2016 to 22-05-2016; **Director, MRCC, UoK**, 29-09-2015 to 22-05-2016; budget of **Rs 10M** (M stands for million)

Acting Director, CEMB[§], UoK, 01-04-2016 to 31-05-2016; budget: **Rs 70M**

Chairman, Department of Mathematics, UoK, 16-09-2003 to 15-09-2006; 26-11-2012 to 28-09-2015; budget: **Rs 2M**

Convener, National Curriculum Revision Committee (Mathematics), Higher Education Commission (HEC), 2004-2012

Convener, Subject Committee (Mathematics), National Testing Service Pakistan, 2009-2012

Convener, Sub-Committee (Academics), the Education Committee, Transparency International Pakistan, 2011-2014

Project Director, the NGDS Pilot Project, 03-12-1998 to date

Delivered 2 lectures for the Talent-Farming Scheme,

Convener, the Early Talent Research Participation Program, 2002-2011

Summer School at HEC Regional Center,

Laboratory Head, SF Growth-and-Imaging Laboratory, UoK, 22-06-2008 to 22-05-2016

Karachi during July 2004

PhD[¶], Mathematical Neuroscience, 1993, [UoK](#); PhD Country Directory Listing: **6882**

MA[@], Astrophysics, 1986, [the Johns Hopkins University \(JHU\)](#), Baltimore, Maryland, United States, an Ivy League University

MS[@], Mathematical Physics, 1982, [Indiana University](#), Bloomington, Indiana, United States (project in Medical Physics)

MSc[¶], Theoretical Physics, 1977, *summa cum laude*, [UoK](#), **100% marks in all subjects during the final semester, First Class First Position in the entire UoK, Philips Electrical Company of Pakistan Gold Medal**

BSc (Honors)[¶], Physics, Mathematics, and Statistics, 1976, *summa cum laude*, [UoK](#) — **95.7% marks, First Class First Position, Best Performance Gold Medal of the Rotary Club of Pakistan**

4 Gold Medals — one awarded by Board of Intermediate and Secondary Education (BISE), Hyderabad, Sindh for First Position in SSC examination, broke record of BISE, another for First Position in HSC examination; 2 more for BSc (Hons) and MSc (see above)

Silver Medal awarded by the Rotary Club of Pakistan for First Position in the Middle Standard Exam

Throughout first class first position (4 Gold Medals)

Merit Scholarship from Class IX through MSc

Quaid-é-Azam Scholarship to study at JHU

⇒ Taught A-Level Physics in [Karachi Grammar School](#), 1979 (full time) and [the Lyceum School](#), 1988 (part time)

Meritorious Professor (BPS 22 equivalent), Computer Science, [NICE](#), 01-01-2020 to 31-12-2020

Professor (BPS 21 equivalent), Mathematics, [Jinnah University for Women](#), 16-10-2017 to 15-10-2019; **(BPS 21 & 20)**, Mathematics, [UoK](#), 01-01-2001 to 22-05-2016 (attained ceiling of BPS-21 in 2013)*

Retired on 22-05-2016 afternoon, while serving as Senior-Most Professor of the entire UoK faculty Associate Professor (BPS 19), Mathematics, [UoK](#), 25-05-1995 to 31-12-2000*

Senior Scientific Officer (Group IX), Control Systems Laboratories, SUPARCO (Plant), [Pakistan Space and Upper Atmosphere Research Commission](#), Karachi, 03-09-1992 to 24-05-1995

Assistant Professor (BPS 18 equivalent), Physics, DHA Degree College for Women (affiliated with [UoK](#)), Karachi, 01-06-1991 to 26-06-1992

Visiting Faculty, Structural Biology and Biophysics, [the Albert Einstein College of Medicine](#), New York, United States + visit of [Harvard](#), [MIT](#), [Columbia](#) and [the Rockefeller](#) Universities, 1990-1991— gave Summer Luncheon Seminar at [Harvard-MIT Center for Biomedical Engineering](#) on July 16, 1990

Assistant Professor (BPS 18), Physics, [UoK](#), 01-03-1988 to 02-07-1990*; Full-Time Coöperative Teacher of Physics, 01-09-1986 to 29-02-1988 ⇒

Areas of Research: 3-D Optical Imaging & Image Processing • Aerodynamics & Space-Flight Dynamics • Anthrop-mathematics and Sport Biomechanics • Econodynamics • Relativity • Security Technologies • Thermodynamics

Signatures _____

*Appointed NUMBER ONE on merit list by the **syndicate** of [University of Karachi](#) based on recommendation on the same order of merit by the Selection Board

[¶]Degree recognized by [Higher Education Commission](#), Government of Pakistan, Sector H-9, East Service Road, Islamabad

[§]Center of Excellence in Marine Biology, an institute of [Government of Pakistan](#) established on UOK campus

[@]Degree recognized by [American Council on Education](#), One Dupont Circle NW, Washington DC 20036, United States

RESEARCH ACTIVITIES: [Google Scholar Citations](#) — cited by **1016**, search results **239**, *h*-index **16**, *i10*-index **32** (accessed: June 10, 2026) • [Researchgate Profile](#) • **77** papers in peer-reviewed journals: **29** solo, **45** first and **3** corresponding author (last 5 years: 2021-25, **18**) — some published in *Chinese Journal of Physics (Elsevier)*, W Cat., Clarivate Analytics Impact Factor (2025), IF: **4.600**; *Chemical Thermodynamics and Thermal Analysis (Elsevier)*, IF: **1.929**; X Cat.; *Journal of Biological Physics (Springer Nature)*, W Cat., IF: **1.800**; *Biological Cybernetics (Springer Nature)*, W Cat., IF: **1.600**; *Anthropological Notebooks (Slovene Anthropological Society)*, X Cat., IF: **0.400**; referee of *Optics and Laser Technology (Elsevier)*, W Cat., IF: **4.600**; *Clinical Biomechanics (Elsevier)*, X Cat., IF: **2.800**; *Acta Paediatrica (Wiley)*, W Cat., IF: **2.400**; *Astrophysics and Space Science (Springer Nature)*, X Cat., IF: **1.500**; **174** conference presentations, some of them in international conferences held in **Austria, Canada, Germany, Saudi Arabia, Türkiye and United States**, a few published in **IEEE** and **SPIE** Proceedings (both organizations registered in United States); principal supervisor of dissertations of **7** PhD and theses of **6** MPhil as well as **2** MSc students (knows **6** languages; visited **7** foreign countries; invited in functions of **3** consulates)

Research Dissemination: Conference Chair/Co-Chair **5**; Chief Guest **6**; Presided **4**; Keynote Speaker **10**; Invited Speaker **12**; Memorial Lectures Delivered **16**; Session Chair **12**; Panelist (Panel Discussion) **3**; Trainings, Workshops and Professional Development Short Courses Conducted; Exhibitions, Grand Seminars, Seminar Series and Conferences Organized **17**; Colloquia, Guest Lectures, Presentations, Seminars Given **78** — research work appreciated by *Claude Marcus*, Head, Division of Pediatrics, National Childhood Obesity Center, *Karolinska Institutet*, Sweden, *Amir Tirosh*, *Harvard Medical School*, United States and *TIA Sørensen* of *Institute of Preventive Medicine*, Denmark

- Guest Scientist at **Pakistan Academy of Sciences Karachi Chapter Program** (2010)
- **Lifetime Achievement Award** (2014); **Best Teacher Awards** (2007; 2014)
- Nominated for **the King Faisal International Prize for Science** (Mathematics 2010; Physics 1989), **TWAS Award (Prize)** and **Presidential Award of Pride of Performance**
- **Research Productivity Allowance** awarded by Higher Education Commission (2003)
- **Research Projects** executed **9**; **Research Grants** on competitive basis **7**

Listed in
‘Marquis’ Who’s in
the World’
and
‘Dictionary of
International Biography’

TECHNOLOGIES (impacted by research)

Health-Care Technologies: EEG in weightlessness • Gait analysis • Brain-activity modeling • Human-heart modeling • Human-spinal-column modeling • Scoliosis-risk determination • Solutions of childhood obesity-and-malnutrition • Telemedicine

AI, Imaging and Security Technologies: AI-based-scoliosis-risk-assignment system • AI-based-smart glasses • Bone-scanning system • Dotted-rasterstereography • Edge-based moiré • Edge-based raster • Moiré and raster combined

Aerospace and Defense Technologies: Air-spacecraft of the third millennium • Extended-Q system • GNC of spacecraft • Multistage- and inverse-Lambert schemes • Multistage- and inverse-Q systems • SDI (Strategic-Defense Initiative)

LEADERSHIP QUALITIES

LEADERSHIP STYLE: Sound — *commit and contribute*: begets synergy & teamwork (designing curricula of math ... p. 25) Setting and realizing goals • achieving efficiency (following deadlines) and effectiveness (completing tasks without mistakes) • ability to portray vision of the university • skilled in negotiation, **conflict management and conflict resolution** • creating opportunities for colleagues and subordinates by effective delegation, with adequate follow-through (monitoring), follow-up (evaluation) and positive re-enforcement — Vision 2035 for UoK PDF video1 video2 video3 video4 video5 video6

PERSONALITY TRAITS

MANAGEMENT STYLE: Owl — *indirect and controlling*: ideal for conflict resolution (designing curricula of math ... p. 25) Detail-oriented personality having honesty, integrity (**modeled soft corruption**), knowledge, ethical and principled approach, networking capability, discipline, devotion and determination • experienced in carrying out progressively-increasing responsibilities • oral and written communication • project management (**efficiency of development projects**) • **innovative skills** (out-of-the-box thinking[‡]) — **normal**: *z* axis along with technical (subject) skills — **horizontal**: *x* axis and performance (managerial) skills — **vertical**: *y* axis in **behavior-based interviewing**

HIGHER-EDUCATION-INSTITUTION ESTABLISHMENT AND ADMINISTRATION

- How to bring University of Karachi among top 5 institutions of Asia? Attendance-tracking system
- Bailing out public-sector universities in Karachi from the financial crunch Training future Nobel laureates
- How to establish MIT-standard institutions in Türkiye and Pakistan? Technical, performance and innovative skills desired in a prospective Vice Chancellor of University of Karachi

WORKSHOPS ATTENDED (selected list)

- Training-Needs Assessment
- Performance Evaluation
- Emotional Intelligence and Anxiety Management
- Human-Resource Management and Interviewing Skills
- Time Management and Anger Management
- Successful Supervision and Relationship Strategies

WORKSHOPS CONDUCTED (selected list)

- Communication Skills
- Research-Proposal Writing
- Presentation Skills
- MS/PhD-Test Development
- Concept-Building and Problem-Solving Skills
- Mathematics for College Teachers[‡]

Community Outreach: Books & proceedings edited **9**; Books reviewed **5**; Book & term paper authored **2**; Educational videos made **8**; General-interest articles written **28**; Manuals prepared **2**; Radio programs broadcast **4**; TV programs telecast **10**

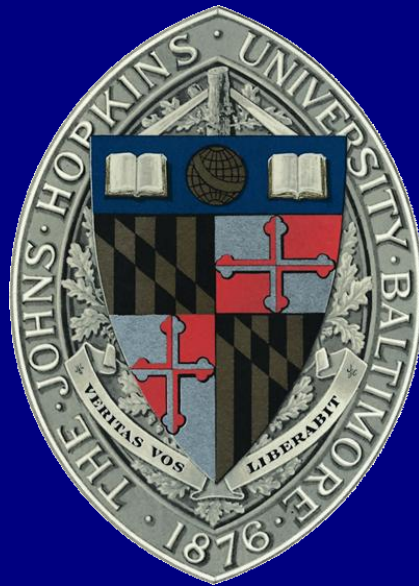
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Web address of this document: <https://www.ngds-ku.org/cv/vita.pdf>

[‡]Innovative skills for a mathematics researcher are listed in Table 1 (p. 16) of <https://www.ngds-ku.org/Papers/J39.pdf>

[‡]Course Coördinator, Six-Day-In-Service-Training Course, HEC Regional Center, Karachi



Dr. Syed Arif Kamal, a Meritorious Professor with 42-year experience in academia, leadership and research, specializes in aerospace sciences, anthromathematics and sport biomechanics, imaging and security technologies, relativity as well as thermodynamics. He held key administrative roles, contributed to national projects and received awards for research and teaching. His work emphasizes innovation, university development and fostering future talent.

