

## Curriculum Vitae

**Name:** Ahmad Jamal  
**Nationality:** Pakistani  
**Date of Birth:** 10<sup>th</sup> March, 1974

**Permanent Address:**

129-B, Phase 1  
D.H.A.,  
Lahore Cantt,  
Pakistan.

**Current Address:**

P. O. Box 1066  
King Fahd University of Petroleum and Minerals,  
Dhahran 31261,  
Saudi Arabia.

**e-mail:** [ahmadj@kfupm.edu.sa](mailto:ahmadj@kfupm.edu.sa)

**Current Rank:** Lecturer, Aerospace Engineering Department, King Fahd University of Petroleum and Minerals, Saudi Arabia, 2003 – present

**Objective:**

To grasp progressive ideas and engage in teaching and research that contribute to the knowledge and sustainable development in the field of engineering by providing innovative solutions to identified technical problems and opportunities with highly professional attitude.

**Degrees:**

- 2002 **M.S. in Mechanical Engineering**, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia.  
Cumulative GPA - **3.625** out of 4.00
- 1998 **B.S. in Mechanical Engineering**, University of Engineering & Technology, Lahore, Pakistan.  
Aggregate – **82.9 %**  
Percentile – **96** (Final senior year)

**Areas of Expertise/Interests:**

- Heat Transfer
- Computational Fluid Dynamics (CFD)
- Compressible Fluid Flow
- Aerodynamics

**Professional Experiences:**

- 2003-Present **Lecturer, AE Dept., KFUPM, Dhahran, KSA**  
Serving the Aerospace Engineering Department as lecturer with teaching courses, conducting research, and undertaking committee work.
- 2000-2002 **Research Assistant, ME Dept., KFUPM, Dhahran, KSA**  
Served the Mechanical Engineering Department as Research Assistant with responsibilities of grading courses, assisting faculty in their research, and doing some administrative work.

- 1999-2000 **Shift Incharge, Tetra Pak Ltd., Lahore, Pakistan**  
Served in the production department of Tetra Pak Pakistan as shift incharge from July 1999 to January 2000. Responsibilities included implementing techniques to optimize the production machinery, Process control, Inventory control, Dispatch and Shift handling.

### **Courses Taken:**

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Representative Mechanical Engineering courses:

- ME 510 Numerical Methods in Mechanical Engineering
- ME 532 Advanced Fluid Mechanics
- ME 534 Conduction Heat Transfer
- ME 425 Power Plants
- ME 426 Heat and Mass Transfer
- ME 436 Fluid Power Systems

### **Teaching Experience:**

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Taught the following courses and labs several times

<b>Course #</b>	<b>Title</b>	<b>Level</b>
AE 325	Gas Dynamics I	UG, Day, Lec.
AE 420	Aerospace Engineering Lab I	UG, Day, Lab
AE 421	Aerospace Engineering Lab II	UG, Day, Lab
AE 450	Computational Methods for Aerospace Engineering	UG, Day, Lab

### **Other Teaching Related Activities:**

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Delivered lectures in many short courses in the AE Department on:

- Experimental and Computational Methods
- Aircraft system Reliability models.

### **Books:**

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- Aerospace Engineering Lab II (AE 421) Manual, Al-Garni, A. Z., Tozan, M., Al-Garni, A., Asghar, A., Mahmood M. and **Jamal, A.**, KFUPM, 2002.
- Computational Methods for Aerospace Engineering (AE 450) Manual, Al-Garni, A. Z., Al-Garni, A. M., Saeed, F., and **Jamal, A.**, KFUPM, 2005.

### **Research Publications:**

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#### *a. Papers in Refereed Journals*

- Khan, O. U., **Jamal, A.**, Arshad, G. M., Arif, A. F. M. and Zubair, S. M., "Thermal Analysis of a Cold Rolling Process – A Numerical Approach", Numerical Heat Transfer, Part A, Vol. 46, pp. 613-632, (2004).
- El-Shaarawi, M. A. I., Mokheimer, E. M. A. and **Jamal, A.**, "Conjugate Effects on Steady Laminar Natural Convection Heat Transfer in Vertical Eccentric Annuli", International Journal for Computational Methods in Engineering Science and Mechanics, Vol. 6, No. 4, pp. 235-250, (2005).

- Al-Garni, A. Z., **Jamal, A.**, Ahmad, A. M., Al-Garni, A. M. and Tozan, M., “Failure-Rate Prediction for De Havilland Dash-8 Tires Employing Neural-Network Technique”, AIAA Journal of Aircraft, Vol. 43, No. 2, pp. 537-543 (2006).
- Tozan, M., Al-Garni, A. Z., Al-Garni, A. M. and **Jamal, A.**, “Failure Distribution Modeling for Planned Replacement of Aircraft Auxiliary Power Unit Oil Pumps”, Maintenance Journal, Vol. 19, No. 1, pp. 60-69, (2006).
- Al-Garni, A. Z., **Jamal, A.**, Ahmad, A. M., Al-Garni, A. M. and Tozan, M., “Neural Network based Failure Rate Prediction for De Havilland Dash-8 Tires”, Elsevier Engineering Applications of Artificial Intelligence, Vol. 19, pp. 681-691, (2006).
- El-Shaarawi, M. A. I., Mokheimer, E. M. A., and **Jamal, A.**, “Geometry Effects on Steady Laminar Natural Convection Heat Transfer in Vertical Eccentric Annuli”, International Journal of Numerical Methods for Heat and Fluid Flow, Vol. 17, No. 5, pp. 461-493, (2007).
- Al-Garni, A.Z., Tozan, M., Al-Garni, A.M. and **Jamal, A.**, "Failure Forecasting of Aircraft Air-Conditioning/Cooling Pack with Field Data", AIAA Journal of Aircraft, Vol. 44, No. 3, pp. 996-1002, (2007).
- Shuja, S.Z., Yilbas B.S., and **Jamal A.** , “Entropy Generation in Flow Field Subjected to a Porous Block in a Vertical Channel”, Accepted in the international Journal on Transport in Porous Media, (2007).
- Al-Garni, A. Z., **Jamal, A.**, Saeed, F. and Kassem, A. H., “Failure Rate Analysis of Boeing 737 Brakes Employing Neural Network”, Submitted to International Journal of Reliability, Quality, and Safety Engineering, (2007).
- El-Shaarawi, M. A. I., Mokheimer, E. M. A. and **Jamal, A.**, “Critical Conductivity Ratio and Wall Thickness for Conjugate Natural Convection Heat Transfer in Vertical Eccentric Annuli”, Under Preparation (2007).
- El-Shaarawi, M. A. I., Mokheimer, E. M. A. and **Jamal, A.**, “Optimum Flow and Heat Transfer for Conjugate Natural Convection in Vertical Eccentric Annuli”, Under Preparation (2007).

#### ***b. Papers in Refereed Conference Proceedings***

- Al-Garni, A.Z., Tozan, M, Al-Garni, A.M. and **Jamal, A.**, "Failure Data Analysis for Aircraft Maintenance Planning", 3<sup>rd</sup> Aircraft Engineering Symposium, Jeddah, November 2004.
- El-Shaarawi, M. A. I., Mokheimer, E. M. A. and **Jamal, A.**, “Numerical Investigation of Conjugate Natural Convection Heat Transfer in Vertical Eccentric Annuli”, Proceedings of the 4<sup>th</sup> International Conference on Computational Heat and Mass Transfer (ICCHMT 2005), Paris-Cachan, France, Vol. 1, May 2005.
- El-Shaarawi, M. A. I., Mokheimer, E. M. A. and **Jamal, A.**, “Geometry Effects on Critical Conductivity Ratio and Wall Thickness for Conjugate Natural Convection in Eccentric Annuli”, Proceedings of the 13<sup>th</sup> International Heat Transfer Conference (IHTC 2006), Sydney, Australia, August 2006.

- **Jamal, A.,** El-Shaarawi, M. A. I., and Mokheimer, E. M. A. “Effect of Thermal Boundary Conditions on Conjugate Natural Convection Flow in Vertical Eccentric Annuli”, Proceedings of the 13<sup>th</sup> International Conference on Computational Methods and Experimental Measurements (CMEM 2007), Prague, Czech Republic, July 2007.
- Al-Garni, A. Z., **Jamal, A.,** Saeed, F. and Kassem, A. H., “Failure Rate Analysis of Boeing 737 Brakes Employing Neural Network”, Proceedings of the 7<sup>th</sup> AIAA Aviation Technology, integration, and Operations (ATIO) Conference, Belfast, Northern Ireland, September 2007.
- **Jamal, A.,** El-Shaarawi, M. A. I., and Mokheimer, E. M. A. “Effect of Eccentricity on Conjugate Natural Convection in Vertical Eccentric Annuli”, Submitted to the 6<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics (HEFAT 2008), Pretoria, South Africa, June-July 2008.
- Al-Garni, A. Z. and **Jamal, A.,** “Artificial Neural Network Application of Modelling Failure Rate for Boeing 737 Tires”, Submitted to 17<sup>th</sup> IASTED International Conference on Applied Simulation and Modelling (ASM 2008), Corfu, Greece, 2008.

#### **Research Projects:**

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- Involved in the KFUPM research project “**Numerical Modeling and Investigation of Novel Design Arrangements for Improving Surface Heat Transfer from an Aircraft Hot Air Anti-Icing System.**”
- Proposed KFUPM research project “**Reliability Forecasting Analysis of Aircraft Tires Using Weibull Regression and Neural Network Models.**”
- To propose shortly another KFUPM research project “**Field Reliability and Maintenance Analysis of Critical Aircraft and Engine Components.**”

#### **Other Research Work:**

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- M.S. research topic: “**Conjugate Free Convection Heat Transfer in Vertical Eccentric Annuli.**”
- Did comprehensive thermal analysis in roller and work piece in a rolling process using Fluent as a project.
- Completed a term project of designing a centrifugal hydraulic pump with the available power and required output pressure and in a course taken during the M.S.
- Intermittent Cycle Solar Powered Refrigerator. Designed a solar refrigerator, which works on vapor absorption cycle using solar heat energy for the operation.
- Studied Different Nuclear Power plants and feasibility of nuclear power. Wrote a report on Pakistan’s nuclear option.

#### **Volunteer Experience:**

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- 1997                    **Internee (Design Dept. / Marketing Dept.) PETAL Engg. (Pvt.) Ltd. From 15<sup>th</sup> June, 97– 31<sup>st</sup> July, 97**  
Studied and implemented American Society of Heating, Refrigeration and Air Conditioning Engineer’s (ASHRAE) code for residential as well as for commercial applications - Automated

procedures used in carrying out ASHRAE/Carrier Code analysis –  
Represented company in field for marketing of its services.

#### **Conference and Seminar Presentations:**

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<b>Sr. No.</b>	<b>Title of Presentation</b>	<b>Organizer/Place</b>
1	Conjugate Free Convection Heat Transfer in Vertical Eccentric Annuli	ME – KFUPM, Dhahran, Saudi Arabia
2	Failure-Rate Prediction for De Havilland Dash-8 Tire Employing Neural-Network Technique	AE – KFUPM, Dhahran, Saudi Arabia
3	Failure Rate Analysis of Boeing 737 Brakes Employing Neural Network	AE – KFUPM, Dhahran, Saudi Arabia
4	Design, Build, and Test Fly a Water Rocket	AE – KFUPM, Dhahran, Saudi Arabia

#### **Academic Distinctions/Awards:**

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- Completed B.S. Mechanical Engineering with **honors** securing **6<sup>th</sup> position** in the final senior year of B.S. Mechanical Engineering.
- Completed M.S. Mechanical Engineering with **CGPA 3.625**.
- Aerospace Engineering Faculty Services Award, 2003-2004.
- Award of distinguished Services as a Coordinator for the Cooperative Program, May 19, 2004.
- Included in the Who's Who in Science and Engineering, 10<sup>th</sup> Anniversary Edition.

#### **Professional Memberships:**

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- Member of Saudi Council for Engineers.
- Member of American Institute of Aeronautics and Astronautics (AIAA)

#### **Institutional and Professional Services:**

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- Participated in the curriculum development of AE M.S. Program.
- Participated in preparing the Self-Assessment Report and forms for the AE Department at KFUPM.
- Participated in the preparation of ABET Self-Study Report for the AE Department at KFUPM.
- Participated in the AE B.S. curriculum revision at KFUPM.

- Participated in designing and preparing the AE Department Booklet and AE Graduate Bulletin at KFUPM.
- Advised 6 AE Coop students
- Evaluated a total of 15 AE Senior Project Students.
- Evaluated 10 AE Coop Students.
- Member of 1 College Committees and 7 Departmental Committees.

### **Professional Development Activities:**

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- Attended the workshop on “Program & Course Specifications” on November 13, 2007.
- Attended the workshop on “Using Course Design to Create more Significant Learning Experiences for Students” on September 3-4, 2006.
- Attended the training workshop on “Publishing Content and Quizzes in WebCT” from November 20 to 22, 2005.
- Attended the workshop on “Evaluating the Quality of Teaching: An Institutional Framework” on September 3, 2005.
- Attended the workshop on “Web Design for Beginners” from December 27 to 29, 2004.
- Attended the workshop on “Using Groups and Student Teams to Promote Learning” on September 7, 2004.
- Attended the workshop on “Active Learning to Foster Critical Thinking” on September 6, 2004.
- Attended the workshop on “Online Course Content Development using Macromedia Flash” from August 29 to September 1, 2004.
- Attended the workshop on “Introduction to Illustration Techniques using Adobe Illustrator” from July 17 to 21, 2004.
- Attended the course “Infusing Critical and Creative Thinking into Content Instruction” from September 7 to 10, 2003.
- Attended the workshop on “Introduction to WebCT” in May, 2003.

### **Computer Skills:**

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1. Operating Systems
  - MS DOS
  - MS Windows
2. Languages
  - FORTRAN
  - MATLAB
3. Other Software
  - Gambit
  - FLUENT
  - Mathematica
  - Tech plot
  - Grapher

- Surfer
- MS Office

**Hobbies:**

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- Reading books on various topics including fiction, Computer books, Books on Astronomy, and Engineering related books.
- Traveling.
- Playing Cricket and Squash.