KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DHAHRAN 31261
DEPARTMENT OF MATHEMATICAL SCIENCES

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18th April 2007

Dear Sir,

APPLICATION FOR AN ASSOCIATE PROFESSORSHIP POSITION IN MATHEMATICS

I would like to be considered for an Associate Professorship position in Mathematics at your prestigious institution – Zayed University, UAE. I learned of this opportunity through the University's Job Postings homepage.

My high level of concentration and excellent organizational skills have helped me achieve a strong academic record at Ahmadu Bello University (A. B. U.), Zaria and University of St Andrews Scotland, which reflects my diligence and commitment to success. I have over 20 years of teaching experience at the university level and I have taught a wide variety of courses including introductory courses in financial mathematics (MATH 131 & 132). In my area of interest, I have written papers involving in-depth research and analysis in order to prove a specific thesis. In addition, my studying in UK and working in Saudi Arabia, has greatly expanded my knowledge of different cultures and languages (though my Arabic is still shamefully basic).

Through challenging situations, I have developed a strong sense of responsibility, effective interpersonal skills and the ability to contribute to teamwork, even in high-pressure environments.

Enclosed is my resume for your review. I am enthusiastic about the position and if appointed, I will continue with my career of disseminating mathematical knowledge/skills to students at Zayed University, UAE and beyond, passionately, and the same time continue with active research work in my main area of specialization - algebraic semigroup theory (20M). Thank you for your time and consideration.

Yours sincerely,

A. Umar, Ph. D.
(Associate Professor)

Curriculum Vitae

APRIL 2007

Personal Details

Name:	Abdullahi Umar
Date of Birth:	Wednesday February, 21st 1962 – Hadejia
Marital Status:	Married – four children
Address:	Department of Mathematical Sciences King Fahd University of Petroleum & Minerals P. O. Box 672 Dhahran 31261, Saudi Arabia
Phone:	00966-3-8602720 (Office) 00966-3-8605065 (Res.)
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Present Position:	Associate Professor Department of Mathematical Sciences King Fahd University of Petroleum and Minerals Dhahran 31261, SAUDI ARABIA

Education

1978	Government College Kano (Now Rumfa College), Nigeria
1983	B.Sc., (Hons.), (First Class) Mathematics, Ahmadu Bello University (ABU), Zaria, Nigeria.
1986	M.Sc., Mathematics, Ahmadu Bello University (ABU), Zaria, Nigeria.
1992	Ph.D., Mathematics, Algebra, St Andrews University, Scotland, U.K.
Major:	Mathematics
Area of Specialization:	Algebraic semigroups: transformation semigroups

Career History and Teaching Experience

I. Honorary Graduate Assistant, School of Basic Studies, Zaria (1983):

O' Level Math. for non-math. students

II. Graduate Assistant, ABU, Zaria (1984-1986):

D102	Algebra I
M101	Mathematical Methods I
D101	Calculus I
D104	Vectors

III. Assistant Lecturer, ABU Zaria (1986-1989):

D103	Trigonometry
D202	Algebra II
M101	Mathematical Methods I
M109	Maths for Pharmacy
D202	Algebra II
M101	Mathematical Methods I
M108	Supplementary Maths.
M201	Mathematical Methods II
M209	Mathematical Methods for Teachers

IV Tutorial Assistant, University of St Andrews (1989-1992):

MT2002	Algebra and Analysis
MT2005	Combinatorics

V Lecturer I, ABU, Zaria (1993-1995):

MATH101	Calculus
MATH205	Introduction to Abstract Algebra
MATH102	Algebra
MATH206	Abstract Algebra I
MATH505	Semigroups I
MATH506	Semigroups II

VI Senior Lecturer, University of Abuja, Nigeria (1995-1997):

MTH101	Algebra
MTH205	Elementary Differential Equations I
MTH403	Measure and Integration
MTH106	Calculus
MTH310	Discrete Math.
MTH404	Fluid Dynamics
MTH410	Theory of Rings and Fields
CSC602	Linear Algebra
MTH604	Theory of Computations

VII Assistant Professor, KFUPM (Oct. 1997- Apr. 2005):

MATH131	Finite Mathematics[c, c]
MATH201	Calculus III
MATH232	Introduction to sets and structures
MATH102	Calculus II
MATH202	Elements of Differential Equations[c]
MATH 002	Preparatory Mathematics II
MATH280	Introduction to Linear Algebra
MATH101	Calculus I
MATH012	Finite Mathematics for Diploma
MATH132	Applied Calculus[c]

VII Associate Professor, KFUPM (2005-Present):

MATH131	Finite Mathematics[c, c]
MATH 596	Reading and Research II
MATH202	Elements of Differential Equations[c]
MATH132	Applied Calculus[c]

Supervised Senior Projects:

Akweel, Ali. "The Bicyclic semigroup". Math 490 (Seminar in Mathematics, May 2001).

Al-Shammari, Sutam A. "Euclidean Domains". Math 490 (Seminar in Mathematics, May 2003)

Katebah, Ayman. "Transformation Monoids and an Automaton". Math 490 (Seminar in Mathematics, December 2005)

Supervised M.Sc. Thesis:

Omar, Syed. "Some properties of Bicyclic Extensions". M. S. Thesis, Department of Mathematical Sciences KFUPM, (December 1998).

Academic Advisor:

I have an academic advisor to undergraduate maths major students since 2002, and of all undergraduate maths major students since 2004.

Courses Development:

Developed a course in Discrete Maths. (with Drs. Abu-Sbeih and Laradji).

Administrative Experience:

- Acting Head of Mathematics at University of Abuja (June, 1997).
- Chairman, Algebra Day 2005 Organizing Committee (2004/05).
- Coordinator, Algebra and Number Theory Scientific Group (2004/05)

Prizes and Awards

1. AHMADU COOMASSIE PRIZE for the best graduating student in mathematics at Ahmadu Bello University, Zaria, Nigeria (1983).
2. Federal Government of Nigeria special (Ph. D.) scholarship (1989-92).
3. Carnegie Trust for the Universities of Scotland Research Award at St Andrews University, Scotland (1996)
4. Royal Society Visiting Research Fellowship Award at the University of Essex (1999).

Research

My current research interests include transformation semigroups of various types, especially their combinatorial and rank properties. I also have interest in discrete mathematics and recreational mathematics which include topics like magic squares and cubes, calendars and puzzles.

Publications List[Å]

Journal Publications:

1. Umar, A. On the semigroups of order-decreasing finite full transformations. *Proc. Roy. Soc. Edinb. Sect. A* **120** (1992), 129-142.
2. Umar, A. On the semigroups of partial one-to-one order-decreasing finite transformations. *Proc. Roy. Soc. Edinb. Sect. A* **123** (1993), 355-363.

3. Umar, A. On the ranks of certain finite semigroups of order-decreasing transformations. *Portugaliae Mathematica* Vol. **53** Fasc. 1 (1996), 23-34.
4. Umar, A. A class of quasi-adequate transformation semigroups. *Portugaliae Mathematica* Vol. **51** Fasc. 4 (1994), 553-570.
5. Umar, A. Semigroups of order-decreasing transformations: the isomorphism theorem. *Semigroup Forum* Vol. **53** (1996), 220-224.
6. Makanjuola, S. O. and Umar, A. On a certain subsemigroup of the bicyclic semigroup. *Communications in Algebra* **25** (2) (February, 1997), 509-519.
7. Umar, A. Enumeration of certain finite semigroups of transformations. *Discrete Math.* **189** (1998), 291-297.
8. Umar, A. On certain infinite semigroups of order-decreasing transformations I. *Communications in Algebra* **25** (9) (September,1997), 2987-2999.
9. Umar, A. Some remarks about Fibonacci groups and semigroups. *Communications in Algebra* **25** (12) (December, 1997), 3973-3977.
10. Umar, A. A class of (0)-idempotent-free transformation semigroups. *Semigroup Forum* **59** (1999), 74-78.
11. Umar A., On certain infinite semigroups of order-increasing transformations II. *Arabian Journal for Science and Engineering.* Vol. 28, **2A** (2003), 203-210.
12. Laradji, A. and Umar, A., "Combinatorial results for semigroups of order-preserving partial transformations". *Journal of Algebra* **278** (2004), 342-359.
13. Laradji, A. and Umar, A., "On certain finite semigroups of order-decreasing transformations I". *Semigroup Forum* **69** (2004), 184-200.
14. Laradji, A. and Umar, A., "On the number of nilpotents in the partial symmetric semigroup". *Communications in Algebra,* **32** (2004), 3017-3023.
15. Laradji, A. and Umar, A., "Combinatorial results for semigroups of order-decreasing partial transformations". *J. Integer Sequences* **7** (2004), 04.3.8.
16. Laradji, A. and Umar, A., "Asymptotic results for semigroups of order-preserving partial transformations". *Communications in Algebra* **34** (2006), 1071-1075.
17. Laradji, A. and Umar, A., "Combinatorial results for semigroups of order-preserving full transformations". *Semigroup Forum* **72** (2006), 51-62.
18. A. Umar , B. Yushau and B. M. Ghandi, "Convolution of two series" *Australian Senior Maths Journal. (accepted)*

⊕ Articles number [1, 2, 3 & 8] are from my Ph.D. thesis. Article [5] is a slight extension of a major result in my Ph. D. thesis, but more importantly the main proof is more elegant than the one given in the thesis.

⊕ In almost all mathematical journals, authors' names are listed alphabetically (by last names) and not in order of contribution as in other scientific journals.

Conference Papers:

19. Umar, A. "Semigroups of order-decreasing full transformations." Proceedings of the international conference, Colchester, UK, August 3-6, 1993. Colchester: University of Essex, Dept. of mathematics, August (1994), 94-98.
20. Umar, A. "On a class of orthodox transformation semigroups." 15th Annual Conference of the Nigerian Mathematical Society, University of Nigeria, Nsukka, April 1994.
21. Umar, A. "On some generalizations of the hat problem and transformation semigroups." International Algebraic Conference, Ekaterinburg, Russia, August 29- Sept. 3, 2005, p. 203.
22. A. Umar, B. Yushau and B. M. Ghandi, (2006)"Patterns in convolution of two series", in Stewart, S. M., Olearski, J. E. and Thompson, D. (Eds), Proceedingsof the Second Annual Conference for Middle East Teachers of Science, Mathematics and Computing (pp. 95-101). METSMaC: Abu Dhabi.

Technical Reports:

23. Umar, A., "Construction of Even Order Magic Squares," Technical Report No. 233, (July 1998) Department of Mathematical Sciences, KFUPM.
24. Higgins, P. M. and Umar, A., "Semigroups of weak V-Stabilizer mappings," Technical Report No. 238, (November 1998) Department of Mathematical Sciences, KFUPM.
25. Higgins, P. M. and Umar, A., "Semigroups of Order-decreasing Transformations: Some Fundamental Congruences," Technical Report No. 268, (September 2001) Department of Mathematical Sciences, KFUPM.
26. Laradji, A. and Umar, A., "On certain finite semigroups of order-decreasing transformations I," Technical Report No. 298, (May 2003) Department of Mathematical Sciences, KFUPM. (Appeared as Journal Publication #13.)
27. Laradji, A. and Umar, A, "On the number of nilpotents in partial symmetric semigroup," Technical Report No. 305, (June 2003) Department of Mathematical Sciences, KFUPM. (Appeared as Journal Publication #14.)
28. Laradji, A. and Umar, A., "Combinatorial results for semigroups of order-decreasing partial transformations," Technical Report No. 306, (June 2003) No. 305, (June 2003) Department of Mathematical Sciences, KFUPM. (Appeared as Journal Publication #15.)
29. Laradji, A. and Umar, A., "Asymptotic results for semigroups of order-preserving partial transformations," Technical Report No. 310, (October 2003) Department of Mathematical Sciences, KFUPM. (Appeared as Journal Publication #16.)
30. Laradji, A. and Umar, A., "On the number of decreasing and order-preserving partial transformations," Technical Report No. 312, (January 2004) Department of Mathematical Sciences, KFUPM.
31. Laradji, A. and Umar, A., "Combinatorial results for semigroups of order-preserving partial transformations," Technical Report No. 313, (January 2004) Department of Mathematical Sciences, KFUPM. (Appeared as Journal Publication #12.)
32. Laradji, A. and Umar, A., "On some generalizations of the hat problem and transformation semigroups," Technical Report No. 358, (October 2006) Department of Mathematical Sciences, KFUPM.

Submitted for publication:

33. Laradji, A. and Umar, A., "Combinatorial results for the symmetric inverse semigroup".
34. Laradji, A. and Umar, A., "Lattice paths and partial order-preserving transformations".

Work In Progress:

35. Characterization of congruences on the semigroups of order-decreasing mappings (joint work with P. M. Higgins).
36. Generalizing the theory of semigroups of order-decreasing transformations on totally ordered sets to partially ordered sets (posets).

Refereeing and Citation Ä

Article number	Ph.D. Thesis	Paper #1	#2	#5	#6	#8
Number of citations	2	10	1	3	1	1

Refereed 2 papers for Communications in Algebra by

(1) ARAUJO, J. AND KONIECZNY, J. ENTITLED: *SEMIGROUPS OF TRANSFORMATIONS PRESERVING AN EQUIVALENCE AND A CROSS-SECTION*;

(2) XIULIANG, Y. ENTITLED: *H-TRIVIAL SEMIBANDS AND DIGRAPHS*.

Refereed 1 paper for Algebra Colloquium by

(1) KUYUCU AND VATANSEVER ENTITLED: *ON SUBSEMIGROUPS OF STONE-CECH COMPACTIFICATION FOR CERTAIN SEMIGROUPS*.

Conferences and Seminars

1. International Workshop on mathematics and its applications, Ahmadu Bello University, Zaria. (1st-5th March, 1987).
2. 8th Annual Conference of the Nigerian Mathematical Society, Ahmadu Bello University, Zaria. (8th-11th April, 1987).
3. Groups St Andrews 89, University of St Andrews, July-August 1989.
4. Semigroup Workshop, University of St Andrews, October 1989.
5. Monoids and formal languages, University of York, April 1990.
6. St Andrews Colloquium, University of St Andrews (Organized by the Edinburgh Mathematical Society), 12 July 1992.
7. Essex International Conference on the theory of transformation semigroups and their applications, University of Essex, August 1993.
8. 15th Annual Conference of the Nigerian Mathematical Society, University of Nigeria, Nsukka, April 1994.
9. Visiting Fellowship, St Andrews University, Scotland, Oct. 1996- February 1997.
10. International Workshop on quasi-crystals and partial symmetries, Essex University, England, July 1999-Aug. 1999.
11. The First Saudi Science Conference, KFUPM, Dhahran, 9-11 April 2001.
12. Workshop on Preparing to Teach: Instructional Development Program for Recently Appointed Faculty, Academic Development Center, KFUPM, August 26-27, 2001.
13. Workshop on Striving for Excellence in University Teaching and Learning, Academic Development Center, KFUPM, August 27-29, 2001.
14. Workshop entitled: Introduction to WebCT, Academic Development Center, KFUPM, July, 2003.
15. Workshop entitled: Instructional Design for Online Courses, Academic Development Center, KFUPM, January, 2004.
16. ACM-SIAM Symposium on Discrete Algorithms, Vancouver, 23-25 January, 2005.
17. International Algebraic Conference, Ekaterinburg, Russia, Aug. 29-Sept. 3, 2005.
18. Second Annual Conference for Middle East Teachers of Science, Mathematics and Computing (METSMaC), Abu Dhabi, UAE, 14-16 March 2006.
19. What is the Next Term of a Sequence?. UAE Math Day, University of Sharjah, UAE, 27 April 2006.

Lectures/Talks Delivered:

1. Construction of Even Order Magic Squares, KFUPM, 1998.
2. A Remark About Fibonacci Semigroups, KFUPM, 1999.
3. A Remark on Fermat's Last Theorem: A Nigerian Perspective, Essex University, 2 December 1999.
4. Combinatorial and Congruence Properties of Transformation Semigroups, University of York, 21 October 1999.
5. Combinatorial and Rank Properties of Transformation Semigroups, KFUPM, 2000.
6. A Class of (0)-idempotent free Transformation Semigroups KFUPM, 2000.
7. Monoids, Automata and Languages, KFUPM 2001.
8. Combinatorial Properties of Transformation Semigroups: An Update, KFUPM 2003.
9. On a generalization of the hat problem, KFUPM 2004..
10. On some generalizations of the hat problem, Bayero University, Kano, Nigeria, June 2004.
11. On some generalizations of the hat problem, A. B. U., Zaria, Nigeria, June 2004.
12. Poster Presentation: Patterns in Convolutions of two Series. METSMaC, Abu Dhabi, UAE, 14-16 March 2006.
13. Predicting the Next Term of a Sequence. KFUPM 2006.
14 What is the Next Term of a Sequence?. UAE Math Day, University of Sharjah, UAE, 27 April 2006.

Professional Visit

Visited Essex University for 6 weeks from Sept. – Oct. 1993.
Visited St Andrews University for 4 months from Oct. – Feb. 1996/97.
Visited Essex University for 6 weeks from Feb. – Mar. 1997.
Visited Essex University for 6 months from July – Dec. 1999.
Visited Ahmadu Bello University, Zaria, Nigeria for 7 weeks from June – Aug. 2006

Participation in Committees

Departmental Committees:

Standing Committees:

1. Library Committee (97-98)
2. Algebra and Number Theory Group (97- Present)
3. Graduate -MS program Committee (98-99)
4. Undergraduate Committee (00-01, & 02-06)
5. Search Committee (01-02 & 02-03)

Ad-Hoc Committees:

1. Distinguished Teacher and Advisor Award (00-01, 01-02 & 02-03)
2. Algebra and Applications Day 2005, 1st March 2005, Dept. of Math. Sciences, KFUPM. Chairman Organizing Committee
3. Algebra Workshop, 19 – 21 March 2006, Dept. of Math. Sciences, KFUPM. Member Organizing Committee

Referees

Professor John M. Howie
Mathematical Institute
North Haugh
St Andrews, Fife KY16 9SS
Scotland, U. K.

Tel. No. 01334 463746
Fax No. 01334 463748
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Professor Peter M. Higgins
Department of Mathematics and Statistics
University of Essex
Wivenhoe Park
Colchester CO4 3SQ
England.

Tel. No. 01206 873019
Fax No. 01206 873598
E-mail: peteh@essex.ac.uk

Professor S Kabbaj (*teaching ref.*)
Department of Mathematical Sciences
King Fahd University of Petroleum and Minerals
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Saudi Arabia.

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