



## General information

Name: Ibrahim Abdullah Ibrahim Suleiman

Nationality: Jordanian

**Place and date of Birth:** Mafraq- Jordan 1/4/1957 **Position**: *Professor at Mu 'tah University /Jordan* 

**Field of specialty**: *Modern Algebra, Group theory, and Representation theory* 

**Home Address**: Dept. of Maths. & Stats. Mu 'tah University

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#### Education

- 1- **B.Sc.** Mathematics- (**Major**) and Education (**Minor**) Jordan University, Amman, Jordan, 1978.
- 2- M.Sc./ Mathematics, Jordan University, Amman, Jordan, 1984

Nine M.Sc. courses and a thesis "On the Burnside Ring"

3- **Ph.D./ Mathematics** Birmingham University, Birmingham, U. K. 1990 Ph.D. thesis "Modular characters of some finite simple groups".

#### Research Activities

- <u>\* Group theory: representation theory and modular representation theory of finite simple groups</u>, Character theory.
- \* Engineering Mathematics, Linear Algebra, Fourier Analysis, ....
- □ Computing Algebra: computer constructions of group generators;

## Research Experience

- 1- Research Visit, School of Mathematical Sciences/University of London., Queen Mary, U.K, June 2005
- 2- Research Visit, School of Maths. & Stats. Birmingham Univ., U.K., Sept. 2003.
- 3- Research Visit, School of Maths. & Stats. Birmingham Univ., U.K, Aug. 1999.

- 4- Research Visit, School of Maths. & Stats. Birmingham University, U.K. Sept 1997.
- 5- Research Visit, Lehrstuhl II fur Mathematik, Bayreuth University Germany, June-August, 1997
- 6- Research Visit, School of Maths. & Stats. Birmingham Univ. U.K, June-July, 1996
- 7- Research Visit, School of Maths. & Stats. Birmingham University U.K ,June, 1994
- 8- Research Visit, School of Maths. & Stats. Birmingham University ., U.K , Jan. & June, 1993.
- 9- Research Visit, Lehrstuhl II fur Mathematik, Bayreuth, Univ. Germany, Sept., 1992
- 10- Research Visit, School of Maths. & Stats. Birmingham University . U.K Jan. & July-Aug. 1992
- 11- Research Visit, Of Maths. & Stats. Birmingham Univ. U.K. August, 1991.

## Professional Experience:

- **Professor**: Department of Mathematics & Statistics, Mu´tah University, Al-karak, JORDAN, since 2013
- **Professor**: Department of Maths and Computer Science; United Arab Emirates University; Al-Ain January 2020- March 2022 (Visiting Professor).
- Associate professor : Department of Mathematics —Um Al Qura University ------Saudi Arabia September 2012 -2013
- **Associate Professor**; Department of Mathematical and Physical Sciences; Nizwa University –Nizwa Sultanate of OMAN 2006-2007 (Sabbatical Year).
- **Associate Professor**; Department of Maths and Computer Science; United Arab Emirates University; Al-Ain September 2000- 2002.
- **Assistant Professor,** Dept. of Maths., Sultan Qaboos University, Muscat, Sultanate of Oman, 3<sup>rd</sup> Sept. 1998 September 2000.
- **Visiting Professor** Dept. of Math's. & Computer Science, United Arab Emirates University, Al-Ain, UAE. Spring Semester 1998.
- Associate Professor, Department of Mathematics & Statistics, Mu´tah University, Al-karak, JORDAN, 18<sup>th</sup> May 1997.
- Assistant Professor, Department of Mathematics & Statistics,
  Mu´tah University, Al-karak, JORDAN, 13<sup>th</sup> / Aug./ 1990 17<sup>th</sup> /May / 1997.
- Scholarship to Birmingham University U.K. (Ph. D.) Oct. / 1987- Aug./ 1990
- Full time lecturer , Faculty of Natural Sciences , Mu´tah University , Al-karak, JORDAN,  $14^{th}$  Feb. /  $1986-30^{th}$  / Sept. / 1987 .
- High School Teacher at "Ahliyah School for Girls" Sept. 1979- 13th / Feb. 1986
- Teaching Assistant at Jordan University, Dept. of Maths, Sept. 1978/ Aug. 1979
- **Head of Department** Department of Mathematics & Statistics, Mu´tah University, Al-karak, JORDAN, 11<sup>th</sup> Sept. 1993/3<sup>rd</sup>/Oct./1994.
- Part-time Lecturer for different courses Jordan University Since 2002 many semesters).

# **Scientific Memberships**

1) Member of the Jordanian Mathematical Society (**JMS**) since **1993**. 2) Member of the London Mathematical Society (**LMS**) since **1992**.

- 3) Member of the American Mathematical Society (AMS) since 1995.
- 4) Secretary for the Jordanian Mathematical Society (JMS) 1993-1997.

#### Society Services:

- 1. Lectures at "Queen Noor Al-Hussein School" with cooperation with University center for continuous teaching and development. Fall /1994 Al-Karak- Jordan.
- 2. Lectures at " Al-Mazar High School for Girls " with cooperation with University center for continuous teaching and development. Fall /1995 Al-Karak- Jordan .
- 3. Lectures and workshops for students in the department and their guests from the society in general topics in Mathematics . / Mu´tah Jordan 1991-1997 .
- 4. Workshops for developing teaching Pre-Calculus, Calculus and Linear Algebra for students at the University and high schools (Tawjihi).
- 5. Reporting the development and improvement in the department of Mathematics i "Private University of Applied Sciences" in Amman. 1994.
- 6. Committee for Final Exams for the "Comprehensive General Exam "for Colleges in Jordan on the Ministry of Higher Education Level in Mathematics through the years 1993, 1994 and 1995.

Curriculum Vitae Ibrahim Suleiman

#### **University Contributions:**

- 1- Head of High Graduate Teaching Committee in Maths. Department since 1994 2-Graduate Students supervisor since 2002.
- 3- Associate in a committee revising "Teachers Maths-Domain Plan" 1994.
- 4- Associate in a committee revising "Teachers –Class plan" for developing mature teachers in the faculty of Education.
- 5- Associate in the Scientific Research Committee in the faculty of Sciences for more than three years.
- 6- Academic Supervision for Maths. students in all level  $1^{st}$  to  $4^{th}$  years. M.Sc. Supervisor since 2002.
- 7- Associate in many internal and external committees for developing methods of university and high school teaching since I have a very good experience in both high school and university teaching.

#### M.Sc. Theses:

There were many theses produced under my supervision since we had our M.Sc. program at Mutah University. Some of these theses are from 2016-2022 which will be written here in detail and the following are from 2003-2016:

- 1) Crptosystem and Diophantine Equations 2016 by Reem Al Qudah
- 2) On Neat Rings " 2016 by Faten Mahassneh
- 3) "On Theory of Matrices" Summer 2016 by Amjad 3ababneh
- 4) "On Regular Group Rings " October 2012 by Sallah Al-Awad.
  - 5) "On Clean Group Rings" **Summer 2012** by Asia Khalaf Al-Bzeirat.
  - 6) "On Power Series Ring " Summer 2012 by Hussam Al-Jarah .
    - 7) "On Group –Rings and some applications **2011** by Mohammed Alhuroub .
    - 8) "On Herwits Series Ring " Summer 2011 by Muntasser Al-Dardour
    - 9) "On Neat Rings "Summer **2011** by Abdallah Abu keshek.
      - 10) "Singular value decomposition SVD and some applications "-2011 by Zainab Garalleh .

- 11) "On Clean rings" **2010** by Ayat Al-Soub.
- 12) "Von Neumann Regular ring and some related rings" **2010** by Asma Mazayedeh.
- 14)" On Domain Like Ring " 2006 by Ahmad Sarrayreh.
- 15)"On Conjugacy classes of Special Linear Groups and some Alternating groups " by Mariam Alhuly .
- 16 )"Calculating modular representations for the Alternating groups "2003 by Issam Mdanat .

Three expected theses will be produced by the end of this year 2015/2016.

#### Conferences and Activities:

- 1. Groups of St. Andrews Conference, U. K. July-August, 1989
- 2. Durham Conference for Mathematics, Durham, U.K. July, 1990
- 3. Mathematics Conference in Speteses-Greece, July, 1993
- 4. Workshop for Teaching Calculus using Computers for the first year students, **Egypt**, April , **1994**
- 5. The second Mathematical Jordanian Conference Mutah-University **September 1994**. (Vice-Chairman of the conference).
- 5. British Mathematical Coll. (BMC), London, UK, April, 1997
- 6. ICM Conceference Al-Ain UAE March, 2008.
- 7. ICM Conceference Al-Ain UAE March, 2012.
  - 8- ICM Conceference Al-Ain UAE March, 2016.

#### Membership:

- 7. Member of an advisory committee for a MSc. Student in Mathematical Education.
- **8.** Workshop for Teaching Calculus Using Computers for the first year students, Mu´tah University, April **1996**.
- 9. Vice-Chairman of the Second Jordanian Mathematical Conference, September, 1994
- **10.** A member of the Preparation Committee for the third Jordanian Mathematical Conference, September, **1996**
- 11- A member of research committee in the faculty, through years 1993-2009.
- 12- A member of the committee of social activities and society services for the years 1994, 1995, 1996.
- 13. Member of Natural Science Committee to support Scientific research , Ministry of Higher Education Jordan since  $31^{st}$  August 2009 .

# **Supervision Committees:**

- 1- Supervision for few  $\,M.Sc.$  theses in Mathematical Education / 1994
- 2- Supervising many M.Sc. Students in M.Sc. (Thesis Program) in the dept. of Maths. & Stats./ Mu´tah University –Jordan.
- 3- External Examiner for many committees at Jordan University in 2003 & 2004 ( for M.Sc. Theses in Mathematics Algebra and Number theory )

#### Teaching Experience and Taught Courses

- 1. Teaching B.Sc. Students in the faculties of Sciences, Economics, Engineering and Education.
- 2. Teaching B.Sc. students in Mathematics and Education (Domain -Teachers)
- 3. Teaching B.Sc. students in Mathematics and Education (Class-teachers)

- 4. Teaching B.Sc. students in Mathematics as qualifying mature students coming up from colleges and schools after long time of teaching.
- 5. Teaching High School students in both Mathematics subjects for the Ministry of Education program as well as for the A-O levels for the GSE & IGCSE programs (British Standard Board for Overseas).
- 6. Courses in many subjects in Mathematics (Algebra, trigonometry, analytic and plane geometry, space geometry and methods for teaching Mathematics These courses were mainly given for training teachers for different levels (grade 7-9 & grade 10-12).
- 7. Familiar with two University systems of teaching courses: the **credit-hours system** (USA) and the **term system** as in UK.

#### Skills and interests:

I have a very good experience in dealing with computer software, Windows, word-processing and writing HTML files on the INTERNET. Research work and teaching facilities and tools are computers oriented. I have an ICDL.

## **Taught Courses:**

#### M. Sc. Courses

- a) Abstract Algebra I & 2,
- b) Special topics in Abstract Algebra which is a flexible course in which we give representation theory and commutative algebra or any wanted course related to researchers.

#### **B. Sc. Courses**

- a) Abstract Algebra 1, Abstract Algebra 2, Special topics in Abstract Algebra.
- b) Differential equations, Linear Algebra I & II. . Calculus I, II & III. for Engineering Students. Advanced Engineering Mathematics; Fourier Analysis , Special Functions.
- c) Number Theory; Foundation of Mathematics, Euclidean and non-Euclidean Geometry, Calculus I, II & III.. Discrete Mathematics, Mathematics for administration students. Mathematics for class teachers.. Biostatistics for Nursing; pharmacology and Medicine.
- \* Calculus I & II using computer packages especially **MATHEMATICA**, **MAPLE** and **DERIVE** for first and second year students.
- \*\*Abstract Algebra and special topics in algebra using computer packages, especially, CAYLEY (MAGMA), CAS and MEATAXE '.

## **Publications:**

1- \Modular representations of finite simple groups, Ph.D. thesis, University of Birmingham, 1990. U.K.

- 2- The 3-and 5-modular characters of the covering and the groups of the Higman-Sims Group, Journal of Algebra 148(1992), 225-242. U.S.A.
- 3- Computer Construction of matrix representations of the covering group of the Higman-Sims group, Journal of Algebra148,(1992) pp. 219-224. U.S.A.
- **4-** The 3-and 5-modular characters of Mclaughlin"s Group ,(proceedings of the London Mathematical Society, Durham-Conference 1990, (Lecture Notes of Cambridge University no. 169, 1992), **U.K.**
- **5-** The 2-modular characters of Conway"s group Co2; Math.Proc. Camb.

Phil.Soc.(1994),116, 275-283. U.K..

**6-** Construction of the Fourfold Cover of the Mathieu group M22, Experimental Mathematics, Vol.2,(1993), No.1. **U.S.A.**(With R.A. Wilson)

7- Standard generators for J3, Experimental Mathematics, Vol.4(1995), No.1. U.S.A.

- **8-** The 3-modular characters of the Twisted Chevalley group D<sub>4</sub>(2) and its auttomorphism group D<sub>4</sub>(2).2 (Revista Mathematica, Universidad De Ciencias Mathematicas, Madrid, Volume 1, pp. 49- 59, 1995). **SPAIN**
- 9- The modular characters of the Twisted Chevalley group D<sub>4</sub>(2) over GF(2) (Revista Mathematica, Universidad De CienciasMathematicas, Madrid, Volume 1, pp. 61-67, 1995). SPAIN.
- 10. Covering and automorphism groups of U6(2), Quarterly journal of Mathematics, Oxford University Press 1997. **U.K**.
- 11. Construction of exceptional covers of generic groups , Proc. Camb. Phil.Soc. (1997) **U.K.** (With R.A. Wilson) .

12- [(Six YEARS PROJECT 2002-2007): ATLAS of Finite Group representations.

http://for.mat.bham.ac.uk/atlas/v2.0/ has been prepared by Robert

Wilson, Peter Walsh, Jonathan Tripp, Ibrahim Suleiman, Stephen Rogers, Richard Parker,

Simon Norton, Simon Nickerson, Steve Linton, John Bray and Rachel Abbott .

- The 2-modular characters of Conway"s third group Co3; Journal of Symbolic Computation (1997), 24, pp. 275-283. **U.S.A**
- 14- Conjugacy Classes in Sporadic simple Groups (Communications in Algebra, 28(7),3209-3222 (2000). U.S.A.
- **15-** Generating maximal subgroups of sporadic simple Groups

(Communication of Algebra; **29**(3),1325-1337,(2001). **U.S.A.** 

- **16-** Strongly real elements of the Special Linear Groups ( Journal of Mathematics and Applied Sciences 2007, )
- Strongly real elements of the Alternating and the Sporadic groups ( Jordanian Journal of Mathematics and Statistics 2008 Volume 1, )
- "A note on finite groups in which *c*-permutability is transitive", Acta Mathematica Hungarica Volume 134 January 2012, Volume 134, <u>Issue 1-2</u>, pp 162-168.
- "Some designs for the Symplectic group  $S_6(2)$ " JPMS by Ishaan publishing house **2012** ).
- 20- "A NOTE ON FINITE GROUPS IN WHICH C-NORMALITY IS A TRANSITIVE RELATION" Internaltional Mathematical Forum. Vol 8, **2013** . pp-1881-1887 .Hikary Ltd , www.m-hikari.com
- 21- "A note on Clean and Neat Rings" Proceedings of ICM2016 Conference in Al-Ain UAE 21-24 March **2016**.
- 22- Introduction to Abstract Algebra (book in Arabic) under preparation.

- $\,$  23- Some Generalizations of Shur's inequality , International Journal of Advanced and Applied Sciences , Volume 9 2022
- 24- Conjugacy Classes and Maximal Subgroups in Some Classical Groups Discrete Mathematics –NetherLands (Accepted) 2023
  - 25- On-Going Research Computing Package

 $(Update\ some\ files\ in\ :\ \underline{http://brauer.maths.qmul.ac.uk/Atlas/v3}$  on Finite Simple Groups \ .