

CURRICULUM VITAE

Sami Hussein Mahmood

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1. Personal Data

Date of Birth: April 2, 1955, Jordan
Nationality: Jordanian
Marital Status: Married

2. Education

- Ph.D. (Physics) 1986, Michigan State University, East Lansing, Michigan 48824, USA
- M.Sc. (Physics) 1984, Michigan State University, East Lansing, Michigan
- B.Sc. (Physics) 1978, University of Jordan, Amman, Jordan

3. Ph.D. Dissertation

Characterization and Electron Energy Loss Spectroscopy on NiV and NiMo Superlattices, Michigan State University, E. Lansing, Michigan, USA.

4. Employment

Academic

- Professor, Physics Department, University of Jordan, Amman, Jordan, September 5, 2010 – Now
- Professor, Physics Department, Yarmouk University, Irbid, Jordan, January 7, 1996 – September 4, 2010.
- Associate Professor, Physics Department, Yarmouk University, June 2, 1991 – January 6, 1996
- Assistant Professor, Physics Department, Yarmouk University, October 4, 1986 – June 1, 1991
- Graduate Assistant, Department of Physics & Astronomy, Michigan State University, E. Lansing, Michigan, September 1981 – August 1986
- Physics Instructor, Physics Department, Yarmouk University, September 1979 – September 1981

Administrative

- Dean of Scientific Research and Graduate Studies, Yarmouk University, Irbid, Jordan, September 2, 2007 – Sept. 1, 2009.
- Vice President, Philadelphia University, Jordan, September 1, 2004 – August 31, 2005
- Director, Center for Academic Training and Development, Philadelphia University, Jordan, September 1, 2004 – August 31, 2005
- Director, Quality Assurance and Accreditation, Philadelphia University, Jordan, Nov., 2004 – August 31, 2005
- Dean, Faculty of Science, Philadelphia University, Jordan, Feb., 2005 – August 31, 2005
- Dean, Faculty of Science, Yarmouk University, Irbid, Jordan, September 1, 1998 – September 1, 2004
- Chairman, Physics Department, Yarmouk University, September 2, 1996 – September 21, 1998
- Assistant Dean, Faculty of Arts and Sciences, Al al-Bayt University, Mafrq, Jordan, November 1994 – September 1, 1996
- Director, Center for Theoretical and Applied Physical Sciences, Yarmouk University, April 1992 – September 1, 1994

5. Membership in Scientific societies

- American Physical Society, since 1986
- Jordanian Physical Society, since 2008

6. Honors and Awards

- Jordanian Astronomical Society Award, Amman, October 6th, 2010.
- Scopus Award for Contributions to Science, Amman, April 1st 2009.
- WHO is who in the world, 1993
- Abdul Hameed Shoman Award for Young Arab Scientists, 1993
- Royal Award for top B.Sc. graduate in Physics, 1978
- Faculty of Science Award for top B.Sc. graduate in Physics, University of Jordan, 1978
- Financial awards for distinguished students, University of Jordan. Six awards during the period 1975 – 1978

7. Fellowships and Scholarships

- EEC fellowship for research visit to the University of Birmingham, Birmingham, UK. Summer 1997
- EEC fellowship for research visit to the University of Birmingham, Birmingham, UK. Summer 1995

- Academic affiliate of the Center for Fundamental Materials Research (CFMR), Michigan State University, E. Lansing, MI, USA. Summer 1991
- EEC fellowship for a research visit to the University College of North Wales, Bangor, and University of Liverpool, Liverpool, UK. Summer 1988
- Yarmouk University competitive scholarship toward the Ph.D. degree in Physics in the USA. September 1981 – September 1986
- Ministry of Education competitive scholarship for undergraduate studies, Jordan, September 1974 – September 1978

8. Research Experience

Techniques: Ultra High Vacuum Systems, Analytical Electron Microscopy, X-ray Diffraction, Mössbauer Spectroscopy, Magnetometry, Elemental Analyses.

Materials: Metallic Thin Films and Superlattices, Nanoscale Fine Particle Systems, Metallic Alloys and Compounds.

9. Teaching Experience

Graduate Courses

Quantum Mechanics, Statistical Mechanics, Crystallography, Mössbauer Spectroscopy, Magnetism, Optical and Magneto Optical Properties of Solids and Fine Particles, Experimental Physics and Research Methods.

Undergraduate Courses

Solid State Physics, Statistical Physics, Modern Physics, Theory of Relativity, Quantum Physics, Classical Mechanics, Waves and Optics. Freshman Physics and practical Physics for all levels.

10. Supervision of Graduate Research

1. *Mössbauer Study of the Alloy System $FeAl_{1-x}Cu_x$.* December 1989
2. *X-ray Structural Studies of the Alloys $FeAl_{1-x}Co_x$ and $CuAl_{1-x}Fe_x$.* March 1990
3. *Mössbauer Study for the Alloy System $CuAl_{1-x}Fe_x$.* July 1990
4. *Structural Study of the Alloy System $GdAg_{1-x}Fe_x$.* August 1990
5. *Structural and Mössbauer Study of $FeAl_{1-x}Zr_x$.* September 1990
6. *Structural and Mössbauer Study of the Alloy System $FeAl_{1-x}Nb_x$.* May 1992
7. *Mössbauer Spectroscopic Studies of the Alloy Systems $FeAl_{1-x}Ti_x$ and $FeAl_{1-x}Co_x$.* Nov. 1992
8. *Mössbauer Spectroscopy of $Fe_{1-x}Co_x$.* September 1993

9. *Mössbauer Spectroscopy of $Fe_{1-x}Ni_x$* . October 1993
10. *Water Circulation of Jordanian Waters in the Gulf of Aqaba-Red Sea*, 1997
11. *Structural and Mössbauer Studies of Mechanically Prepared $Fe_{70}Cu_{30}$ Alloy*, 1997
12. *A Software Design for Analysis of Mössbauer Spectra of Iron Containing Alloys*, 1999
13. *Structural and Mössbauer Studies of (FeCu) Cr Alloys*, 1999
14. *On the Effect of Atomic Order-Disorder on the Hyperfine Interactions of $Fe_{3-x}Mn_xSi$ Alloys Using Mössbauer Spectroscopy*, 1999
15. *Structural and Mössbauer Study of $Fe_2Cr_{1-x}V_x$ Alloys*, 2001
16. *Structural and Mössbauer Studies of $Fe_{0.9-x}Co_xZr_{0.1}$ Alloys*, 2001
17. *Structural and Mössbauer Studies of the Alloy Systems ($Fe_{0.75}Ni_{0.25-x}Cr_x$) and ($Fe_{0.65}Ni_{0.35-x}Cr_x$)*, 2002
18. *Mössbauer and Structural Studies of (RE- Fe_2) Alloys*, 2002
19. *Theoretical Calculations of the Hyperfine Interactions in Alloys Containing Iron*, 2005
20. *Mössbauer Study of the systems $Pr_{0.5}Sr_{0.5}Mn_{1-x}Fe_xO_3$* . 2007

Membership on Examining Committees for Postgraduate Studies

- Membership of Examining Committees for tens of M.Sc. theses at Yarmouk University
- Member of Examining Committee and external examiner for several M.Sc. theses in materials research at the University of Jordan and Al al-Bayt University
- Member of Examining Committee for Ph.D. theses in materials research at the University of Jordan
- External examiner for Ph.D. thesis in materials science at Bahauddin Zakariya University, Pakistan, 2002

11. Grants

The following projects were funded by national and international organizations

1. Team Member of a Project Co-Funded by Scientific Research Support Fund (SRSF), Jordan, "Structural and Magnetic Properties of Nanohexaferrites", 2010 (JD55,000)
2. Team Member of a Project Co-Funded by Scientific Research Support Fund (SRSF), Jordan and Yarmouk University, "Synthesis and Characterization of Novel Nanomaterials", 2008 (JD160,000)
3. ICAC/Irbid Research Project in Mössbauer Spectroscopy of Magnetic Alloys. 1994 (JD12,000)
4. ICAC/Irbid Research Project in Structural Characterization of Magnetic Alloys. 1993 (JD2500)

5. Mössbauer Spectroscopy of Iron Containing Alloys, Fine Magnetic Particles and Geological samples from Jordan. European Community through EEC Protocol III, implemented in 1993. (Equipment: ECU 70,000; 5 month faculty, and 2 month technical exchange scientific visits with Birmingham University, UK)
6. Characterization of Alloys and Geological Samples from Jordan Using X-ray Diffraction. European Community through EEC Protocol III, implemented in 1993.(Equipment: ECU 50,000; 5 month faculty, and 4 month technical exchange scientific visits with Birmingham University)
7. EU grant under EEC Protocol III, for upgrading the diffraction facility at the Yarmouk University Physics Department, 2000 (USD 30,000).
8. Team Leader of a Project Funded by a Government Grant under Higher Education Development Program (HEDP): Project title: "Upgrading of Undergraduate Teaching in the Faculty of Science", 2000, (USD 700,000)
9. Team Leader of a Project Funded by a Grant from the International Development Research Center (IDRC), Canada for a project entitled, "Small Grants in Land and Water Security" under which the new M.Sc. program in Environmental Sciences has been launched, 1999-2001, (USD 200,000)
10. Team Leader of a Project Funded by a HEDP Government Grant for the establishment of a Biomedical Physics undergraduate program, 2003, (USD 620,000)
11. Several projects were supported by the Deanship of Research and Graduate Studies at Yarmouk University in the fields of alloys and fine particles. Funds provided for these projects ranged from USD 2,500 to USD 15,000

12. Project Management

1. Faculty of Science Higher Education Development Projects: Governmental grant via a loan from the World Bank (1998 – 2004): Three projects funded, totaling about \$2 Million
2. Projects related to the study of environmental issues in Northern Jordan, including the establishment of a Master's Degree Program in Environmental Sciences at Yarmouk University, in cooperation with Carleton University of Canada and funded by the International Development Research Centre of Canada (1999-2002)

13. Membership on Committees

National and International

1. Yarmouk University representative, National Committee for Undergraduate Physics Education, 1988/89
2. Member of the Marine Scientific Station Council, Aqaba. Sep. 1, 1998 - Sep. 1, 2004, and Sept. 2, 2007 – Sept. 1, 2009.
3. Member, Committee of the Jordan Badia Research and Development Program, Higher Council for Science and Technology, Sept. 1, 1998 – 2002.
4. Member, Scientific Committee, SESAME project, 1998 to present
5. Member, National Higher Committee for accreditation of Academic Degrees, October 15, 2001-October 14, 2003

6. Member, Committee for the accreditation of Physics programs in Jordanian universities, 2001
7. Member, National Central Committee for Promotion of Ministry of Education Teachers, October 2002-August 11, 2009.
8. Chairman, Organizing Committee, Regional Program, Frontiers of Science and Engineering, 2003
9. Member, Steering Committee, Workshop Promoting Cooperation in Agricultural R&D in the Middle East Region, July 2004
10. Member, National Higher Committee for Scientific Research, Sept. 2, 2007 – Sept. 1, 2009.
11. Member, Technical Committee for Scientific Research Fund, Ministry of Higher Education and Scientific Research, July 23, 2007 – July 23, 2009.
12. Member, Board of Directors, Scientific Research Fund, Ministry of Higher Education and Scientific Research, Sept. 2, 2007 – Nov. 2008.
13. Member, Commission for Scientific Awards, Ministry of Higher Education and Scientific Research, October, 2007 – Sept. 1, 2009.
14. Member, Council of the Center for Theoretical and Applied Physical Sciences, Yarmouk University, Irbid, Jordan, 2007 -
15. Scientific Advisor, Middle East Science Fund, King Abdullah II Fund for Development, April 1, 2008 -
16. National Team for the National Research Strategy 2009-2012, Ministry of Higher Education and Scientific Research, Jordan, Nov. 2008 - Feb. 2009.
17. Member, Council of Scientific Research and Graduate Studies, Princess Sumaya University of Technology, Amman, Jordan, 2009 -
18. Member, Council of Scientific Research, Al al-Bayt University, Mafraq, Jordan, October, 2009 -
19. Member, Basic Science and Nanotechnology Committee for Scientific Research Fund, Jordan, September 22, 2010 – September 21, 2011.
20. Member, Tafila Technical University Board of Trustees, Jordan, October 5th, 2010 -

University

1. Member of several university councils and committees
2. Member of several councils and committees at the Faculty of Science
3. Member of several committees at the Physics Department

14. Professional and Scientific Meetings

Contributions in meetings

1. *Sixth Joint SESAME Scientific and Beamline Committee Meeting*, Amman, Jordan, Nov. 2, 2008
2. *Fifth Joint SESAME Scientific and Beamline Committee Meeting*, Amman, Jordan, Nov. 16, 2007
3. *Forth Joint SESAME Scientific and Beamline Committee Meeting*, Cairo, Egypt, November, 2006
4. *Fourth International Conference on Magnetic and Superconducting Materials (MSM05)*, Agadir, Morocco, 5-8 September, 2005. INVITED SPEAKER

5. *Third Joint SESAME Scientific and Beamline Committee Meeting*, Paris, France, May, 2005
6. *Second Joint SESAME Scientific and Beamline Committee Meeting*, Paris, France, 16-17, April, 2004
7. *9th ATF International Col. Meeting*, Kamogawa, Japan, 19-20, March, 2004. INVITED SPEAKER on “SESAME Project”
8. *The 5th Asian Synchrotron Radiation Forum in Saga*, Japan, 16-17 March, 2004. INVITED SPEAKER on “The Present Status of SESAME”
9. *Third International Conference on Magnetic and Superconducting Materials (MSM03)*, Monastir, Tunisia, 1-4 September, 2003. INVITED SPEAKER
10. *Second SESAME Users Meeting 2003*, Isfahan University of Tech. Isfahan, Iran, 29 November – 1 December, 2003. Head of IR group.
11. *First Joint SESAME Scientific and Beamline Committee Meeting*, Manchester, England, 19 – 20 December, 2002
12. 14th Annual Beckman Frontiers of Science Symposium, organized by the U.S. National Academy of Sciences, Irvine, California, 14-16 November, 2002
13. *JSPS (Japan Society for the Promotion of Science) Asian Science Seminar, First SESAME Users Meeting*, Al-Balqa University, Jordan, 19-28 October, 2002
14. The Arab Science and Technology Foundation’s “*Second Seminar on the Technological Research & Development in the Arab World*”, Sharjah, United Arab Emirates, 24-27 March, 2002
15. *International Symposium on the Industrial Applications of the Mossbauer Effect (ISIAME 2000)*, Norfolk, Virginia, USA, 13-18 August 2000
16. *Workshop on Environmental Teaching*, Ottawa, Canada, 2000
17. *Conference of the Association of the Deans of Science of Arab Universities*, Bahrain, November 1999
18. *First Regional Conference on Magnetic and Superconducting Materials (MSM-99)*, Tehran, Iran, 27-30 October 1999
19. *Invited lecturer at the workshop on "Magnetic Measurements for Magnetic Materials Characterization and Quality of Magnetic Recording Media"*, Al al-Bayt University, Mafraq, Jordan, April 1998
20. *Conference on Materials Science*, Mu'tah University, Karak, Jordan, Nov. 1997
21. *International Conference on Advanced Materials*, Islamabad, Pakistan, Sept. 20-26, 1997
22. *International Conference on Magnetism 1994*, Warsaw, Poland, August 22-26, 1994
23. *CTAP First Symposium on Magnetics*, CTAP, Yarmouk University, November 22-24, 1993
24. *The 37th Annual Conference on Magnetism and Magnetic Materials*, Houston, Texas, USA, December 1-4, 1992
25. *Fifth International Conference on Magnetic Fluids*. Riga, USSR, September 1989
26. *4th Petra School of Physics Symposium* (biennial). Jordan, 1987
27. *Annual American Physical Society Meeting*, Las Vegas, Nevada, March 1986
28. *Annual American Physical Society Meeting*, Baltimore, Maryland, March 1985
29. *Annual American Physical Society Meeting*, Detroit, Michigan, 1984

30. *First International Conference on Superlattices, Microstructures, and Microdevices*, Urbana-Champaign, Illinois, Summer 1984

Participation in organization of meetings

1. *First Symposium on Computational Condensed Matter Physics*, CTAP, Yarmouk University, Irbid, Jordan, November 16-18, 1992 (Chairman of the Organizing Committee)
2. *CTAPS First Symposium on Magnetics*, Yarmouk University, Irbid, Jordan, November 22-24, 1993 (Chairman of the Organizing Committee)
3. *ASTA Workshop on Materials, Lasers and Characterization*, Yarmouk University, Irbid, Jordan, August 1, 1994
4. *CTAPS Second Symposium on Magnetics*, Yarmouk University, Irbid, Jordan, November 2-4, 1996 (Chairman of the Organizing Committee)
5. *Workshop on Improving Physics Education in the Arab World by Using Computers*, Yarmouk University, Nov. 1997 (Chairman of the Organizing Committee)
6. *CTAPS Third Symposium on Magnetics*, (Chairman of the Organizing Committee), Yarmouk University, Irbid, Jordan, November 2-4, 1998
7. *CTAPS Fourth Symposium on Condensed Matter Physics* (Chairman of the Organizing Committee) Yarmouk University, Irbid, Jordan, November 1-3, 1999.
8. *6th Petra School of Physics Symposium on "Physics of Low Dimensional Systems"* (Chairman of the Organizing Committee), Yarmouk University, Irbid, Jordan, September 6 - 13, 1998
9. *The First Regional Conference on Magnetic and Superconducting Materials (MSM99)*, (Member of the Scientific Committee), Sharif University of Technology, Tehran, Iran 27-30 September, 1999.
10. *The Second Regional Conference on Magnetic and Superconducting Materials (MSM01)*, (Chairman of the Organizing Committee and member of the Scientific Committee), Yarmouk University, Irbid, Jordan, September 9-13, 2001
11. *The Third International Conference on Magnetic and Superconducting Materials (MSM'03)*, (Co-Chairman of the Organizing Committee and member of the Scientific Committee) Monastir, Tunisia, September 1-4, 2003
12. *Frontiers of Science and Engineering Program for the Middle East*, (Chairman of the Organizing Committee), Istanbul, Turkey. September 2003
13. Workshop on, "*Identifying the National Priorities Concerning Environmental Issues in relation to Science, Society, Education and Legislation*", Yarmouk University, Irbid, Jordan, 3 November 2002 (Chairman of the Organizing Committee)
14. Workshop on, "*Education and the Master's Degree Program in Environmental Sciences at Yarmouk University: Achievements and Outlook*," Yarmouk University, Irbid, Jordan, 28-29 May, 2002 (Chairman of the Organizing Committee)
15. *The Fourth International Conference on Magnetic and Superconducting Materials (MSM'05)*, (Co-Chairman, and member of the Scientific Committee), Agadir, Morocco 5-8 September, 2005.
16. *6th SESAME User's Meeting*, (Member of Scientific Program Committee, Member of the Local Organizing Committee), Amman, Nov. 17 – 19, 2007

17. *The International Conference of Materials in Jordan*, (Member of Scientific Committee), Amman, March 4 – 6, 2009

15. Editorial Boards

- Member, editorial board of Jordan Journal Physics, 20/12/2006- present
- Member, editorial board of the research journal of Yarmouk university, 2000-2004
- Member, editorial board of Journal of the Association of Arab Universities for Basic and Applied Sciences, 2005- present

16. Other Activities

- Prepared a lab manual for third year physics students, Yarmouk University, 1987
- Prepared a curriculum plan for two undergraduate courses in physics for "The Open University of Al-Quds", 1989
- Prepared a curriculum plan for an undergraduate course in *Psychological and Social Effects of Technology*, AL al-Bayt University, 1994/95
- Participated in writing a lab manual for freshman physics, AL al-Bayt University, 1994/95
- Refereed many research papers for publication in scientific research journals, nationally, regionally and internationally
- Refereed applications for promotions of Physics faculty members in Arab universities
- Evaluated national scientific projects
- Evaluated university text books in Physics
- Course Production for MedNet University administered by Politecnico, Turin, Italy. The courses will be adopted as part of the university distance learning curriculum.
 - Physics 1 module is prepared and recorded both in Arabic and English (January 2004)
 - Physics 2 module is recorded both in Arabic and English, August 2004
- Expert, Proposal Writing Training Workshop, Higher Council for Science and Technology, Amman, Jordan, 2009.
- Expert, Proposal Evaluation Training Workshop, Higher Council for Science and Technology, Amman, Jordan, September 4, 2010.

17. References

- Professor J. Bass
Department of Physics
Michigan State University
East Lansing, MI 48824, USA
Phone: (517)355-9701, Fax: (517)355-0690
- Professor Fayez Khasawneh
Ex-President, Yarmouk University
Irbid, Jordan
- Professor Hisham Gharaibeh
Dean, Talal Abu Ghazaleh College
German Jordanian University
Amman, Jordan
- Professor Marwan Kamal
President, Philadelphia University
Amman, Jordan
Phone: (962 2) 637 4444
- Professor Adnan Badran
Ex Prime Minister of Jordan,
President of Petra University
Amman, Jordan

18. Publications

Journal Articles

1. Bsoul, I., **Mahmood, S.H.**, and Lehlooh, A-F., (2010). *Structural, Magnetic and Hyperfine Interactions in SrFe_{12-x}(Ru, Ti)_xO₁₉*. In preparation.
2. **Mahmood, S.H.**, Bsoul, I., (2010). *Hopkinson peak and superparamagnetic effects in BaFe_{12-x}Ga_xO₁₉ nanoparticles*. In preparation
3. Azadi Motlagh, Z., Mozaffarri, M., Amighian, J., Lehlooh, A-F., Awawdeh, M., **Mahmood, S.**, (2010). *Mössbauer Studies of Y₃Fe_{5-x}Al_xO₁₂ nanopowders prepared by mechanochemical method*. Hyperfine Interactions. Submitted
4. Bsoul, I., **Mahmood, S.H.**, and Lehlooh, A-F., (2010). *Magnetic and Hyperfine Interactions in BaFe_{12-x}(Ru, Ti)_xO₁₉*. Accepted. J. Alloys and Compounds
5. Bsoul, I., **Mahmood, S.H.**, (2010), *Magnetic and Structural Properties of BaFe_{12-x}Ga_xO₁₉ Nanoparticles*. J. Alloys and Compounds 489, 110-114.
6. **Mahmood, S.H.**, Dawood, J., Lehlooh, A-F., Cheikh-Rouhou, A., Ammar, A. (2010). *Polaronic and Charge Ordering Effects in Pr_{0.5}Sr_{0.5}Mn_{1-x}Fe_xO₃*. Hyperfine Interactions 196 (1), 385.
7. Bsoul, I., **Mahmood S.H.**, (2009). *Structural and Magnetic Properties of BaFe_{12-x}Al_xO₁₉ Prepared by Ball Milling and Calcination*. Jordan J. Phys., 2 (3) 171.
8. Lehlooh, A-F, Amighian J., **Mahmood, S.** (2008). *Mössbauer Spectroscopy Study of Aluminum Substituted Ni-Ferrites*. Hyperfine Interactions, 183, 193-198.
9. Odeh I. M., Lehlooh, A-F, **Mahmood, S.** (2008). *X-Ray Diffraction and Mössbauer Spectroscopy of High Energy Ball-Milled α -Fe₂O₃/TiO₂ Composite Powders*. Hyperfine Interactions, 183, 25-29.
10. Lataifeh, M. S., O'Shea M., Saleh A.S., **Mahmood, S.** (2008). *Magnetization Measurements on "as Prepared" and Annealed Fe_{3-x}Mn_xSi Alloys*. Jordan Journal of Physics, 1 (1),
11. Lehlooh, A.-F., El-Ghanem, H., Arafa, I., and **Mahmood, S.**, (2007). *Mössbauer spectroscopy Study of Macromolecular Complexes of Polycarbosilazane Coordinated with Fe(II), Fe(III) and Mixed Valence Fe(II-III) Chlorides*. International Journal of Polymeric Materials, 56, 187-195.
12. Al-Sharif, A.I., Al-Khateeb, A.M., and **Mahmood, S.H.**, Laham, N.M, and Bawa'neh, M.S. (2007). *Coupling of Slow Phase Velocity Surface Waves of a Planar Plasma Bounded by two Dielectrics*. The Arabian Journal for Science and Engineering, 32(1A), 49-58.
13. Samara, Q., Al-Sharif, A.I., **Mahmood, S.H.** (2006). *On the Magnetic Properties and Hyperfine Fields in Fe-Containing Alloys: A Theoretical Study*. Phys. Stat. Sol. (c) 3 (9), 3285-3291.
14. El-Ali, A., Ershaidat, N., Al-Sharif, A.I., Al-Khateeb, A.M., and **Mahmood, S.H.** (2005). *Effects of Screening on the Plasmon Bands in Metallic Superlattices*. The Arabian Journal for Science and Engineering, 30(2A), 229-236.
15. Lehlooh, A-F., **Mahmood, S.**, Mozaffari, M., and Amighian, J. (2004). *Mössbauer spectroscopy Study on the Effect of Al-Cr Co-substitution in Yttrium and Yttrium-Gadolinium Iron Garnets*. Hyperfine Interactions 156/157, 181-185.

16. **Mahmood, S.H.**, Lehlooh, A-F., Saleh, A.S., and Wagner, F.E. (2004). *On the Hyperfine and Magnetic Properties of the Alloy System $Fe_{3-x}Mn_xSi$* . Phys. Stat. Sol. (b), 241 (6), 1186-1191.
17. Nammass, S., Al-Omari, I.A., and **Mahmood, S.H.** (2003). *Mössbauer and Structural Studies of $Fe_{0.75}Ni_{0.25-x}Cr_x$ and $Fe_{0.65}Ni_{0.35-x}Cr_x$ Alloy Systems*. Journal of Alloys and Compounds, 353, 53-59.
18. Lehlooh, Abdel-Fatah D., and **Mahmood, Sami H.** (2002). *Mössbauer Spectroscopy Study of Iron Nickel Alloys*. Hyperfine Interactions, 139/140, 387-392.
19. Lehlooh, Abdel-Fatah, Fayyad, S.M., and **Mahmood, Sami H.** (2002). *Mössbauer Spectroscopy Study of Fe-Si solid Solutions Prepared by Mechanical Milling*. Hyperfine Interactions, 139/140, 335-344.
20. Al-Nawashi, Ghassan A., **Mahmood, Sami H.**, Lehlooh, Abdel-Fatah D., and Saleh, Ahmad S. (2002). *Mössbauer Spectroscopic Study of Order-Disorder Phenomena in $Fe_{3-x}Mn_xSi$* . Physica B, 321, 167-172.
21. Lehlooh, Abdel-Fatah D., **Mahmood, Sami H.**, and Buschow, K.H.J. (2002). *Mössbauer Spectroscopy Study of $GdFe_{6-x}Co_xGe_6$ Alloy*. Physica B, 321, 163-166
22. Lehlooh, Abdel-Fatah, **Mahmood, Sami H.**, and Williams, John M. (2002). *On the Particle Size Dependence of the Magnetic Anisotropy Energy Constant*. Physica B, 321, 159-162.
23. Lataifeh, Mahdi S., **Mahmood, Sami**, and Thomas, Michael F., (2002). *Mössbauer spectroscopy study of substituted Rare-Earth Iron Garnets at low temperature*. Physica B, 321, 143-148.
24. Mohaidat, Q.I., Al-Omari, I.A., and **Mahmood, S.H.** (2002). *Structural and Mössbauer Studies of $Fe_{0.9-x}Co_xZr_{0.1}$ Alloys*. Physica B, 321, 149-153.
25. Hamasha, K.M., Al-Omari, I.A., and **Mahmood, S.H.** (2002). *Mössbauer and Structural Studies of the $Fe_2Cr_{1-x}V_x$ Alloy System*, Physica B, 321, 154-158.
26. Shobaki, J., Al-Omari, I.A., Hasan, M.K., Azez, K.A., **Mahmood, S.H.**, and Sellmyer, D.J. (2002). *Magnetic, X-ray Diffraction and Mössbauer Spectroscopy Studies of $Nd_2Fe_{15}Ga_2C_x$ Magnets*. Physica B, 321, 173-177.
27. Lehlooh, A.F., Lataifeh, M., and **Mahmood, S.** (2001). *Mössbauer Spectroscopy Study of the Alloy System $Gd(Fe_{1-x}Co_x)_2$* . Dirasat, Pure Sciences, Volume 28 (2). 201-204.
28. Lehlooh, Abdel-Fatah D. Lataifeh, Mahdi S., and **Mahmood, Sami H.** (2000). *Mössbauer and Structural Studies of Tb_2Fe_{17}* . Mu'tah Journal for Research and Studies, 15, 75-82.
29. Said, M.R., Hamam, Y.A., **Mahmood, S.H.**, and Abu-Aljarayesh, I. (2000). *A Study of the Magnetic Behavior of the System $FeAl_{1-x}Mn_x$* . Mu'tah Journal for Research and Studies, 15, 93-102.
30. Shobaki, J., Al-Omari, I.A., Hasan, M.K., Azez, K.A., Al-Akhras, M-Ali H., Albiss, B.A, Hamdeh, H.H., and **Mahmood, S.H.** (2000). *Mössbauer and Structural Studies of $Fe_{0.7-x}V_xAl_{0.3}$ alloys*. Journal of Magnetism and Magnetic Materials, 213, 51-55.
31. Said, M.R., Hamam, Y.A., Abu-Aljarayesh, I., and **Mahmood, S.** (1999). *Critical exponents of $(Fe,Mn)_3Si$* . Journal of Magnetism and Magnetic Materials, 195, 679-686.
32. Lataifeh, M., Lehlooh, A.F., and **Mahmood S.H.** (1999). *Mössbauer Spectroscopy of Al substituted Fe in Holmium Iron Garnet*, Hyperfine Interactions, 122, 253-258.

33. Abuhassan, L.H., Abu El-Haija, A.J., **Mahmood, S.**, Yamani, Zain and Nayfeh, M.H. (1998). *Structural Characterization of Porous Silicon as a Function of Depth*. Dirasat, Natural and Engineering Sciences, Vol. 25, No. 3 427-433.
34. El-Ali, A., Kofahi, M., **Mahmood, S.H.**, and Abu-Aljarayesh, I. (1996). *Phonon Dispersion Curves of Fe(Al,Co) System*, Al-Manarah, 1, 27-35.
35. Lee, S.-F., Yang, Q., Holody, P., Loloee, R., Hetherington, J.H., **Mahmood, S.**, Ikegami, B., Vigen, K., Henry, L.L., Schroeder, P.A., Pratt Jr., W.P., and Bass, J. (1995). *Current Perpendicular and Current-Parallel Giant Magnetoresistances in Co/Ag Multilayers*, Phys. Rev. B 52, 15 426-15 441.
36. **Mahmood, Sami H.**, Rousan, Khitam K., Lehlooh, Abdel-Fatah and Mahmoud, Sabri S. (1995) *Mossbauer Spectroscopy of Fe₆₀ Ni₄₀ Alloy Films*, Solid State Communications, 95, No. 12, 879-882.
37. Lehlooh, Abdel Fatah and **Mahmood, Sami H.** (1995). *Mossbauer Spectroscopy of Fe₃ O₄ Ultrafine Particles*. J. Magn. Magn. Mater., 151, 163-166.
38. **Mahmood, Sami H.**, Gharaibeh, Maen A., and Saleh, Ahmad S. (1995). *Mossbauer and Structural Studies of FeAl_{1-x}Ti_x*. Solid State Communications, 95, No. 4, 263-266.
39. Abu-Aljarayesh, I., **Mahmood, S.H.**, and Lehlooh, A-F. (1995). *Mossbauer Study of Magnetic Phase Transition in FeAl_{1-x}Co_x*. J. Magn. Magn. Mater., 140-144, 65-66.
40. **Mahmood, Sami H.**, Rawwagah, Fuad H., Lehlooh, Abdel-Fatah, and Mahmoud, Sabri (1995). *Mossbauer Spectroscopic Studies of Fe_{1-x}Ni_x* Abhath Al-Yarmouk/Pure Sci. & Eng., 4, 61-76.
41. **Mahmood, Sami**, Al-Sugheir, Mohamed, El Ali, Abdel Raouf, Lehlooh, Abdel-Fatah and Mahmoud, Sabri (1995). *Mossbauer Spectroscopic Studies of Fe_{1-x}Co_x* Abhath Al-Yarmouk/Pure Sci. & Eng., 4, 9-24.
42. Lehlooh, Abdel Fatah, **Mahmood Sami H.**, and Abu-Aljarayesh, Ibrahim (1994). *Mossbauer and X-ray Diffraction Studies of Heat Treated Fe₃O₄ Fine Particles*. J. Magn. Magn. Mater., 136, 143-148.
43. Nasir, Sobhi, Lehlooh, Abdel-Fatah, **Mahmood, Sami** and Abu-Aljarayesh, Ibrahim (1993). *Ferric Iron in Upper Mantle Cr-Spinels: A Mossbauer Spectroscopic Study* Chem. Erde, 53, 265-271.
44. **Mahmood, Sami H.**, Gharaibeh, Maen A., Abu-Safia Hassan and Saleh, Ahmad S. (1993). *Mossbauer Spectroscopic Study of FeAl_{1-x}Co_x*. Hyperfine Interactions, 77, 255-264.
45. **Mahmood, S.H.**, Awawdeh, M., and Saleh, A.S. (1993). *Structural and Mossbauer Studies of the Alloy System FeAl_{1-x}Nb_x* J. Appl. Phys., 73, 5663-5665.
46. Abu-Aljarayesh, I., Al-Bayrakdar, A., and **Mahmood, S.H.** (1993). *The Effect of Heating on the Magnetic Properties of Fe₃O₄ Fine Particles*. J. Magn. Magn. Mater. 123 267-272.
47. Abu-Aljarayesh, Ibrahim, **Mahmood, Sami** and Nasir, Sobhi (1993). *Magnetic Studies of Lower Crustal and Upper Mantle Xenoliths from NE-Jordan*, Abhath Al-Yarmouk/ Pure Sci. & Eng., 2, 41-54.
48. **Mahmood, Sami H.** (1993). *Magnetic Anisotropy in Fine Magnetic Particles*. J. Magn. Magn. Mater., 118, 359-364.

49. **Mahmood, S.H.**, and Abu-Aljarayesh, I., (1993). *On the Static and Time Dependent Magnetic Behavior of Fe_3O_4 Fine Particles: Effect of Oxidation*. J. Magn. Magn. Mater., 118, 193-199.
50. **Mahmood, S.H.**, Saleh, A.S., and Abu-Snaineh, T.A. (1992). *Mossbauer Spectroscopy of the Alloy System $CuAl_{1-x}Fe_x$* . J. Magn. Magn. Mater., 117, 393-398.
51. Nasir, Sobhi, Abu Aljarayesh, Ibrahim, **Mahmood, Sami**, and Lehlooh, Abdel-Fatah (1992). *Oxidation State of the Upper Mantle Beneath the Northwestern Part of the Arabian Lithosphere*. Tectonophysics, 213 359-366.
52. Saleh, A.S., Saleh, L.A., Nayfeh, N.M., **Mahmood, S.H.**, and Abu-Aljarayesh, I. (1992). *Structural and Magnetic Studies of the Alloy System $GdAg_{1-x}Fe_x$* . J. Appl. Phys. 71(4) 1893.
53. **Mahmood, Sami**, Abu Aljarayesh, Ibrahim, Al-Kofahi, Mahmoud, Nasir, Sobhi, Popplewell, John and Landydt, Carl (1992). *Characterization of Karak Basalts using Petrological, Magnetic, and Mossbauer Studies*. Dirasat: Res. J. Univ. Jordan, 19B (2), 19-33.
54. Nasir, Sobhi and **Mahmood, Sami** (1991). *Oxidation of Olivine in Lherzolitic Xenoliths From NE-Jordan*. Mu'tah J. Res. and Studies, 6 (2), 171-182.
55. Saleh, A.S., Al-Jaber, R., Malkawi, A., **Mahmood S.**, and Abu-Aljarayesh, I. (1991) *Structural and Magnetic Studies of the Alloy System $CuAl_{1-x}Fe_x$* . J. Magn. Magn. Mater., 99, 152-158.
56. Abu-Aljarayesh, I., **Mahmood, S.**, Yusuf, N., Popplewell, J., and El-Hilo, M. (1991). *Superparamagnetic Behavior in Magnetic Fluids Containing Cobalt Particles Dispersed in Mercury*. Magnetohydrodynamics, 26(4), 418-420.
57. Abu-Aljarayesh, I., **Mahmood, S.**, and Yusuf, N.A. (1991). *Concentration Dependence of the Magnetic Properties of Cobalt Particles Dispersed in Mercury*. Magnetohydrodynamics, 26(3), 293-295.
58. **Mahmood, S.**, Abu- Aljarayesh, I., and Yusuf, N.A., and Popplewell, J. (1991). *Mossbauer Study of Fe_3O_4 Fine Particles*. Magnetohydrodynamics, 27(1), 34-37.
59. Abu-Safia, H., Abu-Aljarayesh, I., **Mahmood, S.H.**, and Yusuf, N.A. (1990). *Temperature Dependence of Birefringence and Dichroism in Magnetic Fluids*. J. Magn. Magn. Mater., 87, 333.
60. Yusuf, N.A., Abu-Safia, H., Abu-Aljarayesh, I., and **Mahmood, S.H.** (1990). *Temperature Dependence of the Faraday Rotation and the Transmission of Light in Magnetic Fluids*. J. Magn. Magn. Mater., 85, 85-87.
61. **Mahmood, S.H.**, and Saleh, A.S. (1989). *Mossbauer Study of the Alloy System $FeAl_{1-x}Co_x$* . J. Magn. Magn. Mater., 82, 63.
62. **Mahmood, S.H.**, Malkawi, A., and Abu-Aljarayesh, I. (1989). *Evolution and Splitting of Plasmon Bands in Metallic Superlattices*. Phys. Rev. B40, 988
63. Omari, I., Saleh, A.S., and **Mahmood, S.H.** (1989). *Mossbauer Studies of the Ternary Substitutional Alloys $FeAl_{1-x}V_x$, $FeAl_{1-x}Mn_x$* . J. Magn. Magn. Mater., 78, 183.
64. Saleh, A.S., and **Mahmood, S.H.**, (1989). *Mossbauer Study of the $FeAl_{1-x}Ti_x$ Alloys*. Dirasat: Res. J. Univ. Jordan, 16(2), 20.

Conference Proceedings

1. **Mahmood, S.**, (2010). *Developing Study plans in Universities in Jordan: Key Issues and Challenges*. National Conference for the Development of Study Plans, Teaching and Learning, and Scientific Research. Amman, Jordan, (June 15-17). Invited Talk.
2. **Mahmood, Sami H.**, and Al-Kofahi Mahmoud M., (2004). *Present Status of SESAME*. Proceedings of the 5th Asian Synchrotron Radiation Forum in Saga.
3. **Mahmood, Sami H.**, Al-Zoubi, Gassem M., and Lehlooh, Abdel-Fatah (2000). *Structural and Mössbauer Studies of Mechanically Prepared Fe₇₀Cu₃₀ Alloy*. Proceedings of the First Regional Conference on Magnetic and Superconducting Materials (MSM-99), Sharif University of Technology, Tehran, Iran, World Scientific Vol. B, 825-830.
4. A.F. Lehlooh, M. Lataifeh, and **S. Mahmood**. (2000). *Mössbauer Spectroscopy Study of the Alloy System Gd(Fe_{1-x}Co_x)₂*. Proceedings of the First Regional Conference on Magnetic and Superconducting Materials (MSM-99), Sharif University of Technology, Tehran, Iran, World Scientific, Vol B, 789-793.
5. Lehlooh, Abdel-Fatah D., Lataifeh, Mahdi S., and **Mahmood, Sami** (1997). *Mössbauer Spectroscopy and Structural Studies of the Tb₂Fe₁₇ Compound*, Proceedings of the 5th International Conference on Advanced Materials, Islamabad, Pakistan, 318-320.
6. Lehlooh, Abdel-Fatah D., Abu-Allaban, Mahmoud, **Mahmood, Sami H.**, and Williams, John (1997). *Low Temperature Mössbauer Spectroscopy Study of Fe_{1-x}Ni_x System*, Proceedings of the 5th International Conference on Advanced Materials, Islamabad, Pakistan, 313-317.
7. **Mahmood, Sami H.**, Lehlooh, Abdel-Fatah, Saleh, Ahmad S., and Darlington, N. (1997). *Mössbauer Spectroscopy of Fe_{3-x}Mn_xSi*. Proceedings of the 5th International Conference on Advanced Materials, Islamabad, Pakistan, 321-323.
8. **Mahmood, Sami H.**, Rawwagah, Fuad H., Lehlooh, Abdel-Fatah, and Mahmoud, Sabri S. (1993). *Mössbauer Spectroscopy of Fe-Ni Alloys*. Proceedings of the CTAP First Symposium on Magnetism, Yarmouk University, Irbid, Jordan, 23-29.
9. **Mahmood, Sami H.**, Al-Sugheir, Mohamed K., El Ali, Abdel Raouf, Lehlooh, Abdel-Fatah, and Mahmoud Sabri S. (1993). *Mössbauer Spectroscopic Study of Fe_{1-x}Co_x*. Proceedings of the CTAP First Symposium on Magnetism, Yarmouk University, Irbid, Jordan, 31-36.
10. Lehlooh, Abdel-Fatah, **Mahmood, Sami**, and Abu-Aljarayesh, Ibrahim (1993). *Mössbauer and X-Ray Diffraction Studies of Heat Treated Fe₃O₄ Fine Particles*. Proceedings of the CTAP First Symposium on Magnetism, Yarmouk University, Irbid, Jordan, 89-97.
11. Lee, S.F., Loloee, R., **Mahmood, S.**, Morin, P., Kuhl, D., Schroeder, P.A., Pratt Jr., W.P., and Bass, J. (1992). *Giant CPP and CIP Magnetoresistances in Co/Cu Multilayers* BAPS 37(3).
12. **Mahmood, S.**, Bass, J., and Schuller, I. (1985). *Electron Energy Loss Spectroscopy (EELS) on NiV Superlattices*, BAPS 30(3) 350.
13. **Mahmood, S.**, Bass J., and Schuller, I. (1986). *EELS on NiV and NiMo Superlattices*, BAPS 31(3) 219.

14. Lee, S.F., Loloee, R., **Mahmood, S.**, Morin, P., Kuhl, D., Schroeder, P.A., Pratt Jr., W.P., and Bass, J. (1992). *Giant CPP and CIP Magnetoresistances in Co/Cu Multilayers* BAPS 37(3).

Books

1. *Proceedings of the First Workshop on Using Computers in Theoretical Physics*, ed. **Sami H. Mahmood**, (Yarmouk University Press, Irbid, Jordan, 1993).
2. *Proceedings of CTAP First Symposium on Magnetism*, ed. **Sami H. Mahmood**, (Yarmouk University Press, Irbid, Jordan, 1993).
3. *Proceedings of the Second Regional Conference on Magnetic and Superconducting Materials*. Irbid, Jordan, 9-13 September 2001. Guest Editors: M. Akhavan, N. Ayoub, A. Barone, J. Bass, J. Clem, P.C.W. Chu, J. Jensen, K. Kitazawa, **S. Mahmood**, W. Nolting (Physica B, Volume 321, Nos. 1-4, August 2002).
4. *Proceedings of the Third International Conference on Magnetic and Superconducting Materials*. Monastir, Tunisia, 1-4 September 2003. Guest Editors: M. Akhavan, E.V. Antipov, B. Barbara, A. Barone, J. Bass, A. Cheikhrouhou, H.-U. Habermeier, **S. Mahmood** (Physica Status Solidi: (a), Vol. 201, No. 7, (b), Vol. 241, No. 6, (c), Vol. 1, No. 7, 2004).
5. *Proceedings of the Fourth International Conference on Magnetic and Superconducting Materials*. Agadir, Morocco, 5-8 September 2005. Guest Editors: A. Taoufik, A. Cheikhrouhou, A. Labrag, A. Ramzi, A. Moudden, M. Akhavan, B. Barbara, A. Barone, , A. Bianconi, C. W. Chu, H.-U. Habermeier, **S. Mahmood**, W. Pickett, S. Senoussi (Physica Status Solidi: (a), Vol. 203, No. 11, (c), Vol. 3, No. 9, 2006).