

# **CURRICULUM VITAE**

## **Qualifications portfolio**

**Professor Moiz Bakhiet - MD, Ph.D.,**



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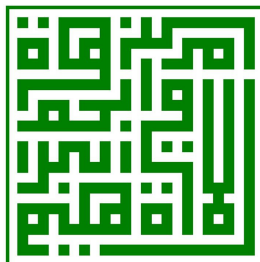
### **Consultant Neurologist**

**University Medical Center  
King Abdulla Medical City**

**Professor and Chairman, Department of Molecular Medicine  
College of Medicine and Medical Sciences**



**Director of Princess Al-Jawhara Center for Molecular  
Medicine, Genetics and Inherited Diseases**



## PERSONAL

- ❖ **Name** **Moiz Bakhiet**
- ❖ Nationality Swedish / Sudanese
- ❖ Languages Arabic, English and Swedish
- ❖ Marital status Married with 6 children
  
- ❖ **Work address** Al Jawhara Center for Molecular Medicine, Arabian Gulf University, P.O. Box 26671 Manama, Bahrain
  
- ❖ Telephone +973 39664120 (mobile) - +973 17237300 (Office)
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- ❖ **Current position**  
Professor and Chairman  
Department of Molecular Medicine  
College of Medicine and Medical Sciences  
Arabian Gulf University  
  
General Director  
Princess Al Jawhara Center for Molecular Medicine,  
Genetics and Inherited Disorders  
  
Consultant Neurologist  
University Medical Center  
King Abdulla Medical City  
  
Member of both College and University Councils  
(AGU)

## Professional qualifications:

❖ Bachelor of Medicine and Surgery (M.B.B.S.), February 1985	Faculty of Medicine, University of Khartoum
❖ Clinical Specialty in Neurology, 1993	Swedish Board of Health and Welfare
❖ Ph.D. in Medical Sciences 1993	Karolinska Institute, Stockholm, Sweden
❖ Associate Professor, 1996	Karolinska Institute, Stockholm, Sweden
❖ Full Professor June 2002	Arabia Gulf University

# Clinical portfolio

## 1. Clinical competence and formal clinical training

### DETAILS FOR SPECIALIST COMPETENCE IN NEUROLOGY

According to the regulations of the Swedish Board of Health & Welfare (SoSFS 1985:1), the requirements for obtaining the degree of specialist competence in Neurology are defined as to be the following:

1. Main Clinical Training: 3 years serving within a recognized department of Neurology
2. Subsidiary Clinical Training.
  - a. 6 months serving within a recognized department of Internal Medicine
  - b. 6 months serving within a recognized department of Psychiatry
3. Systematic Theoretical Education: a total of 6 NLV-courses (Courses of the Committee of the Postgraduate Medical Education) are to be chosen from within the subjects of the required specialty attended and be recognized

I have for 5½ year (from 1 September 1989) followed the described training programme. Thereby, I have fulfilled the necessary requirements to obtain the degree of Specialist in Neurology.

<b>Clinical Neurology</b>	3 years
<b>General Medicine</b>	2½ years + (½ year from the Clinical Neurology Period)*, as follows:

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Internal Medicine (+Gastroenterology)	6 months
Psychiatry	6 months
Cardiology	3 months
Endocrinology	3 months
Nephrology	3 months
Pulmonary Medicine	3 months
Rheumatology	3 months
Infectious Diseases	3 months + 1 year at the endemic diseases hospital, Khartoum, Sudan

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\*Included here to have in total 3 years training in the General Medicine. Parts of the training were conducted in Sudan.

### CLINICAL EXPERIENCE

- ❖ Number of years as specialist: 17 years
- ❖ Experience of posts in inpatient and outpatient care: 25 years

### APPOINTMENTS

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|-----------------------------|---|
| Feb. 1985-Feb. 1986         | House Officer, Khartoum Teaching Hospital   |
| ❖ March 1986-August 88      | Senior Medical officer, Shaab Teaching Hosp.<br>Chief Medical officer following the Clinical Specialty program at the Department of Neurology, Huddinge University Hospital, Stockholm - Sweden |
| ❖ September 88-July 93      |   |
| ❖ July 1993 – December 1998 | Physician Neurologist and senior scientist, Department of Neurology, Huddinge University Hospital   |

- ❖ **N.B.** The period between Mar 95-Feb 96 Department of Medicine, Molecular Medicine Unit, Karolinska Hospital (**Assoc Professor**)
- ❖ January 1998 – December 1998 Dept Immunology, Microbiology, Pathology and Infectious Diseases (**Assoc Professor**)
- ❖ January 1999 – August 2000 Dept of Medicine, Huddinge University Hospital (**Assoc Professor**)
- ❖ September 2000 – December 2001 Dept of Microbiology, Immunology, and Infectious Diseases - College of Medicine Arabian Gulf University (**Assoc Professor**)
- ❖ January 2002 – August 2012 Department of Medicine BDF Hospital (**Senior Consultant Neurologist**)
- ❖ January 2002 – Up to date Department of Molecular Medicine (**Professor and Chairman**)  
College of Medicine, Arabian Gulf University
- ❖ Experience of on-call services: 28 years of standby duty
- ❖ Special clinical competence/profile area: General Neurology and Neuroimmunology

#### ❖ **Activities and experience**

1. Daily conferences between 8:00 – 8:30 a.m. to present and discuss complicated neurological cases admitted to the department during the last 24h
2. Rounds and all responsibilities related to in-patient care in the ward of clinical neurology
3. Consultations and patient care at the outpatient facilities of the Department
4. 24h of duty to take care of neurological emergency cases around the clock
5. Participation at the unit of neuromuscular diseases including evaluation of patients for neuromuscular diseases, biopsies of muscle, skin and peripheral nerve, morphometry of muscle fibers, immunohistochemistry and histology
6. Doppler ultrasound evaluation of cerebrovascular diseases at the laboratory for ultrasound of the Department
7. Evaluation of complicated pain patients at the pain clinic of the department
8. Evaluation of oligoclonal bands in gel electrophoresis and isoelectrical focusing at the routine lab of the Department

#### ❖ **Examination**

Passed an oral extensive examination held by Professor Hans Link, Senior Physician and Chairman of the Department of neurology on July 2, 1993. This examination included all parts, which are necessary for Swedish Neurology Residents when they obtain their specialization.

## 2. **Clinical Administrative Competence**

- ❖ Currently Head department and Chairman – Department of Molecular Medicine – College of Medicine and Medical Sciences – AGU and Director of HH Princess Al-Jawhara Center for Molecular Medicine, Genetics and Inherited Diseases.
- ❖ Acting Head Department of Neurology, Karolinska Institute, Huddinge University Hospital at different occasions from 1996-1998.

- ❖ Acting Head Department of Infectious Diseases, Karolinska Institute - Huddinge University Hospital: June – August 1999.
- ❖ Medical Director of Al-Shaab Teaching Hospital: August 1987 - July 1988.
- ❖ President of the High Committee of Development of Al-Shaab Teaching Hospital – Khartoum: 1987-1988.
- ❖ TV introduced for public Medical Information, Scientific and Cultural programs from 1985-1988.
- ❖ Collaborate in several national and international multidisciplinary projects
- ❖ Has a great ability to manage and collaborate with colleagues and other health and medical personnel
- ❖ Secretary, Medical Student Association: 1981-1982

### **3. Clinical developmental work, research and contributions to clinical training**

- ❖ Chairman of Clinical Research Committee at BDF and Chairman of Research and Ethics Committee AGU
- ❖ For publication of clinical cases and reports see enclosed complete publication list
- ❖ Participated in pharmaceutical evaluation for several new drugs (see publication list)
- ❖ Participated in testing of new treatment strategies e.g.  $\beta$ -interferon as a treatment for Multiple Sclerosis
- ❖ Supervised trainee specialist doctors and other health care personnel (see below).
- ❖ Participated in Clinical courses (e.g. NLV courses for specialist training in Clinical Neurology)

### **4. Current Clinical Position:**

**Consultant Neurologist, University Medical Center, King Abdulla Medical City**

# Scientific portfolio

## 1. Scientific production

### ORIGINAL PAPERS:

#### (TOTAL IMPACT FACTORS 350)

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#### 1990

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1. **Bakhiet M**, Olsson T, Van der Meide P and Kristensson K. Depletion of CD8<sup>+</sup> T cells suppresses growth of *T. brucei brucei* and IFN- $\gamma$  production in infected rats. Clin Exp Immunol; 81: 195-199. 1990.

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#### 1991

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1. Olsson T, **Bakhiet M**, Edlund C, Höjeberg B, Van der Meide P, and Kristensson K. Bidirectional activating signals between *Trypanosoma brucei* and CD8<sup>+</sup> T cells: a trypanosome-released factor triggers interferon gamma production that stimulate parasite growth. Eur J Immunol; 21: 2447-2454. 1991.
2. Nitin G, **Bakhiet M**, Kristensson K, Norrby E and Olsson T. Gamma interferon expression and major histocompatibility complex induction during measles and vesicular stomatitis virus infections of the brain. J Neuroimmunol 31: 19-26. 1991.

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#### 1992

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3. Eneroth P, **Bakhiet M** Olsson T, Kristensson, K. Bidirectional signals *between Trypanosoma brucei brucei* and dorsal root ganglia neurons. J Neurocytol 21:846-852. 1992.
4. Olsson T, **Bakhiet M** and Kristensson K. Interactions between *Trypanosoma brucei* and CD8<sup>+</sup> T cells. Parasitology Today 8: 237- 239. 1992.

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#### 1993

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5. Olsson T, **Bakhiet M**, Höjeberg B, Ljungdahl Å, Edlund C, Andersson G, Ekre H-P, Fung Leung W-P, Mak T, Wigzell H, Fiszer U, Kristensson K. CD8 is critically involved in lymphocyte activation by a *Trypanosoma brucei brucei* released molecule. Cell. 72: 715-727. 1993.
6. **Bakhiet M**, Mix E, Kristensson K, Wigzell H and Olsson T. T cell activation by a *Trypanosoma brucei brucei* derived lymphocyte triggering factor is dependent on tyrosine protein kinases but not on protein kinase C and A. Eur J Immunol. 23: 1535-1539. 1993.
7. Rottenberg M, **Bakhiet M**, Olsson T, Mak T, Wigzell H and Örn A. Differential susceptibility of CD4 and CD8 "knock out" mice to infections with *Trypanosoma brucei* or *Trypanosoma cruzi*. Infect. Immun. 61: 5129-5133. 1993.
8. **Bakhiet M**, Olsson T, Edlund C, Höjeberg B, Holmberg K, Lorentzen J and Kristensson K. A *Trypanosoma brucei brucei* derived factor that triggers CD8<sup>+</sup> lymphocytes to interferon gamma secretion: Purification, characterization and protective effects *in vivo* by treatment with a monoclonal antibody against the factor. Scand. J. Immunol. 37: 165-178. 1993.

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#### 1994

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9. Olsson T, Kelic S, Edlund C, **Bakhiet M**, Höjeberg B, van de Meide P, Ljungdahl Å and Kristensson K. Neuronal interferon gamma-like immunoreactive molecule, bioactivities and Purification. Eur. J. Immunol. 24: 308-314. 1994.

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1995

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10. Zhang G-X, Ma C-G, **Bakhiet M**, Olsson T and Link H. Depletion of CD8+ T cells has protective effect on experimental autoimmune Myasthenia Gravis in Lewis rats. *Eur. J. Immunol.* 25: 1191-1198. 1995.
11. Bonfanti C, Caruso A, **Bakhiet M**, Olsson T, Turano A and Kristensson K. Increased levels of antibodies to IFN- $\gamma$  in human and experimental African trypanosomiasis. *Scand. J Immunol.* 41: 49-52. 1995.
12. Zhang G-X, Ma C-G, **Bakhiet M**, Olsson T and Link H. Suppression of experimental autoimmune Myasthenia Gravis after CD8 depletion is associated with decreased IFN- $\gamma$  and IL-4. *Scand. J. Immunol.* 42: 457-465. 1995.

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1996

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13. Zhang G-X, Xia B-G, **Bakhiet M.**, Wigzell H. and Link H. Both CD4+ and CD8+ are essential to induce experimental autoimmune Myasthenia Gravis. *J. Exp. Med.* 184: 349-356. 1996.
14. **Bakhiet M.**, Jansson L., Büscher P., Holmdahl R., Kristensson K. and Olsson T. Control of parasitemia and survival during *Trypanosoma brucei brucei* infection is related to strain dependent ability to produce interleukin-4. *J. Immunol.* 157: 3518-3526. 1996.
15. **Bakhiet M**, Olsson T., Mhlanga J., Büscher P, Lycke N., Van der Meide P and Kristensson K. Human and rodent IFN- $\gamma$  as a growth factor for *Trypanosoma brucei brucei*. *Eur. J. Immunol.* 26: 1359-1364. 1996.
16. **Bakhiet M**, Olsson T, Ljungdahl Å, Höjeberg B, Van der Meide P, Kristensson K. Induction of Interferon- $\gamma$ , Transforming growth factor- $\beta$  and interleukin-4 in mouse strains with different susceptibility to *Trypanosoma brucei brucei*. *J. Interf. Cytok. Res.* 16: 427-433. 1996.
17. Andersson M, Löf P. and **Bakhiet M**. Lovastatin inhibits interferon- $\gamma$ -induced *Trypanosoma brucei brucei* proliferation: evidence for mevalonate pathway involvement. *J. Interf. Cytok. Res.* 16: 435-439. 1996.
18. **Bakhiet M**, Büscher P, Kristensson K, Wigzell H and Olsson T. Different Trypanozoon species possess CD8 dependent lymphocyte triggering factor-like activity. *Immunol. Letters.* 50: 71-80. 1996.

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1997

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19. Vaidya T. **Bakhiet M**, Olsson T., Kristensson K. and Donelson J. The gene for a T-lymphocyte triggering factor from African trypanosomes. *J Exp Med* 186: 433-438. 1997.
20. Akuffo H, Maasho K, Blomstedt M, Höjeberg B, Britton S and **Bakhiet M**. Promastigotes of *Leishmania aethiopica* derived from diffuse cutaneous leishmaniasis patients preferentially induce mRNA for IL-10 while those from local cutaneous leishmaniasis patients induce interferon gamma. *J. Infect. Dis.* 175: 737-741. 1997.
21. Mustafa E., **Bakhiet M.**, Jaster R., Bittorf T., Mix E. and Olsson T. Tyrosine kinases are required for interferon- $\gamma$  stimulated proliferation of *Trypanosoma brucei brucei*. *J. Infect. Dis.* 175: 669-673. 1997.
22. **Bakhiet M**, Diab A, Mustafa M, Zhu J, Lindqvist L and Link H. Potential role of autoantibodies in the regulation of cytokine responses in bacterial infections. *Infect. Immun.* 65: 3300-3303. 1997.
23. Raqib R, Gustafsson A, Ljungdahl Å and **Bakhiet M**. A systemic downregulation of gamma interferon production is associated with acute shigellosis. *Infect Immun.* 65: 5338-5341. 1997.

24. Diab A, Zhu J, Lindqvist L, Wretling B, **Bakhiet M.** and Link H. Haemophilus influenzae and Streptococcus pneumoniae induce different pattern of intracerebral cytokines during the course of experimental bacterial meningitis. Clin. Exp. Immunol. 109: 233-241. 1997.
25. Khalil A., **Bakhiet M.**, Brauner A and Taullus K. Cytokine gene expression in kidneys of mice experimentally infected with *Escherichia coli*. J. Urol. 158: 1567-1580. 1997.
26. Diab A, Zhu J, Lindqvist L, Wretling B, Link H and **Bakhiet M.** Cytokine mRNA profiles during the course of experimental Haemophilus influenzae bacterial meningitis. Clin Immunol. Immunopathol. 85: 236-245. 1997.
27. Mustafa A., Nyberg F., Mustafa M., **Bakhiet M.**, Mustafa E. and Adam A. Growth hormone stimulates production of IFN- $\gamma$  in human mononuclear cells. Horm. Res. 48: 11-15. 1997.

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### 1998

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28. Abdel-Halim S, Guenifi A, Bing H, Mustafa M, Höjeberg B, Hillert J, **Bakhiet M.** and Evendic S. Mutations of adenylate cyclase gene, enhanced expression of adenylate cyclase mRNA and generation of cAMP in the spontaneously diabetic GK rat islets. Diabetes. 47: 498-504. 1998.
29. Elkarim R., Mustafa M., Link H. and **Bakhiet M.** Cytokine Autoantibodies in multiple sclerosis, Aseptic meningitis and stroke. Eur. J. Clinic. Invest. 28: 295-299. 1998.
30. Mousa A, Mustafa M Wallberg L, Seiger Å and **Bakhiet M.** Interactions between human embryonic forebrain cells, interferon- $\gamma$  and interleukin-4. Int J Mol Med. 1: 172-176. 1998.
31. Eltayeb R, Mustafa M, Kristensson K, Olsson T, Lycke N, van der Meide P-H. and **Bakhiet M.** Cytokines and anti-cytokine autoantibodies during experimental African trypanosomiasis in mice with disrupted IFN- $\gamma$  and IFN- $\gamma$  receptor genes. Int J Mol Med. 1: 177-183. 1998.
32. **Bakhiet M.** Mustafa M, Zhu J, Lindqvist L, Link H and Diab A. Induction of cytokines and anti-cytokine autoantibodies in cerebrospinal fluid during experimental bacterial meningitis in rats. Clin. Exp. Immunol. 114: 398-402. 1998.
33. Elkarim R., Mustafa M., Link H. and **Bakhiet M.** Recovery from Guillain-Barrié syndrome is associated with increased levels of neutralizing autoantibodies to IFN- $\gamma$ . Clin. Immunol. Immunopathol. 88: 241-248. 1998.
34. Li H, Shi FD, He B, **Bakhiet M.** Wahren B, Berglöf A, Sandsted K and Link H. Experimental autoimmune myasthenia gravis induction in B cell deficient mice. Int Immunol. 10: 1359-1365. 1998.
35. Zhu J, Deng GM, Diab A, Zwingenber K, Zhou JN, **Bakhiet M.** Link H. Thalidomide exacerbates experimental autoimmune neuritis in Lewis rats. Scan J Immunol. 48: 397-402. 1998
36. Zhu J, Zou LP, **Bakhiet M.** Mix E. Resistance and susceptibility to experimental autoimmune neuritis in Sprague-Dawley and Lewis rats correlate with different levels of autoreactive T and B cells responses to myelin antigens. J Neurosci Rec. 54: 373-381. 1998.
37. Mousa A, Mustafa A, Seiger Å, Kjaeldgaard A and **Bakhiet M.** Tyrosine kinases are potentially involved in growth stimulation of human first trimester forebrain cells by interferon- $\gamma$ . Neuroreport. 9: 4097-4101. 1998.
38. Mousa A, Seiger Å, Kjaeldgaard A and **Bakhiet M.** Human first trimester forebrain cells express genes for inflammatory and anti-inflammatory cytokines. Cytokine. 11: 55-60. 1998.

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### 1999

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39. **Bakhiet M.** Özenci V., Withagen C, Fredrikson S and Link H. A new cell enzyme-linked immunosorbent assay demonstrates gamma interferon suppression by beta interferon in multiple sclerosis. Clin Diagn Lab Immunol. 6: 415-9. 1999.
40. **Bakhiet M.** Elkarim R, Diab A, Zhu J, Lindqvist, L Link H and Mustafa M. A novel mechanism for cytokine regulation: Screening, selection and characterisation of anti-cytokine monoclonal and polyclonal autoantibodies. J Interf. Cytok. Res. 19: 439-445. 1999.
41. Diab A, Li H-L, Zhu J, Lindquist L, Wretling B., **Bakhiet M.** and Link, H. Neutralization of MIP-2 and MIP-1 $\alpha$  attenuates neutrophil recruitment in the central nervous system during experimental bacterial meningitis. Infect. Immun. 67: 2590-601. 1999.



42. Hamadien M, Lycke N and **Bakhiet M**. Induction of the trypanosome lymphocyte triggering factor and its antibodies in mice with different susceptibilities to African trypanosomiasis. *Immunology*. 96: 606-611. 1999.
43. Elkarim R., Mustafa M., Lindqvist L., Link H. and **Bakhiet M**. Levels of gamma interferon and interleukin-4 are inversely related to the levels of their corresponding autoantibodies in patients with lower respiratory tract infection. *Infect Immun*. 67:3051-4. 1999.
44. Elkarim R., Mustafa M., Ekerfelt C., Ernerudh J., Link H. and **Bakhiet M**. Induction of neutralizing autoantibodies to interferon-gamma in patients with polyneuropathy. *Hum. Antibodies*. 9: 55-60. 1999.
45. Zhu J, Bai XF, Björk J, Hedlund G, **Bakhiet M**, Link H. Linomide suppresses experimental allergic neuritis in Lewis rats by inhibiting myelin antigen-reactive T and B cells responses. *Clin. Exp. Immunol*. 115: 56-63. 1999.
46. Liu Y, Li Z and **Bakhiet M**. Upregulation of the chemokines Rantes, MCP-1, MIP-1a and MIP-2 in early infection with *Trypanosoma brucei brucei* and inhibition by sympathetic denervation of the spleen. *Trop. Med. Int. Health*. 4: 85-92. 1999
47. Sharafeldin A, Hamadien M, Diab A, Khalil A, Li H-L, Shi F-D, and **Bakhiet M**. Cytokine profiles in the central nervous system and the spleen during the early course of experimental African Trypanosomiasis in rat. *Scand. J. Immunol*. 50:256-261. 1999.
48. Xiao B-G., Mousa A., Kivisäkk P, **Bakhiet M**. and Link H. Induction of  $\beta$ -family chemokines mRNA in human embryonic astrocytes by inflammatory cytokines and measles virus. *J. Neurocytol*. 27: 575-80. 1999.
49. Alhashimi N, Frithiof L, Brudvik P and **Bakhiet M**. Chemokines are upregulated during orthodontic tooth movement. *J. Interferon. Cytokine Res*. 19: 1047-1052. 1999.
50. Liu Y, Li Z, Nuortio L and **Bakhiet M**. Interferon- $\gamma$  and interleukin-12 genes are preferentially expressed during early experimental African trypanosomiasis and suppressed by splenic denervation of the spleen. *Scand. J. Immunol*. 50: 485-91. 1999.
51. Wang HB, Li H, He B, Bakhiet M, Levi M, Wahren B, Berglof A, Sandstedt K, Link H, Shi FD. The role of B-cells in experimental myasthenia gravis in mice. *Biomed Pharmacother* 53:227-33. 1999.
52. **Bakhiet M**. The role of autoantibodies in the action of cytokines. *Frontiers in multiple sclerosis III*. EDS: Martin Dunitz Ltd, London. 1999.

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**2000**

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53. Eltayeb R, Sharafeldin A, Robert Jaster, Thomas Bittorf, Mix E and **Bakhiet M**. *Trypanosoma brucei brucei* induces interferon- $\gamma$  expression in rat dorsal root ganglia cells via a Tyrosine protein kinase-dependent pathway. *J. Infect. Dis*. 181: 400-404. 2000
54. Sharafeldin A, Eltayeb R, Patchenkov Ml and **Bakhiet M**. Chemokines are produced in the brain early during the course of experimental African trypanosomiasis. *J Neuroimmunol*. 103: 165-170. 2000.
55. Alhashimi N, Frithiof L, Brudvik P and **Bakhiet M**. Orthodontic movement induces high numbers of cells expressing IFN- $\gamma$  at mRNA and protein levels. *J. Interf. Cytok. Res*. 20: 7-12. 2000.
56. Hamadien M, **Bakhiet M** and Harris R. Interferon- $\gamma$  induces production of the trypanosome lymphocyte triggering factor via tyrosine protein kinases. *Parasitology*. 120: 281-287. 2000.
57. Nordlind K, Eriksson L, Seiger Å and **Bakhiet M**. Expression of interleukin-6 in human spinal ganglion cells. *Neuroscience Letters*. 280: 139-142. 2000.
58. Khalil A, Tullus K, **Bakhiet M**, Burman LG, Jaremko G and Brauner A. Angiotensin II type 1 receptor antagonist (Losartan) reduces transforming growth factor-b in experimental acute pyelonephritis. *J. Urol*. 164:186-191. 2000.
59. Mustafa M, **Bakhiet M**, Wondimu Band Modéer T. Induction of interferon- $\gamma$  in human gingival fibroblasts challenged with phytohemagglutinin. *Cytokine*. 12: 368-73. 2000.
60. Khalil A., **Bakhiet M**., Taullus K. and Brauner A. Renal cytokine responses in acute *Escherichia coli* pyelonephritis in IL-6 deficient mice. *Clin. Exp. Immunol*. 122: 200-206. 2000.

61. Falsafi-Amin H, Lundberg L, **Bakhiet M** and Nordlind K. Early DNA synthesis and cytokine expression in the nickel activation of peripheral blood mononuclear cells in nickel-allergic subjects. *Int. Arch. Allergy Immunol.* 123:170-176. 2000.
62. Mustafa M, Mod er T and **Bakhiet M**. Effect of triclosan on interferon-gamma production and major histocompatibility complex class II expression in human gingival fibroblasts. *J. Clin. Periodontol.* 27: 733-737. 2000.
63. Liu Y, Mustafa M, Li H-L, Nuortio L, Mustafa A and **Bakhiet M**. Modulation of early immune responses and suppression of *Trypanosoma brucei brucei* infections by surgical denervation of the spleen. *Neuroimmunomodulation.* 8: 31-38. 2000.
64. Grant K, Abdalla H, Diab A, Lindquist L, **Bakhiet M** and Andersson J. Suppression of macrophage activation with CNI-1493 increases survival in infant rats with systemic *Haemophilus influenzae* infection. *Infect Immun.* 68: 5329-34. 2000.

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### 2001

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65. **Bakhiet M**, Tjernlund A, Mousa A, Gad A, Str mblad S, Seiger   and Andersson J. Rantes promotes growth and survival of human first trimester forebrain astrocytes. *Nature CB.* 2: 150-157. 2001.
66. Alhashimi N, Frithiof L, Brudvik P and **Bakhiet M**. Orthodontic movement induces *de novo* synthesis of proinflammatory cytokines. *Am. J. Orthod. Dentofacial Orthop.* 119: 307-312. 2001
67. Mustafa M, Wondimu B, **Bakhiet M**, Mod er T. Production of Rantes/CCL5 in human gingival fibroblasts challenged with tumor necrosis factor alpha. *Eur. J. Oral Sci.* 109: 44-9. 2001.
68. Nylen S, Mortberg U, Kovalenko D, Satti I, Engstrom K, **Bakhiet M**, Akuffo H. Differential induction of cellular responses by live and dead *Leishmania promastigotes* in healthy donors. *Clin. Exp. Immunol.* 124: 43-53. 2001.
69. **Moiz Bakhiet**. Cytokines as novel therapeutic agents for neuroinflammatory disorders: a role for interferon-  in the treatment of multiple sclerosis. *Current Medicinal Chemistry-Central Nervous System.* 1: 201-208.2001.
70. **Bakhiet M**, Mousa A, Seiger A, Andersson J. Constitutive and inflammatory induction of alpha and beta chemokines in human first trimester forebrain astrocytes and neurons. *Mol Immunol* 38: 921-929. 2001.

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### 2002

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71. **Bakhiet M**, Hamadien M, Tjernlund A, Mousa A and Seiger  . African trypanosomes activate human embryonic forebrain cells to proliferation and IFN-  production. *NeuroReport.* 13: 53-56. 2002.

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### 2003

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72. Hertting O, Khalil A, Jaremko G, Chromek M, Li YH, **Bakhiet M**, Bartfai T, Tullus K, Brauner A. Enhanced chemokine response in experimental acute *Escherichia coli* pyelonephritis in IL-1beta-deficient mice. *Clin Exp Immunol* 131:2 225-33. 2003.
73. Chen Z, Yu S, **Bakhiet M**, Winblad B, Zhu J. The chemokine receptor CCR5 is not a necessary inflammatory mediator in kainic acid-induced hippocampal injury: evidence for a compensatory effect by increased CCR2 and CCR3. *J Neurochem.* 86: 61-68. 2003.
74. Al-Sallom FS, Al-Mahmeed A, Ismaeel A, Botta GA, **Bakhiet M**. *Campylobacter*-stimulated INT407 cells produce dissociated cytokine profiles. *J Infect.* 47: 217-24. 2003.

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### 2004

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75. Alhashimi N, Frithiof L, Brudvik P, **Bakhiet M**. CD40-CD40L expression during orthodontic tooth movement in rats. *Angle Orthod.* 74:100-105. 2004.

76. **Bakhiet M**, Al-Salloom FS, Qareiballa A, Bindayna K, Farid I, Botta GA,. Induction of alpha and beta chemokines by intestinal epithelial cells stimulated with *Campylobacter jejuni*. J Infect. 48: 236-44. 2004.
77. Liu Y, Li Z, Svaren-Quiding C, Cui J, Ozenci V, **Bakhiet M**. Splenic denervation suppresses mRNA gene expression and protein production of IL-1beta and IL-6 by peritoneal macrophages in both *Trypanosoma brucei brucei*-infected and non-infected rats. Neuroimmunomodulation. 11: 113-8. 2004.
78. Ahmed Sharafeldin, Eilhard Mix, Robert Harris Tomas Bittroff and **Moiz Bakhiet**. Prolonged Activation of Transcription Regulating Factors in *Trypanosoma brucei brucei* Nuclear Proteins by Interferon- $\gamma$  Stimulation. Acta Protozool. 43: 373 – 377. 2004.

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#### 2005

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79. Ismaeel A, Al-Mahmeed A , Qareiballa A, **Bakhiet M** and Botta GA. Effect of anti sub inhibitory concentration on cytolethal distending toxin production by *Campylobacter jejuni*. J Infect. 51: 144-149. 2005.

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#### 2006

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80. Sameer Otoom, **Moiz Bakhiet**, Abdulmajeed Khan, Reginald Sequeira. Prolonged use of Phenytoin, Carbamazepine or Valproate Monotherapy on Plasma Prolonged use of phenytoin, carbamazepine or valproate monotherapy on plasma levels of folate and B(12): a comparison between epileptic patients with or without cardiovascular disorders. Neuro Endocrinol Letters, 27: 85-88. 2006.
81. **Moiz Bakhiet**, Li-Ya Yu, Volkan Özenci, Abdulmajeed Khan and Fu-Dong Shi. Modulation of immune responses and suppression of experimental autoimmune myasthenia gravis by surgical denervation of the spleen. Clin Exp Immunol. 2006: 144: 290–298.
82. Habib Al-yosif, Safa Taha, Moiz Bakhiet Habib. Cytokine gene polymorphism in Bahraini patients with coronary heart disease. Arab Gulf Journal of Scientific Research. 24: 144-150. 2006.

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#### 2007

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83. Ali Al-Bahrani, Safa Taha, Husain Shaath and **Moiz Bakhiet**. TNF- $\alpha$  and IL-8 in acute stroke and the modulation of these cytokines by antiplatelet agents. Curr. Neurovascular Res. 4: 31-37. 2007.
84. Alyaa Mousa, Amani Al-Zaki, Safa Taha and **Moiz Bakhiet**. Induction of the chemokines CCL3 $\alpha$ , CCL3 $\beta$  and CCL5 in atherosclerotic patients. Am J Immunol. 3: 45-51, 2007.

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#### 2008

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85. **Moiz Bakhiet** and Safa Taha. A novel nervous system-induced factor inducing immune responses in the spleen. Imm Cell Biol. 86: 688-699. 2008.
86. Ahlam Al-Amri, Giuseppe Botta, Khaled Tabbara, Abdelrahman Ismaeel, Ali Al-Mahmeed, Ahmed Qareeballa, Khalid Bin Dayna, and **Moiz Bakhiet**. *Campylobacter jejuni* induces diverse kinetics and profiles of cytokine genes in INT-407 cells. Saudi Med J. -51. 2008
87. Alyaa Mousa, Amani Al-Zaki, Safa Taha and **Moiz Bakhiet**. Induction of the anti-inflammatory cytokines interleukin (IL)-10, IL-13 in atherosclerotic patients. Arab Gulf Journal of Scientific Research, 26: 86-94. 2008.

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**2009**

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88. Alyaa Mousa, Amani Al-Zaki, Safa Taha and **Moiz Bakhiet** Induction of interleukin (IL)-18 in atherosclerotic patients: A role for Chlamydia pneumoniae. Med Princ Pract. 2009; 18: 105-10. 2009.
89. Almawi WY, Khan A, Al-Othman SS, **Bakhiet M.** 1. Case-control Study of methylenetetrahydrofolate reductase mutations and hyperhomocysteinemia and risk of stroke. J Stroke Cerebrovasc Dis. 18: 407-408. 2009.

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**2010**

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90. Ali Al-Bahrani, Habib Alyousef, Basem Mustafa, Meytham Majeed, Moiz Bakhiet. A possible role for Chlamydia pneumoniae in vaso-occlusive crisis in sickle cell disease. Bahrain Medical Bulletin, 32: 111-117. 2010.
91. Ali Al-Bahrani, Safa Taha, Husain Shaath and Moiz Bakhiet Acute ischemic brain stroke is associated with the consequences of Chlamydia pneumoniae infection. J Bah Med Soc. 22: 146 – 150. 2010.

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**2011**

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92. Abdelhad Al-Bannawi, Khulood Al-Wesebai, Safa. Taha and **Moiz Bakhiet** Chlamydia pneumoniae induces chemokine expression by platelets in patients with atherosclerosis. Med Princ Pract. 20: 438-443. 2011

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**Submitted**

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Twenty one (21) papers are submitted recently

❖ **Summary of overview articles and chapters in text-books**

1. Olsson T, **Bakhiet M** and Kristensson K. Interactions between *Trypanosoma brucei* and CD8<sup>+</sup> T cells. Parasitology Today 8: 237- 239. 1992.
2. **Bakhiet M.** The role of autoantibodies in the action of cytokines. Frontiers in multiple sclerosis III. EDS: Martin Dunitz Ltd, London. 1999.
3. **Moiz Bakhiet.** Cytokines as novel therapeutic agents for neuroinflammatory disorders: a role for interferon- $\beta$  in the treatment of multiple sclerosis. Current Medicinal Chemistry- Central Nervous System. 1: 201-208.2001.

**Research resulted in International Patents:**

Lymphocyte stimulating factor-P-CA2998004, AWAPATENT, International patent 2000

Immune System Mediator UK, Patent Number: 0703887.0 / PCT/EP2008/052399

❖ **Summary of other scientific work**

#### Ph.D. Examination Committees

1. Ph.D. thesis of Dr. Bao-Gua Xiao, 8/11/1996.
2. Ph.D. thesis half-time exam of Dr. Bai Xuefeng 3/3/1997
3. Ph.D. thesis of Dr. Tiamin Liu, 28/11/1997.
4. Ph.D. thesis of Dr. Anna-Fogdell, 19/12/1997
5. Ph.D. thesis of Dr. He Bing, June 1998
6. Ph.D. thesis of Dr. Fo-Dong, May 1998
7. Ph.D. thesis of Dr. Chun Xu, May 1999
8. Ph.D. thesis of Mats Remberger, October 1999
9. Ph.D. thesis of Li-Ping Zou, December 1999

#### Potential reviewer for the following journals:

1. Infection and Immunity
2. Parasitology Today
3. Parasite Immunology
4. Scandinavian Journal of Immunology
5. Immunology Letters
6. Brain Research Bulletin
7. Neuroimmunomodulation
8. Nature Cell Biology
9. Journal of Odontology
10. The Angle Orthodontist
11. Bahrain Medical Bulletin
12. Arab Gulf Journal of Scientific Research
13. Saudi Medical Journal
14. Bahrain Medical Bulletin
15. Journal of Bahrain Medical Society

Member of the Editorial Board of ISRN Immunology

Member of the Editorial Board of DNA and Cell Biology

Member of the Editorial Board of Arab Gulf Journal of Scientific Research

Member of the Editorial Board of Bahrain Medical Bulletin

Member of the Editorial Board of Journal of Bahrain Medical Society (JBMS)

#### Potential reviewer for several foundations in relation to grant applications

#### Expert on the following techniques

Beside clinical experience in Medical Neurology procedures, I have the experience on the following techniques:

##### **IMMUNOLOGY:**

1. Immunospot assay (ELISPOT)
2. Proliferation assay
3. Monoclonal making (immunization, hybridoma making, cell cloning and purification)
4. Enzyme Linked Immunosorbant assay
5. Western blot, SDS page blotting
6. Immunohistochemistry
7. Cells Enrichment assays
8. Affinity purification techniques
9. FACS techniques and analysis

##### **MOLECULAR BIOLOGY:**

1. Restriction of DNA, isolation of total and mRNA

2. Agarose gel electrophoresis
3. PCR technique
4. Ligation of PCR products, transformation and plating of transformed bacteria.
5. Southern blotting
6. Preparation of plasmid DNA and restriction analysis
7. Amino acid gel sequencing
8. DNA sequencing
9. cDNA gene library construction and screening
10. *In situ* hybridization

#### **EXPERIMENTAL MODELS IN MICROBIOLOGY AND IMMUNIOLOGY:**

1. Animal model for experimental trypanosomiasis
2. Animal model for bacterial infections (meningitis, UTI)
3. Experimental models for viral infections (VSV, Measles, Mumps)
4. Animal model for Autoimmune diseases (myasthenia gravis, EAE, EAN)

#### **GENERAL:**

1. Microscope, image analysis and photo techniques
2. Medical statistics
3. Computer applications in IBM (DOS and Windows applications, in addition to experience in IBM hardware), and in Macintosh software.
4. Bioinformatics

#### Summary of abstracts

- ❖ Bidirectional activating signals between *T. b. brucei* and CD T cells. International meeting on lymphoid cells and molecules in infection and immunity, Elsinore, Denmark.14/5/1991.
- ❖ CD8 is critically involved during Experimental African trypanosomiasis. First "Acritical Meeting" on chemotherapy of trypanosomiasis, Marseilles, France.15-16 /6/ 1992.
- ❖ IFN- $\gamma$  as a growth promoting molecule for *T. b. brucei*. Commission of the European Community, COST Co-operation, Second Acritical COST meeting on Treatment African Trypanosomiasis, University of Budapest, Hungary. 3-4 /6/ 1993.
- ❖ Interactions between *T. b. brucei* and CD8<sup>+</sup> lymphocytes. 27th Trypanosomiasis Seminar. London School of Hygiene and Tropical Medicine, UK.15-16 /6/ 1993.
- ❖ Bidirectional signals between *T. b. brucei* and dorsal root ganglia. 4th International Congress of neuroimmunology, RAI, Amsterdam, Holland. 22/10/1994.
- ❖ African Trypanosomes and Immunoregulating Molecules. Medical Faculty of the University of Gothenburg. XXVIth Annual meeting, Scandinavian Society for Immunology, Gothenburg, Sweden.25/5/1995.
- ❖ Interactions between *T. b. brucei* and immunoregulating molecules. 9th International Congress of Immunology. San Francisco, USA.23-29 /7/ 1995.
- ❖ Interactions between *T. b. brucei* and immunoregulating molecules. BSP seminar on trypanosomiasis and leishmaniasis, Glasgow, UK.2-6 /9/ 1995.
- ❖ Immunobiology of *T. b. brucei*. BSP symposium on immunobiology of trypanosomiasis and leishmaniasis, Glasgow, UK.3/9/1995.
- ❖ Pathogenesis of Shigellosis. International cytokine symposium, UK, September 1995.
- ❖ Interactions of *Trypanosoma brucei brucei* and the immune system. Trypanosome workshop, BMC, Uppsala .19/1/1996.
- ❖ Role of IL-4 in control of parasitaemia and survival in resistant and susceptible mouse strains to *Trypanosoma* infection, Cytokine and cytokine receptor workshop, Turku, Finland. 25/5/1996
- ❖ Interferon- $\beta$ -1b treatment of multiple sclerosis patients suppresses both myelin basic protein-specific and PHA-induced interferon- $\gamma$  production: an effect demonstrated by a new cell released capturing (CRC)-ELISA. Swedish Medical Association Annual meeting, Stockholm, Sweden. 29/11/1996.

- ❖ Control of *Trypanosoma brucei* infection depends on non-MHC gene ability to produce IL-4. The 6th Scientific Conference, The Sudanese Association of Pathologists, Khartoum, Sudan. Sharga Hall, Khartoum, Sudan 5 January 1997.
- ❖ Tyrosine kinases are required for interferon- $\gamma$  stimulated proliferation of *Trypanosoma brucei brucei*. The 3rd Conference of the Federation of African Societies for Immunology, Cape Town, South Africa. 11 March 1997.
- ❖ Interaction between *T. b brucei* and immunoregulating molecules The 30th Conference of the Arab Doctors, Sana'a Yemen. 15-17 July 1997
- ❖ Recovery from Guillain Barrié syndrome is associated with increased levels of neutralizing autoantibodies to IFN- $\gamma$ . The 5th International Congress of human antibodies and hybridomas, 15-17 April 1998, Washington DC, USA. 15-17 April 1998
- ❖ A nervous system induced factor inducing cytokines in immune cells. The International Summer School, Gothenburg, Sweden. 23-27 August 1998
- ❖ A nervous system induced factor inducing cytokines in immune cells. The 5th International Congress of Neuroimmunology, Montreal, Canada. 25-2 July 1998
- ❖ A major session talk, the role of autoantibodies to cytokines, the 14<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis, 9-12 September 1998, Stockholm, Sweden. The 14<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis, Stockholm, Sweden. 9-12 September 1998
- ❖ Bidirectional cell signalling system between African trypanosomes and CD8-neurons: implications for neuropsychiatric manifestations, prevention, diagnosis and treatment. The 31 Pan Arab Congress, Khartoum, Sudan, 7-8 December 1998
- ❖ Bidirectional cell signalling system between African trypanosomes and CD8-neurons: implications for neuropsychiatric manifestations, prevention, diagnosis and treatment. The ITM colloquium Congress, Antwerp, Belgium 14-17 December 1998
- ❖ Immunopathogenesis of experimental bacterial meningitis: Effects of immune modulation. The 2000 International Congress on Pediatrics. Jeddah, Saudi Arabia. 17-19 January 2000.
- ❖ A nervous system induced factor inducing cytokines in immune cells. The 2000 International Congress on Pediatrics. Jeddah, Saudi Arabia. 17-19 January 2000
- ❖ Tyrosine protein kinases are potentially involved during *Trypanosoma brucei brucei* derived lymphocyte triggering factor (TLTF) activation of dorsal root ganglia neurons. The 9<sup>th</sup> International Conference of Infectious Diseases, 9 -13 April 2000, Buenos Aires, Argentina
- ❖ Interferon- $\gamma$  induces production of the trypanosome lymphocyte triggering factor via tyrosine protein kinases. The 4<sup>th</sup> annual Woods Hole Immunoparasitology Meeting, April 16 - 19, 2000 - MBL Woods Hole, MA, USA.
- ❖ Rantes promotes growth of human embryonic astrocytes. Immunology 2000. The American Association of Immunologist and Clinical Immunology Society joint annual meeting. 12 - 16 May, 2000. Seattle, WA, USA.
- ❖ Interferon- $\gamma$  induces production of the trypanosome lymphocyte triggering factor via tyrosine protein kinases. The 10<sup>th</sup> European Congress of Clinical Microbiology and Infectious Diseases. May 28 - 31, 2000 - Stockholm, Sweden.
- ❖ The mechanism of cytokine action. Does dose matter? August - 31, 2000. The Biogen Symposium, Novel approaches to treatment of early diagnosed multiple sclerosis- Stockholm, Sweden.
- ❖ Rantes promotes growth of human embryonic astrocytes. April 21- 26, 2001. The 11<sup>th</sup> International Conference on phosphorylated protein. Melbourne, Australia.
- ❖ Chemokine and chemokine receptors, The 11th International Congress of Immunology. 18-26 August 2001. Stockholm, Sweden.
- ❖ Cytokines as novel therapeutic agents for neuroinflammatory disorders: a role for IFN- $\beta$  in the treatment of multiple sclerosis. 20-22/4/2002 Second Al Ain International Immunology Meeting.
- ❖ Induction of  $\alpha$  and  $\beta$  chemokines by intestinal epithelial cells stimulated with *Campylobacter jejuni*. International Conference of Infectious Diseases - Cancun, Mexico - 3-7 March 2004.
- ❖ Recent advances in Multiple Sclerosis - The 3rd Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine, Genetics and Inherited Diseases 8 February 2005

- ❖ *Campylobacter jejuni* induces diverse kinetics and profiles of cytokine and chemokine genes by INT-407 cells – International Symposium on Antimicrobial Agents and Resistance – Seoul – South Korea, 27 April 2005
- ❖ Acute ischemic brain stroke is associated with immune-mediated *Chlamydia pneumoniae* infection- Research strategies and clinical challenges in neuroscience – Intercontinental Hotel in Al-Ain. 29 November 2005.
- ❖ Acute ischemic stroke is associated with immune-mediated *Chlamydia pneumoniae* infection. 12th International Conference Infectious Diseases - Lisbon, Portugal. 17 June 2006.
- ❖ TNF- $\alpha$  and IL-8 in acute stroke and the modulation of these cytokines by antiplatelet agents. The 6<sup>th</sup> International Symposium on Antimicrobial Agents and Resistance. Singapore 8 March 2007.
- ❖ Molecular Medicine from Genes to Community - The 5th Gulf Scientific Conference for Medical Students, Manama, Kingdom of Bahrain. November 22 – 2007
- ❖ Announcing the discovery of ISRAA (Immune System Released Activating Agent). 12 March 2008.
- ❖ A novel nervous system mediator. BDF Hospital – Bahrain. 29 April 2008.
- ❖ A role for *Chlamydia pneumoniae* in inducing IL-10, IL-13, IL-18 and the chemokines CCL3-alpha, CCL3-beta and CCL5 in atherosclerotic patients. 13th ICID - Kuala Lumpur, Malaysia- June 22, 2008.
- ❖ Experimental study design and grant writing. Kuwait University, Kuwait March 09, 2009.
- ❖ New Strategies For Immunogenetic Interventions During Neurodegenerative Diseases: Is stem cell research a solution?. Kuwait University. Kuwait March 10, 2009.
- ❖ A novel Immune system mediator (ISRAA) Kuwait University, Kuwait, March 11, 2009.
- ❖ Immune system released activating agent. Ulm, Germany 12 May 2009.
- ❖ A novel nervous-to-immune signalling mechanism mediating innate responses to infections, Miami, USA. 14<sup>th</sup> International Congress of Infectious Diseases. 11 March 2010.
- ❖ Genomics influence in the post injury inflammatory response, Trauma & Accident & Emergency Conference, Abu Dhabi, UAE, 12 October 2010
- ❖ A novel indicative biomarker and a therapeutic agent for immunodeficiency. 6<sup>th</sup> Annual European Biomarkers Summit, Molecular Diagnostics Europe and Single Cell Analysis Congress, London, UK. 18 – 19 May 2011.
- ❖ ISRAA: Recent Advances with Great Hope for Mankind. 8th International Scientific Conference H.H. Princess Al Jawhara Centre for Molecular Medicine & Inherited Disorders. 28 – 29 November 2011.
- ❖ ISRAA: Recent Advances with Great Hope for Mankind. 13<sup>th</sup> GCC Industrialists Conference, Riyadh, KSA 16 – 19 January 2012.

### **Other scientific merits:**

#### 1. Active participation in international scientific congresses:

<b>15-16 June, 1992</b>	First "Acrival meeting" on chemotherapy of trypanosomiasis, Marseilles, France
<b>3-4 June 1993</b>	Commission of the European Community, COST Co-operation, Second Acrival COST meeting on Treatment of African Trypanosomiasis, Budapest Hungary
<b>15-16 September 1993</b>	27th Trypanosomiasis Seminar - London School of Hygiene and Tropical Medicine
<b>22 October 1994</b>	4th International Congress of neuroimmunology, RAI, Amsterdam, Holland
<b>25-28 May 1995</b>	XXVIth Annual meeting, Scandinavian Society for Immunology, Gothenburg, Sweden.
<b>23-29 July 1995</b>	9th International Congress of Immunology San Francisco, USA
<b>2-6 September 1995</b>	BSP meeting on trypanosomiasis and leishmaniasis



	Glasgow, UK
<b>19 January 1996</b>	Trypanosome Workshop, BMC, Uppsala, Sweden
<b>24-27 May 1996</b>	XXVIIth Annual meeting, Scandinavian Society for Immunology, Turku, Finland.
<b>28-30 November 1996</b>	Swedish Medical Association Annual meeting, Sweden
<b>4-6 January 1997</b>	The 6th Scientific Conference, The Sudanese Association of Pathologists, Khartoum, Sudan
<b>9-13 March 1997</b>	The 3rd Conference of the Federation of African Societies for Immunology, Cape Town, South Africa
<b>15-17 July 1997</b>	The 30th Conference of the Arab Doctors, Sana'a Yemen.
<b>14-16 September 1997</b>	The 5th CFN Symposium on effects of toxicants on gene expression and intracellular signalling - Stockholm.
<b>15-17 April 1998</b>	The 5th International Congress of human antibodies and hybridomas, 15-17 April 1998, Washington DC, USA.
<b>25-2 July 1998</b>	The International Summer School, Gothenburg, Sweden.
<b>23-27 August 1998</b>	The 5th International Congress of Neuroimmunology, Montreal, Canada
<b>9-12 September 1998</b>	The 14 <sup>th</sup> Congress of the European Committee for treatment and research in multiple Sclerosis, Stockholm
<b>7-11 November 1998</b>	The 31 Pan Arab Congress, Khartoum, Sudan
<b>14-17 December 1998</b>	The ITM colloquium Congress, Antwerp, Belgium
<b>27/6-2 July 1999</b>	The 10 <sup>th</sup> International Congress on Mucosal Immunity. Amsterdam. Holland.
<b>28/8 – 2 September 1999</b>	1999 meeting on HIV/AIDS and Cancer Biology - Baltimore, Maryland - USA
<b>17/1 – 19 January 2000</b>	The 2000 International Congress on Pediatrics. Jeddah, Saudi Arabia. 17-19 January 2000
<b>9 -13 April 2000</b>	The 9 <sup>th</sup> International Conference of Infectious Diseases, , Buenos Aires, Argentina
<b>April 16 - 19, 2000</b>	The 4 <sup>th</sup> annual Woods Hole Immunoparasitology Meeting, - MBL Woods Hole, MA, USA
<b>12 - 16 May 2000</b>	Immunology 2000. The American Association of Immunologist and Clinical Immunology Society joint annual meeting.. Seattle, WA, USA
<b>May 28 - 31, 2000</b>	The 10 <sup>th</sup> European Congress of Clinical Microbiology and Infectious Diseases - Stockholm, Sweden.
<b>August - 31, 2000</b>	The Biogen Symposium, Novel approaches to treatment of early diagnosed multiple sclerosis, Sweden.
<b>April 21- 26, 2001</b>	The 11 <sup>th</sup> International Conference on phosphorylated protein - Melbourne, Australia
<b>August 26/8/2001</b>	Chemokine and chemokine receptors- 11th International Congress of Immunology - Stockholm - Sweden
<b>April 20-22/2002</b>	Cytokines as novel therapeutic agents for neuroinflammatory disorders: a role for IFN- $\beta$ in the treatment of multiple sclerosis Second Al Ain International Immunology Meeting.
<b>June 16-21, 2002</b>	11 <sup>th</sup> International Congress of Mucosal Immunology, Orlando
<b>October 16-17, 2002</b>	3 <sup>rd</sup> GCC Neurology Conference, Bahrain
<b>February 20-23, 2003</b>	The International Symposium of the Immune System in Health and Disease. Osaka, Japan
<b>October 06-08, 2003</b>	Saudi German Academy second international meeting, Jeddah, Saudi Arabia
<b>December 09-12, 2004</b>	International Symposium on Genetics, Dubai – UAE
<b>March 03-07, 2004</b>	International Congress f Infectious Diseases, Cancun, Mexico

<b>February 08 -09, 2005</b>	The 3rd Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine.
<b>April 27 -29, 2005</b>	The 5 <sup>th</sup> International Symposium on Antimicrobial Agents and Resistance – Seoul – South Korea
<b>November 27-29 2005</b>	Research strategies and clinical challenges in neuroscience – Intercontinental Hotel in Al-Ain
<b>March 26-27 2006</b>	The 4 <sup>th</sup> Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine
<b>April 05-07 2006</b>	First Pan Arab Conference on Genetics, Center for Arab Genomic Studies, Albustan Rotana, Dubai
<b>June 15-18 2006</b>	12th International Conference Infectious Diseases - Lisbon, Portugal
<b>November 6 2006</b>	The 5 <sup>th</sup> Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine, Genetics and Inherited Diseases - Bahrain
<b>March 07-09 2007</b>	The 6 <sup>th</sup> International Symposium on Antimicrobial Agents and Resistance (ISAAR). Singapore.
<b>November 11-12 2007</b>	The 6 <sup>th</sup> Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine, Genetics and Inherited Diseases - Bahrain
<b>November -20-22 2007</b>	The 2 <sup>nd</sup> Pan Arab Conference in Human Genetics, Dubai, United Arab Emirates.
<b>November -20-22 2007</b>	The 5 <sup>th</sup> Gulf Scientific Conference for Medical Students, Manama, Kingdom of Bahrain.
<b>June 19-22, 2008</b>	13th International Congress of Infectious Diseases (ICID) - Kuala Lumpur, Malaysia-
<b>February 10-11, 2009</b>	The 7 <sup>th</sup> Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine
<b>May 09-12, 2009</b>	The 23 <sup>rd</sup> European Immunogenetics and Histochoompatibility Congress. Ulm, Germany
<b>October 11-13, 2009</b>	Trauma & Accident & Emergency Conference, Abu Dhabi, UAE, 12 October 2010
<b>January 24, 2010</b>	Medical Genomics Research Conference, Dubai, UAE
<b>March 09-12, 2010</b>	14 <sup>th</sup> International Congress on Infectious Diseases, Miami, USA
<b>March 14-17, 2011</b>	Human Genome Meeting (HGM) and 4 <sup>th</sup> Pan Arab Human Genetics Conference, Dubai, UAE 14-17 March 2011.
<b>May 18-19, 2011</b>	6th annual European Biomarkers Summit, Molecular Diagnostics Europe and Single Cell Analysis Congress, London, UK
<b>Nov 28-29, 2011</b>	ISRAA: Recent Advances with Great Hope for Mankind. 8th International Scientific Conference. H.H. Princess Al Jawhara Centre for Molecular Medicine & Inherited Disorders.
<b>Jan 16-19, 2012</b>	ISRAA: Recent Advances with Great Hope for Mankind. . 13th GCC Industrialists Conference, Riyadh, KSA 16 – 19 January 2012.

## 2. Fellowships and scholarships

❖ 1988-1991	Departmental Fellowship, Departments of Neurology and neurobiology, Karolinska Institute, Huddinge University Hospital
❖ 1991-1992	Training allowance from Karolinska Institute
❖ 1992-1994	WHO, TDR fellowship
❖ 1995-1999	Medical Research Council (MRC) Research Position
❖ 1999- 2001	Karolinska Institute Research Position

## 2. Scientific collaboration and external research grants

### SCIENTIFIC COLLABORATION:

1. **Professor Hans Wigzell**, MTC, Karolinska Institute, Stockholm, Sweden.
2. **Professor Jan Andersson**, Division of Infectious Diseases, Huddinge Hospital, Sweden.
3. **Professor John Donelson**, Howard Hughes Medical Center, University of Iowa USA.
4. **Professor CC Wang**, Department of Chemistry, University of California, USA.
5. **Dr. William Kuzel**, Institute for Cellular and Molecular Biology, University of Texas
6. **Professor Phillipe Büscher**, Institute of Tropical Medicine, Antwerp, Belgium.
7. **Professor Peter van der Meide**, TNO Center, Rijswijk, The Netherlands.
8. **Dr. Eilhard Mix**, University of Rostock, Department of Neurology, Germany.
9. **Dr. Abdel Rahman Tambal**, Director General National Health Laboratories, Khartoum

### WORK IN LABORATORIES OUTSIDE SWEDEN:

1. Institute of Tropical Medicine, Antwerp, Belgium, May - June 1994.
2. Department of Biochemistry, Howard Hughes Medical Center, University of Iowa USA. June - July 1995.
3. Neuroimmunology lab, University of Rostock, Germany, November 1993, December 1994.
4. Visited the following labs for sharing experience:
  - √ **Hopital Robert Debre** – Paris – France (2003)
  - √ **Hopital Saint-Louis** – Paris - France (2003)
  - √ **Center Hopitalier Universitaire de Rouen** – France (2003)
  - √ **King Faisal Specialist Hospital and Research Center** - Riyadh, Saudi Arabia (2003)
  - √ **Centre for Molecular Psychiatry** – University of London. (2005).

### STATEMENT OF THE CURRENT GRANTED RESEARCH FUNDS

Strategic Research, Junior Promising Researcher	550.000 SEK
MFR	486.000 + 330.000 SEK
WHO, Director Initiative Fund	120.000 SEK
Kapten Artur	100.000 SEK
KI-FOND	46.000 SEK
SLS	70.000 SEK
Magn Begvalls Stiftelse	40.000 SEK
A Eriksson	20.000 SEK
FoUU	600.000 SEK
Harald och Greta Jeanssons Stiftelse	130.000 SEK
AGU, Campylobacter Project	20.000 BD (500.000 SEK)

AGU, Trypanosoma Project	15.000 BD (37500.000 SEK)
AGU, Stroke Project	5.000 BD (12500.000 SEK)
AGU, ISRAA Signalling and Innate Immunity	20.000 BD (500.000 SEK)
Dr. Ali Al-Khalifa Research Fund	08.000 BD (200.000 SEK)

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### **3. Supervision of doctoral candidates/postgraduate teaching**

#### **GRADUATED SCIENTISTS UNDER MY SUPERVISION:**

##### **Ph.D. DEGREE**

1. Asim Diab, June 1998
2. Alyaa Mousa, December 1998
3. Rihab Elkarim, 18 October 1999
4. Ragaa Eltayeb 12 October 2000
5. Ahmed Sharafeldin December 2001
6. Maha Hamadien 30 August 2002
7. Najat Alhashimi: 26 August 2004

##### **LICENTIATE (M PHIL) DEGREE**

1. Najat Alhashimi: 23 August 1999
2. Maha Hamadien: 25 August 1999
3. Liu Yajuan: 29 October 1999
4. Ahmed Sharafeldin 8 November 1999
5. Hana Abdalla, 10 March 2000.

##### **MASTER DEGREE**

1. Anneli Tjernlund, June 1998
2. Pontus Thulin, August 2000
3. Fajer Al-Saloom, October 2002
4. Amani Alzaki Feb 2004
5. Habib Yousif MArch 2004
6. Ahlam Alamri April 2004
7. Ali Albahrani April 2005
8. Abdulhadi Ali Al-bannawi July 2005
9. Khulood Suliman Al-Wesebai November 2005
10. Asma Abdulla Abdulghafour September 2007
11. Jenan Ahmad Al-Matouq. November 2008
12. Zainab Ashkanan. December 2008
13. Razan Ahmed Fakieh. March 2009
14. Huda Mossa Omran, May 2011

#### **Registered Ph.D. students**

New 5 PhD students are registered under the Molecular Medicine PhD Program

#### **Master student, AGU:**

New 3 Master students are registered under the Biotechnology Program

#### **VISITING PROFESSOR:**

Faculty of medicine, University of Kuwait: 6 - 12 March 2009

# Pedagogical portfolio

## 1. Formal pedagogical education

### COURSES ATTENDED

#### ❖ At Karolinska Institute

March – April 1989	A course over 2 months, full-time in clinical neurology
October, 1989	Demyelinating diseases and infections in the nervous system, Department of Neurology Huddinge Hospital, Karolinska Institute
13-17 May, 1991	Immune mechanisms in pathogenesis of Nervous system diseases, Department of Neurology Huddinge Hospital
30/9 - 25/11, 1992	Molecular Analysis of Genetic Diseases, Karolinska Institute, Department of Molecular Genetics
2 – 6 October 1995	Course for teaching at tertiary level, Karolinska Institute,
2 /12 1999 – May 2000	Pedagogic Forum, Huddinge University Hospital

#### ❖ Outside Karolinska Institute

9-12 June, 1991	The Summer School of the 11th European Immunology meeting in Finland
10/4 - 14/4/1994	Basic Molecular Biology Course. Lancaster University, Department of Biological Sciences, England.
15-16 September 1993	27th Trypanosomiasis Seminar. London School of Hygiene and Tropical Medicine
17 September 1993	The Symposium of the British Society for Parasitology on the Protozoan Surface Molecules, City University, London, UK.
25-28 May 1995	Satellite symposium on cytokines of the XXVIth annual meeting, Scandinavian Society for Immunology, Gothenburg, Sweden.
19 January 1996	Trypanosome Workshop, Biomedical Center, Uppsala, Sweden
23-25 May 1997	8th International Center for Biotechnology Symposium on Cytoplasmic Protein. Tyrosine Kinases. Novum Research Park, Stockholm
25/6 - 2/7/1998	The International Summer School, Gothenburg, Sweden
7-8 December 1998	The 1998 Scientific Symposium on innate signals of the New York Academy of Medicine, New York, USA
5 October 2000	Tutoring skill workshop, AGU, Bahrain
12 December 2000	Workshop on Construction of Integrated True and False Multiple Choice Questions, AGU, Bahrain
12 October 2002	Workshop on Construction of Educational problems
23-25 April 2003	Workshop on Evidence-based Medicine, AGU, Bahrain
10 Feb 2006	Workshop on developing core content for the undergraduate medical curriculum
18 April 2012	Cochrane Workshop, AJC, Bahrain

## Participation in teacher for lecturing at foreign universities and in international meetings

- 14/5/1991 Bi-directional activating signals between *T. b. brucei* and CD8<sup>+</sup> T cells. International meeting on lymphoid cells and molecules in infection and immunity, Elsinore, Denmark
- 15-16 /6/ 1992 CD8 is critically involved during Experimental African trypanosomiasis. First "Acrival Meeting" on chemotherapy of trypanosomiasis, Marseilles, France
- 3-4 /6/ 1993 IFN- $\gamma$  as a growth promoting molecule for *T. b. brucei* Commission of the European Community, COST Co-operation, Second Acrival COST meeting on Treatment African Trypanosomiasis, University of Budapest Hungary
- 15-16 /6/ 1993 Interactions between *T. b. brucei* and CD8<sup>+</sup> lymphocytes 27th Trypanosomiasis Seminar - London School of Hygiene and Tropical Medicine, UK
- 4/11/1993 A seminar on Parasite Immunology, Organized by Sudan Association of Physicians - Faculty of Medicine, University of Khartoum, Sudan
- 13/12/1993 Interaction between African Trypanosomes and the Immune system, University of Rostock, GERMANY
- 22/10/1994 Bidirectional signals between *T. b. brucei* and dorsal root ganglia. 4th International Congress of neuroimmunology, RAI - Amsterdam, Holland
- 21/7/1995 Sleeping Sickness: Interactions between *T. b. brucei* and the immune system - Department of Neurology. University of Iowa, Iowa city, USA
- 23-29 /7/ 1995 Interactions between *T. b. brucei* and immunoregulating molecules - 9th International Congress of Immunology - San Francisco, USA
- 2-6 /9/ 1995 Interactions between *T. b. brucei* and immunoregulating molecules - BSP seminar on trypanosomiasis and leishmaniasis - Glasgow, UK
- 3/9/1995 immunobiology of *T. b. brucei* - BSP symposium on immunobiology of trypanosomiasis and leishmaniasis, Glasgow, UK
- 10/1/1996 Strategies for Molecular Characterization of Parasite factors - Faculty of Medical Technology - University of Khartoum
- 15/1/1996 Parasite Signalling Pathways - Unit of Genetics and Molecular Parasitology, National health Laboratory, Institute of Endemic Diseases, University of Khartoum.
- 16/1/1996 Molecular Cloning a CD8-dependent trypanokine factor - Faculty of Medicine - University of Khartoum
- 17/1/1996 New strategies on Parasite Research - Faculty of Medical Laboratories, Omdurman Ahlia University
- 25/5/1996 Role of IL-4 in control of parasitemia and survival in resistant and susceptible mouse strains to Trypanosoma infections, Cytokine and cytokine receptor workshop, Turku, Finland.

- 17/10/1996 Early signalling pathways involved in the interactions between micro-organisms and the immune system. Department of Neurology - Beijing Hospital, China
- 5/1/1997 Control of *Trypanosoma brucei* infection depends on non-MHC gene ability to produce IL-4. Sharja Hall, Khartoum, Sudan
- 7/1/1997 Over view of the innate immune reactions and early signals - National health Laboratory, Institute of Endemic Diseases, University of Khartoum..
- 12/1/1997 Adenyl cyclase gene analysis in type II diabetes - Faculty of Medicine, University of Khartoum
- 11/3/1997 Tyrosine protein kinases are required for IFN- $\gamma$  induced *T.b. brucei* proliferation. Arthur's seat Hotel - Cape Town
- 15/7/1997 Interaction between *T.b brucei* and immunoregulating molecules – Sanaa – Yemen - Sheraton Hotel
- 15/4/1998 Recovery from Guillain Barrié syndrome is associated with increased levels of neutralizing autoantibodies to IFN- $\gamma$ . Washington DC, USA.
- 6/6/1998 Interactions between African trypanosomes and immunoregulating molecules - Arabian Gulf University, Bahrain
- 2/7/1998 A nervous system induced factor inducing cytokines in immune cells. The International Summer School - Gothenburg, Sweden
- 11/9/1998 A major cession talk, the role of autoantibodies to cytokines, the 14<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis, 9-12 September 1998, Stockholm, Sweden
- 7/11/1998 Bidirectional cell signalling system between African trypanosomes and CD8-neurons: implications for neuropsychiatric manifestations, prevention, diagnosis and treatment. The 31 Pan Arab Conference - Khartoum, Sudan.
- 8/11/1998 Autoantibodies to cytokines, a novel immunoregulatory mechanism, Institute of Endemic Diseases, Khartoum, Sudan
- 16/11/1998 Cytokines in health and disease - The UAE University - United Arab Emirate
- 17/12/1998 Bidirectional cell signalling system between African trypanosomes and CD8-neurons: implications for neuropsychiatric manifestations, prevention, diagnosis and treatment. The ITM colloquium, Antwerp, Belgium
- 27/6/1999 Anti-cytokine autoantibodies as novel mechanism for cytokine regulation and therapy - Saudi German Hospital Jeddah - Saudi Arabia
- 17/1/2000 Modulation of immune responses in experimental bacterial meningitis - Saudi German Hospital - Jeddah Saudi Arabia
- 19/1/2000 A novel approach to treat neuroinflammatory and autoimmune disorders. Saudi German Hospital - Jeddah. Saudi Arabia
- 23/1/2000 Cytokines in health and disease - Department of Physiology - King Saudi University - Riyadh - Saudi Arabia
- 26/1/2000 Regulation of cytokine responses in infectious diseases - Dubai Medical University - Dubai, United Arab Emirates
- 18/5/2000 Immune responses within the CNS, Department of Chemistry - University of California, San Francisco - USA
- 31/8/2000 The mechanism of cytokine action - Does dose matter? The Biogen Symposium, Novel approaches to treatment of early diagnosed multiple sclerosis- Stockholm, Sweden.

- 12/3/2002 Constitutive and inflammatory induction of chemokines in embryonic brain - Al Ain Second International Immunology Meeting, UAE 11-14 March 2002
- 18/6/2002 Induction of proinflammatory cytokines by INT407 epithelial cell line challenged with Campylobacter Jejuni, 11<sup>th</sup> International Congress of Mucosal Immunology, Orlando, USA
- 16/11/2002 Cytokines in Multiple Sclerosis<sup>3<sup>rd</sup></sup> GCC Neurology Conference, Bahrain
- 8/10/2003 Factors regulating brain development. State of art Lecture – Saudi German Medical Academy - Jeddah
- 25/05/2004 Management of Status Epilepticus. Bahrain Medical Association
- 22/07/2004 Recent Advances in Multiple Sclerosis. Military Hospital Omdurman – Sudan
- 21/11/2004 Headache. Department of Anatomy - AGU
- 27/12/2004 Recent Advances in Multiple Sclerosis. BDF Hospital Bahrain
- 22/03/2004 Headache. BDF Hospital Bahrain
- 02/02/2005 Headache. College of Postgraduate studies - AGU
- 02/08/2005 Recent advances in Multiple Sclerosis - The 3<sup>rd</sup> Scientific Conference, HH Princess Al-Jawhara centre for Molecular Medicine, Genetics and Inherited Diseases - Bahrain
- 28/04/2005 Campylobacter jejuni induces diverse kinetics and profiles of cytokine and chemokine genes by INT-407 cells – International Symposium on Antimicrobial Agents and Resistance – Seoul – South Korea
- 29/04/2005 Immunopathogenesis of experimental meningitis: Studies on profile of cytokine responses of mononuclear cells and effects of immunomodulation – International Institute of Vaccine - Seoul – South Korea
- 29/11/2005 Acute ischemic brain stroke is associated with immune-mediated Chlamydia pneumoniae infection- Research strategies and clinical challenges in neuroscience – Intercontinental Hotel in Al-Ain
- 16/05/2006 New Strategies for Immuno-genetic Interventions During Neurodegenerative Diseases. The Biotechnology Program, AGU.
- 17/06/2006 Acute ischemic stroke is associated with immune-mediated Chlamydia pneumoniae infection. 12<sup>th</sup> International Conference Infectious Diseases - Lisbon, Portugal - June 2006
- 08/03/2007 The 6<sup>th</sup> International Symposium on Antimicrobial Agents and Resistance - Singapore 7-9 March 2007
- 05/06/2007 Molecular Medicine from genes to community - BDF Hospital Bahrain
- 09/03/2008 Molecular Medicine from genes to community - The 2<sup>nd</sup> Gulf Scientific Conference for Medical Students, Bahrain
- 29/04/2008 ISRAA: A novel Immune Mediator. BDF Hospital Bahrain
- 24/03/2009 Stem Cells from science to clinical applications
- 09/03/2009 Experimental study design and grant writing - Kuwait University - Kuwait
- 10/03/2009 New Strategies For Immunogenetic Interventions During Neurodegenerative Diseases: Is stem cell research a solution?. Kuwait University - Kuwait



- 11/03/2009 A novel Immune system mediator (ISRAA) Kuwait University - Kuwait
- 12/10/2009 Genomics influence in the post injury inflammatory response, Trauma & Accident & Emergency Conference, Abu Dhabi, UAE, 12 October 2010
- 11/03/2010 A novel nervous-to-immune signalling mechanism mediating innate responses to infections – Miami – USA: 14th International Congress of Infectious Diseases. 11 March 2010
- 04/04/2010 ISRAA: Recent advances with great hope for mankind. Al-Jawhara 8<sup>th</sup> International Conference: Manama, Bahrain.
- 18/05/2011 A novel indicative biomarker and a therapeutic agent for immunodeficiency: 6<sup>th</sup> Annual European Biomarkers Summit, Molecular Diagnostics Europe and Single Cell Analysis Congress, London - UK.
- 17/01/2012 ISRAA: Recent Advances with Great Hope for Mankind. . 13th GCC Industrialists Conference, Riyadh, KSA 16 – 19 January 2012.

## Seminars presented in Sweden:

### ❖ At Karolinska Institute:

- 19/10/1993 African Trypanosomiasis - Interaction between the parasite and the Immune System - Seminars in experimental Infections and Parasitology - Department of Clinical Immunology, Huddinge Hospital, SWEDEN
- 22/2/1994 The Immune system and trypanosomiasis - Department of Rheumatology, Research section - Karolinska Hospital, Sweden
- 23/9/1994 Knock-out techniques; updates on cytokine receptors during infection. Department of Clinical Neuroscience, Huddinge Hospital, SWEDEN.
- 1/5/1995 IFN- $\gamma$  receptor oriented research in trypanosomiasis. Department of Molecular Medicine - Karolinska Hospital, April 1995. Sweden.
- 19/1/1996 Early events in immune system defense mechanisms. Huddinge Hospital
- 2/8/1996 Overview of the immune system - Postgraduate course - Huddinge Hospital, division of neurology
- 27/8/1996 A novel autoantibody regulatory mechanism for cytokine responses, MTC, Karolinska Institute
- 17/2/1997 Molecular aspects of *T.b. brucei* induced pathology. Joint seminar – library - Huddinge University Hospital
- 6/3/1998 IFN- $\gamma$  as a growth factor for African trypanosomes. IMPI-MTC Seminar, Division of Infectious Diseases, Huddinge Hospital, Karolinska Institute.
- 17/6/1998 Immunoregulation to cytokines by autoantibodies, MTC, Karolinska Institute, Stockholm, Sweden
- 9/2/1999 A potential immunoregulatory role for anti-cytokine antibodies - Department of Rheumatology, Karolinska Hospital, Stockholm, Sweden
- 25/2/1999 The above lecture was presented at the Department of Clinical Pharmacology, Karolinska Hospital, Sweden

- 17/5/1999 The above lecture was presented at the Department of Clinical Microbiology, Karolinska Hospital, Sweden
- 10/1/2000 Over view of innate and acquired immunity, course in immune system and trauma for medical students, Department of Anesthesia, Huddinge Hospital, Sweden
- 10/1/2000 The CNS and the immune system, course in immune system and trauma for medical students, Department of Anesthesia, Huddinge Hospital, Sweden

❖ **At other universities in Sweden:**

- 25/5/1995 African Trypanosomes and Immunoregulating Molecules Medical Faculty of the University of Gothenburg
- 28/5/1995 Cytokines and cytokine receptors- Xth Summer School, Gothenburg
- 19/1/1996 Interactions of *Trypanosoma brucei brucei* and the immune system - Trypanosome workshop, BMC, Uppsala
- 9/5/1996 Interactions of *Trypanosoma brucei brucei* and the immune system - Trypanosome workshop, BMC, Uppsala
- 25/11/1997 Interaction between *T.b. brucei* and immunoregulating Department of Molecular and Cell Biology, Umeå University, Sweden.
- 11/9/1998 A major session talk, the role of autoantibodies to cytokines, the 14<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis, 9-12 September 1998, Stockholm, Sweden
- 8/2/1999 Autoantibodies to cytokines, Clinical and therapeutic relevance Department of Clinical Immunology, University of Linköping, Sweden
- 25/10/1999 Regulation of cytokine responses, Department of Dermatology, University of Uppsala

**Qualification as a reader:**

9 May 1996, Experimental Neurology, Neurology

**Qualification as a Professor:**

18 June 2002, Immunology, Neurology

**2. Undergraduate course administration**

High School students: Biochemistry course to pre university high school students (3 month's course), Khartoum University. The course had 40 participants. 1982.

Medical Students:

1. Course organizer, Department of Medicine, Alshaab Teaching Hospital, 3 courses in Internal Medicine, for medical students, 35-50 students per course. 1985-1988.
2. Course convener 1988-1998 for 4 courses in Cardiology for medical students, Department of Medicine, Khartoum teaching Hospital, 30-40 students per course.
3. Tutorials and case presentations to under graduate Medical students, Al-Shaab Teaching Hospital, Khartoum, 1987-1988.
4. Course convener 1988-1998 for 4 courses in Clinical Neurology for medical students, Department of Neurology, Huddinge University Hospital, 35-45 students per course.
5. Course Teacher in Free Choice courses for Medical students in Immune System Function in Trauma, Department of Anesthesia and Intensive Care Clinic Ward, Huddinge University Hospital. 1999-2000.

6. Teacher, regular lectures in Clinical Neurology, Immunology and Microbiology for Medical Students, Karolinska Institute - Division of Neurology and Infectious Diseases, Huddinge University Hospital. 1989 -2000.
7. Tutor for year 2, Unit I Concepts and Principles, AGU, Bahrain.
8. Tutor for year 3, Unit IV GIT and Renal System, AGU, Bahrain.
9. Tutor for year 3 Unit VI Hematology and Immune System, AGU, Bahrain
10. Tutor for year 3 Unit V Reproductive System and Endocrinology, AGU, 2001
11. Tutor for year 4 Unit VIII, Central Nervous System, AGU, Bahrain
12. Clinical Professional Skills Program, Unit VII, Central Nervous System, AGU, Bahrain
13. Tutor for laboratory skills in Microbiology, AGU, Bahrain

**Departmental activities:**

1. The department coordinator for Unit VIII (Central Nervous System)
2. The department coordinator for Unit VI (Haematopoietic and Immune systems )

With the following duties:

- Coordinate lab arrangements, timing, material, handouts, etc.
  - Coordinate poster preparation
  - Upgrade the intranet material for the Unit
  - Follow up question preparation.
  - Correct the questions in the AO (SAQ, PMP) related to the unit exam
  - Review the feedback of the students for the lab activities related to the unit.
  - Together with the problem coordinator review the feedback of the tutors on the problems and propose improvement to the Dept. Chairman.
  - Attend the meeting for the unit and report to the Chairman.
  - Review and propose to the Dept. Chairman improvement the booklet related to the unit.
  - Attend the review session for the exam.
  - Invigilating the exam (if required)
  - Participate in the committee for elaboration of integrated questions interacting with the Dept. Chairman
3. Participation in graduate activities as the regular scientific seminars and journal club arranged at the department of Anatomy.
  4. Undergraduate seminars:
    - Cytokines and Chemokines: from basic science to clinical applications.
    - Zoonoses.
    - Septic Shock
    - Tuberculosis
    - Infections: Mother to Child

**DEPARTMENT OF MOLECULAR MEDICINE:**

- √ Chairman of the Department since January 2003 to date
- √ Constructed curriculums for Molecular Medicine, Genetics and Inherited disorders in the undergraduate teaching units
- √ Continuous tutoring year 2, 3 and 4
- √ Co-chairman of Unit I Homeostasis
- √ Chairman of Unit VI Hematology and Immune System
- √ Co-chairman of Unit VIII Central Nervous System

## Participation in the activities of University Committees:

Committee	Duration
1. University academic committee for Biotechnology	from Sept. 2001 to date
2. University Laboratory equipment committee	from Sept. 2001 to date
3. College Research and Ethics Committee (Chairman)	from Sept. 2001 to date
4. Learning Resource Committee	from June 2001 to date
5. Department Research Committee	from 1/9/2000 to date
6. College committee for lab medicine Master	from 1/9/2000 to date
7. College committee for Basic Science Master	from 1/1/2002 to date
8. Unit VII Committee	from Nov. 2000 to 2002
9. Unit II Committee	from Feb. 2000 to 2002
10. B.Sc. exam Subcommittee	from Apr. 2000 to 2001
11. Chairperson of Unit V System Committee	from Sept. 2001 to date
12. Unit VI Committee	from Sept. 2001 to 2001
13. Laboratory Diagnostic supervisory Committee	from Nov. 2001 to date
14. Basic Medical Science Course for Residency Training	from June 2002 to date
14. Basic Medical Science Course for Residency Training	from June 2002 to date

## Compilation of teaching material

### ❖ Text books:

**Moiz Bakhiet.** The role of autoantibodies in the action of cytokines - Frontiers in multiple sclerosis III EDS: Martin Dunitz Ltd, London, 1999

93. **Moiz Bakhiet.** Cytokines as novel therapeutic agents for neuroinflammatory disorders: a role for interferon- $\beta$  in the treatment of multiple sclerosis. Current Medicinal Chemistry-Central Nervous System. 1: 201-208.2001.

### ❖ Manuals:

1. Basic immunology: handouts distributed in relevant courses and seminars
2. Techniques in immunology: protocols distributed in practical courses
3. Neurological complications to HIV/AIDS and neuroborreliosis: handouts for medical students
4. Manual for professional skills in Clinical Neurology for undergraduates
5. Departmental evaluation form for Resource sessions

### ❖ Posters and intranet resources for undergraduate:

1. HIV poster and intranet resource
2. Tuberculosis Poster and intranet resource
3. Meningoencephalitis

### ❖ Construction of Educational Problems:

1. HIV/AIDS 2000/2001
2. Meningoencephalitis 2001/2002
3. Colitis 2001/2002
4. Pneumonia 2001/2002
5. Hepatitis 2001/2002
6. Cancer Epidemiology 2004
7. Neoplasm 2004
8. Spinal cord injury 2005
9. Multiple sclerosis 2007

## 6. Research and developmental work

1. As a member of the organizing committee, instructor and a lecturer, I am actively involved in development of new courses and renewal of undergraduate education in Pathology, Immunology and Infections Biology, started from autumn term of 1999. The renewal of courses is mainly to meet the needs of teaching in the new school in Biomedicine.
2. As a member of Karolinska International Committee for research and training, I am participating in the development of Karolinska School for Global Health.
3. Coordinator responsible for the Master Program in Master in Laboratory Medicine, AGU
4. Coordinate the agreement between AGU and Karolinska Institute in Sweden for collaboration in research and training.

## 7. Experience as an educator

### Undergraduate activities at Karolinska Institute

Lectures in Clinical Neurology to Medical Students

Lectures in Basic Immunology to Medical Students

Lectures in CNS and Immunology to Medical Students

Numbers of hours= 120 hrs

### Undergraduate activities at the Arabian Gulf University:

#### (Two units per year)

- Tutor for unit I, Concepts and principles (72h/year)
- Tutor for Unit III, GIT and Renal System (72h/year)
- Tutor for Unit IV, Endocrinology and reproductive system (72h/year)
- Tutor for Unit V, Hematology Immune System (72h/year)
- Tutor for Unit VII, Central Nervous System (72h/year)
- Clinical Professional Skills Program, Unit VII, Central Nervous System (36h/year)
- Tutor for laboratory skills in Microbiology (56h/year)
- Resource sessions in Immunology and Microbiology, Molecular Medicine and Clinical Neurology
  - Tuberculosis
  - HIV
  - Immunocompromised host
  - Septic shock: the role of TNF- $\alpha$  and activated protein C
  - Cell cycle and controlling factors
  - Spinal cord injuries

### Postgraduate teaching

- 8 students completed their PhD under my full supervision
- 4 students completed their Licentiate (M Phil) under my full supervision
- 11 students completed their Master degree under my full supervision

### Courses for Graduate students:

1. Seminars and Courses in basic Immunology for postgraduates (Department of Neurology Huddinge University Hospital, Karolinska Institute), 1992 -1998
2. Laboratory techniques and Computer applications (see below), 1992-1998 for postgraduates (Department of Neurology, Huddinge University Hospital, Karolinska Institute), 1992-1994.
3. Molecular Biology Techniques in Research and Diagnosis of Infectious Diseases. Applied Course. Unit of Genetics and Molecular Parasitology, National health Laboratory, Institute of Endemic Diseases, University of Khartoum. 7-15/1/1996.

4. WHO/IUIS Refresher Course on Immunology, Vaccinology. Biotechnology and Biosafety Applied to Infectious Diseases, Arusha and Dar Es-Salaam. Tanzania. 4-19 December 1996
5. Organized and participate in the following course for Ph.D. students at Karolinska Institute: Animal models to study immunopathogenesis and treatment of neuroinflammatory disorders 8-29 September 1997.
6. Organized and participated in the EAE teaching course during the 14<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis, 9-12 September 1998, Stockholm, Sweden
7. IMPI seminars, Regulation of cytokine responses in infections and autoimmune diseases. Huddinge, Sweden 21 January 1999.
8. Medical Inflammation seminars, Linköping, Sweden. 8 February 1999.
9. Course in Infectious Diseases for Master students, AGU, January 2001 – June 2001.
10. Course in Basic Immunology Master Students, AGU, March 2002 – June 2002.
11. Course in Molecular Diagnostics, AGU, April 19 – 25, 2003.
12. Advance Immunology February - March 2007

#### **Postgraduate activities at the Arabian Gulf University:**

- Organized Host-parasite interactions Module, Graduate (M.Sc.) Programme In Laboratory Medicine –Core Courses Semester I
- Semester II coordinator, MSc in Microbiology
- Teaching the Molecular Immunology and Intracellular Signalling Pathways for Master students, the College of Postgraduate, AGU
- Principal co-investigator in the department project on pathogenetic mechanisms in children diarrhoea.
- Course in Infectious Diseases for Master students, AGU, January 2001 – June 2001.
- Course in Basic Immunology Master Students, AGU, March 2002 – June 2002.
- Resource sessions for under and post graduate in Cell cycle and Stem cell research (2001-2002).
- Regular teaching in medical resident program at the BDF hospital
- Supervise 3 Master students at AGU (For PhD and other senior students in Sweden see below at the scientific portfolio)

#### **8. Quality**

- a. As an organizer and participant in WHO refresher course on Immunology, Vaccinology, and Biotechnology applied to infectious Diseases, I received a letter of award from WHO, Laboratory Training and Support, Division of Emerging and other Communicable Diseases, surveillance and Control.
- b. The analysis of evaluation questionnaires, which all participants usually complete at the end of each course, used to clearly show that the training activities are to be considered very successful.
- c. In summary, I feel that beside my clinical, administrative and scientific duties, I have to a great extent contributed to the education of undergraduate and postgraduate students. I also gained a lot of experience, which should help the development of teaching in the future.

# LEADERSHIP, DEVELOPMENT AND WORKPLACE RELATIONS PORTFOLIO

## 1. Formal qualifications

- a. Administration management course, Strategic Research Center, Sudan 1-4 May 1985
- b. Course for teaching at tertiary level - Karolinska Institute, 2 – 6 October 1995

## 2. Strategic competence, dissemination of information

- a. Involved in strategic planning, entrepreneurial ability and dissemination of information for Al-Shaab Teaching Hospital as a Head of the Developmental Committee (1987- 1988)
- b. Active member of the Organizing Committee for the 14<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis, 9-12 September 1998, Stockholm, Sweden.

## 3. Positions of leadership

- Head of Immunology Unit 2002 →
- Chairman of Research and Ethics Committee 2002 →
- Chairman of Unit V (Hematopoietic and Immune Systems Committee) 2002 →
- Chairman of Department of Molecular Medicine, Director, Princess AL Jawhara Center 2002 →

- 1981-1982 Secretary, Medical Student Association
- 1982-1983 President of the Association for Cultural activities
- 1980-1984 President of the Scandinavian Friendship Association
- 1985-1988 TV Collaborator and presented a series of T. V. programs
- 1987-1988 President of the High Committee of Development of Al-Shaab Teaching Hospital – Khartoum
- 1988 → Vice president of the Swedish friendship association

## Membership of societies and organizations:

### *A. National Societies and Organizations*

1. 1996 → Member of the Swedish Association for Immunology Society
2. 1997 → Member of the Swedish Medical Society
3. 1998 → Member of the Karolinska International Research and Training (KIRT)
4. 1998 → Member of the Arabic Swedish Cultural Society
5. 1998 → Vice President of the Swedish Sudanese friendship Association

### *B. Regional Societies and Organizations*

1. 1996 → Member of the Scandinavian Association of Immunology
2. 1997 → Member of the African Association of Immunology
3. 1998 → Member of the European Society for the treatment of Multiple Sclerosis
4. 2000 → Member of the European society of clinical microbiology
5. 2000 → Member of the American Association of Immunologists

### *C. International Societies and Organizations*

1. 1997 → Member of the American Academy of the Advancement of Sciences
2. 1998 → Member of the International Association of Neuroimmunology
3. 1999 → Member of the International society for mucosal immunology
4. 2000 → Member of the International society of infectious diseases
5. 2000 → Member of the New York Academy of Science
6. 2000 → Member of the Federation of American Societies for Experimental Biology

#### **4. Supervisor, lecturer, mentor**

- "Guide"-mentor for 8 Ph.D. students as a main supervisor and for 2 as co-supervisor
- Supervisor of 3 major doctoral research on basic and clinical projects
- Support for colleagues who have been awarded positions of trust and promoted to seniority

#### **5. Competence as a staff manager**

I worked as Head Department at several places as my current job also indicates. In addition I served as Head of Research and lab Chief for the Division of Neurology for 3 years. Also, as a Head of Research and Laboratory Chief for the Division of Infectious Diseases for 2 years and for several occasions as Medical director and Acting Head department. These positions have given me great abilities in making decisions, delegation of authorities, ability to apply Group Logic and to bring about general agreement on mutual values in essential questions and to achieve willingness to work together, and also, visionary and organizational abilities.

\*Established and currently work as a General Director of HH Aljawhara Center for Molecular Medicine, Genetics and Inherited Disorders

#### **6. Competence in workplace relations**

Merits that reflect proficiency in social leadership:

- Social empathy - the ability to give positive feedback and constructive criticism
- Accessibility;
- Openness;
- Ability to make others enthusiastic ;
- Respect for fellow workers;
- Ability to treat fellow workers justly;
- Ability to mediate in disputes

### **Establishment of the Center for Molecular Medicine**

#### **Introduction:**

Molecular Medicine is a highly specialized part of Medicine. It explains the fundamental principles vital to an understanding of:

1. Molecules that are key to the normal functioning of the body and those related to the fundamental mechanisms of the diseases
2. Manipulation of these molecules to improve the diagnosis, treatment, and prevention of disease
3. Human genome
4. Gene regulation and expression in health and disease
5. Genetic engineering

Principles are then applied to the diagnosis and treatment of human disease in Gene regulated disorders, Inherited genetic diseases, Inborn errors of metabolism, Infectious diseases, The immune system and blood cells, Cancer and Public health

#### **Vision**

The centre's vision is to be: "a leading molecular medicine centre ,uniquely positioned to serve the health needs of the GCC citizens, and globally recognised for excellence in research and development ,clinical services and health education."



### **The centre's mission and strategic objectives:**

1. Provide a broad range of evidence based, integrated clinical and diagnostics services in molecular medicine, that meet the needs of the GCC population on a not-for-profit basis
2. Raise awareness of genetic diseases and their impact on the health of the individual and society; the knowledge of their causes, methods of diagnosis and treatment
3. Provide combined IVF and Pre-implantation Genetic Diagnosis (PGD) services to international standards, and be a referral centre of choice from across the region
4. Provide access to high quality screening programs required by the MoH in Bahrain, and support other public health screening programs in the GCC
5. Provide genetic clinics and genetic counseling services that complement AJC's clinical and diagnostic services
6. Establish partnerships, affiliations and collaborations to develop and enhance the centre's research capability both regionally and internationally
7. Support PhD and other graduate programmes in molecular medicine through access to a dynamic research environment and renowned expertise
8. Position the AJC as a knowledge hub for research and findings in the areas of molecular medicine and related fields – hosting conferences and providing CME opportunities for healthcare professionals

### **AJC Service Offerings**

#### **Clinical Services: In close collaboration with the community**

- Clinical genetics
- IVF & PGD
- Patient services
- Cytogenetics
- Clinical quality Assurance

#### **Diagnostic Services**

- Screening services
- Molecular genetics
- Metabolics
- Clinical lab
- Laboratory quality Assurance

#### **Education: In close collaboration with Universities**

- Public Outreach Program: Portal, Campaigns, School & University Programs, Community Programs
- CME: Programs in Molecular Medicine & related fields, Conferences, Vocational Training Programs
- Technical training
- Portal/Publications
- Consulting/ Technology transfer
- Conference management

#### **Research: In close collaboration with Industry**

- Research collaborations
- Biostats & bioinformatics
- Biobank
- Research grants & contracts

#### *Initial Research Themes:*

- Common GCC genetic disorders
- Type 2 diabetes
- Endemic cardiovascular diseases
- Genetically driven variations in drug metabolism
- Genome wide association studies
- Biomarkers

In order for the research to be clinically relevant, AJC probably needs to sustain a critical mass of up to 60 scientists, which will require initial investment of US\$100 million and continuous external support.

#### **The operating model**

The AJC is driven by its clinical and diagnostic services business units. The unit itself is driven by patient referrals and new services. It provides patients and their families' quality genetic care. It also provides data for research, and content, teachers and doctors to the knowledge hub for distribution to outreach partners.

#### **The organisation structure**

In order to achieve a balance between the business and scientific units the positions of "Business Director" and "Scientific Director" have been introduced and both will report to a "Director General". The Business Director is responsible for the operational and administrative activities at the AJC whilst the Scientific Director is responsible for the scientific and research activities at the AJC, ensuring the services are aligned with the AGU's research policy. The Scientific Director reports to the Board of Directors on all scientific matters through the Scientific Advisory Committee. There are four core business units (diagnostic services, clinical services, knowledge hub and research & development) which report to the business director on operational and financial matters, and the scientific director on scientific and medical matters.

#### **Governance**

The AJC board of directors has cross appointments with the AGU board of trustees. In addition the AGU President is the chairman of the AJC board of directors and will appoint the director general. AJC activities are aligned with the AGU research policy through the appointment of a scientific director who chairs the scientific advisory committee. This governance structure enables a loose coupling arrangement between AGU and AJC, allowing doctors to maintain both their academic and research responsibilities and interests.

*The key areas which are shared between the AGU and AJC are:*

- Hosting and supervising PhD students
- Service level agreements for any infrastructure support services
- Fellowship programme for AGU faculty

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## GENERAL:

### NOMINATIONS FOR PRIZES:

1. KING FAISAL INTERNATIONAL PRIZE for Medicine, in the field of Molecular Immunology.
2. Kuwait prize in the category of distinguished scientific research of an Arab citizen in the fields of Basic (A) and applied (B) Sciences.
3. Anders Jahres price in Medicine for young medical researcher in the Nordic Countries.
4. Eric K Fernströms price for a young specially promising researcher.

**Won Dr. Mohamed Al Khalifa first Prize for best research published in Bahrain Medical Bulletin 2010**

**Won Journal of Bahrain Medical Society Reviewer Award 2010**

### PUBLISHED THE FOLLOWING BOOKS:

#### As a scientist:

1. Immunopathogenesis of African trypanosomiasis, Interaction between *Trypanosoma brucei brucei*, T cells and interferon gamma. Doctoral thesis, Karolinska Institute, Stockholm, Sweden, ISBN 91-628-0832-X, 1993
2. **Bakhiet M.** The role of autoantibodies in the action of cytokines. Frontiers in multiple sclerosis III. EDS: Martin Dunitz Ltd, London, in press. 1999.
3. **Moiz Bakhiet.** Cytokines as novel therapeutic agents for neuroinflammatory disorders: a role for interferon- $\beta$  in the treatment of multiple sclerosis. Current Medicinal Chemistry-Central Nervous System. 1: 201-208.2001.

### RESEARCH RESULTED IN INTERNATIONAL PATENTS:

Lymphocyte stimulating factor-P-CA2998004, AWAPATENT, 2000

Immune System Mediator UK, Patent Number: 0703887.0 PCT/EP2008/052399

### In the field of Literature and Thought:

- Published twelve poetry books which have been collected recently in Three full collections of poetry.

The 1<sup>st</sup> full poetry group included the first four books, and they are: Mirage and Rendezvous, the Third Dimension, Foliage for Love and Politics, and Entrances to Exit.

The second group also contained four collections of poetry: The sea is my entrance to you, The Sun Shines Twice, Harbors of Thirst, Cologne and shadows

The third group also contained four collections of poetry: Nation in size of repentance, The Sea Messenger your love, the first dream is coming, which of her great beauty you deny

#### Under publication:

Longing you

Harbor me in your pores

The color of disconcerting

Participated in more than 100 National, Regional and International poem festivals and recitations and won several prizes

#### Creativity contributions:

- participated in many cultural, intellectual and creative forums in different countries of the world such as the Mirbad Festival in Iraq in 1987
- participated in the XIII Ramtha Festival of Arabic poetry, Jordan, 13-18 August 2007.
- Presented several poem recitation in many Arab cities and in Europe, America and Asia
- Hosted by several TVs, radio and Arab and Western satellite channels. Most recently hosted by Korean Television in a program called From heart to the heart and on Korean radio and television, Swedish radio and BBC from London
- One of the founders of the Arab Swedish Cultural Society
- Chairman of the Association of Culture and Cultural Secretary of the Association of Medical Students at the University of Khartoum
- Provider of television programs and TV late shows in Sudan from 1985 until 1989
- Founder of a major cultural forum on the Internet

#### Press and media contributions:

- Writings releases, articles and poems since the beginning of the eighties in the Undergraduate
- 1982 - 1984 Al-Ayyam
- 1985 - 1987 Alsaafa Newspaper
- 1987 - 1989 Assyasa Newspaper
- 1990 - 2002 Sudanese newspapers and Arab sporadic
- A weekly newspaper column in Alhurriyah Newspaper, 2003
- A Socio-cultural and artistic weekly Page in Alhurriyah Newspaper, 2003
- A weekly newspaper column in Aldayrah Newspaper, 2003
- A Socio-cultural and artistic weekly Page in Aldayrah Newspaper, 2003
- A weekly newspaper column in Aladdwaa Newspaper, 2004 - 2007
- A Socio-cultural and artistic weekly Page in Aladdwaa Newspaper, 2004 - 2007
- A weekly newspaper column in Alahram Alyoum Newspaper, 2009
- Articles and poems in sporadic newspapers worldwide
- Prize-winning poetry – 3rd Culture Festival in Sudan
- Provider of many cultural programs in television and radio
- Articles and poems in various Arab and Sudanese newspapers since the beginning of the eighties until now
- a weekly column in Sudanile, the first Sudanese electronic newspaper
- author of many sites releases on the Internet