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CURRICULUM VITEA

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Education

- Neurology resident since 2008, University of Manitoba, Winnipeg, Canada
- Post-doctoral fellowship 2005-2008, Department of Ophthalmology, McGill University, Montreal, Canada
- Ph.D. 2001-2005, Department of Neurology and Neurosurgery, Neuroscience program, McGill University, Montreal, Canada
- M.D. 1991-1998, Tehran University of Medical Sciences, Tehran, Iran
- High School 1987-1991, National Organization for Development of Exceptional Talent, Tehran, Iran

Research Interest

Binocular perceptual learning for treatment of amblyopia (computer and virtual reality games)

Transcranial magnetic stimulation (rTMS) in visual perception in neural diseases such as:

- 1- Amblyopia
- 2- Stroke rehabilitation

Imaging (fMRI) and psychophysical approach to:

- 1- **Global integration** of spatial and motion information in normal and amblyopic visual system
- 2- **Noise segregation** in normal and amblyopic visual system
- 3- **Binocular combination** of spatial and motion information in normal and amblyopic visual system
- 4- **Stereopsis** in Amblyopia
- 5- **EEG and fMRI in epilepsy**

Teaching
Interest

Amblyopia and Strabismus

Neurophysiology of the Visual System

Visual Perception

Statistics in Neuroscience, Psychology, and Medicine

Reviewer

- Journal of Vision (JOV)
- Investigative Ophthalmology and Visual Sciences (IOVS)

Patents

- Provisional: Binocular Vision Assessment or Therapy (registration number 37796/23-10-2007)
- Provisional: Apparatus and Method for treating a cortical-based visual disorder using delivery of transcranial magnetic stimulation (TMS) to the visual cortex of a patient (registration number 58225/14-11-2007)

Publications

1. **Integration of first- and second-order orientation;** Allen HA, Hess RF, Mansouri B, Dakin SC, Journal of the Optical Society of America A, 2003 Jun; 20(6): 974-86
2. **Integration of orientation information in amblyopia;** Mansouri B, Allen HA, Hess RF, Dakin SC, Ehrt O, Vision Research. 2004 Nov; 44(25): 2955-69
3. **Integration, segregation, and binocular combination;** Mansouri B, Allen HA, Hess RF, Dakin SC, Journal of the Optical Society of America A, 2005 Jan; 22(1): 38-48
4. **Detection, discrimination and integration of second-order orientation information in amblyopia;** Mansouri B, Allen HA, Hess RF, Vision Research. 2005 Jun; 45(18): 2449-2460
5. **The extent of the dorsal extra-striate deficit in amblyopia;** Simmers AJ, Ledgeway T, Mansouri B, Hutchinson CV, Hess RF, Vision Research. 2006 Aug; 46(16): 2571-80
6. **Integration of local motion is normal in amblyopia;** Hess RF, Mansouri B, Dakin SC, Allen HA, Journal of the Optical Society of America A, 2006 May; 23(5): 986-92
7. **The global processing deficit in amblyopia involves noise segregation;** Behzad Mansouri, Robert F. Hess, Vision Research. 2006 Nov; 46(24): 4104-17
8. **Cortical deficits in human amblyopia: their regional distribution and their relationship to the contrast detection deficit,** Li X, Dumolin S, Mansouri B, Hess RF, Investigative Ophthalmology and Visual Sciences. 2007 Apr; 48(4): 1575-91
9. **The fidelity of the cortical retinotopic map in human amblyopia;** Xi L, Dumolin S, Mansouri B, Hess RF, European Journal of Neuroscience,

Vol. 25, pp. 1265–1277, 2007

10. **Binocular influences on global motion processing in the human visual system**; Hess RF, Hutchinson CV, Ledgeway T, Mansouri B, Vision Res. 2007 Jun;47(12):1682-92. Epub 2007 Apr 17
11. **Variance discrimination in amblyopia**; Mansouri B, Allen HA, Hess RF, J Opt Soc Am A Opt Image Sci Vis. 2007 Sep; 24(9):2499-504
12. **Binocular Summation of Contrast Remains Intact in Strabismic Amblyopia**; D. H. Baker, T. S. Meese, B. Mansouri, R. F. Hess, Investigative Ophthalmology and Visual Sciences. 2007 Oct; 48: 5332-5338
13. **Brain Plasticity in the Adult: restoration of function in amblyopia using Repetitive Transcranial Magnetic Stimulation (rTMS)**; B. Thompson, B. Mansouri, L. Koski, R. Hess, Curr Biol. 2008 Jul 22;18(14):1067-71
14. **Coherence and transparent moving plaids in amblyopia**; Thompson B, Stockdale CA, Mansouri B, Hess RF, Vision Res. 2008, May;48(11): 1307-14.
15. **Intact Binocular Vision in Amblyopia: Psychophysical Evidence and Implications for a Potential New Treatment Approach**; B. Mansouri, B. Thompson and R. F. Hess (Vis Research, in-press)

Theses

- **Integration of spatial and motion information in amblyopia (Ph.D. Thesis), 2005**; Mansouri B, McGill University Library
- **Epidemiology of Goiter and its dependant variants and affecting factors amongst young girls aged between 12 and 18 years old (M.D. Thesis), 1997**; Mansouri B, Modirrousta M, Tehran medical school library

Papers

(Submitted, or in-reparation)

1. **Monoptic, dichoptic and binocular masking in strabismic amblyopia**; D. H. Baker, T. S. Meese, B. Mansouri, R. F. Hess (in preparation)
2. **Preserved Stereovision in strabismic amblyopia (case report)**; Mansouri B, Thompson B, Gheorghia E, Hess RF, (in preparation)
3. **Stereo-motion in strabismic amblyopia**; Mansouri B, Thompson B, Gheorghia E, Hess RF, (in preparation)
4. **Distorted mapping in amblyopia**; Mansouri B, Hansen B, Hess RF (in preparation)
5. **Within-voxel variability of the hemodynamic response function of early visual areas in amblyopes (fMRI study)**; Farivar R, Mansouri B, Hess (in preparation)
6. **Contrast difference improves noise segregation**; Mansouri B, Thompson B, Hess R (in preparation)
7. **Psychophysical estimation of the segregation-integration mechanism**; Mansouri B, Hess R (in preparation)

8. **Orientation integration and noise segregation in peripheral visual field;** B. Mansouri, B. Thompson, R. F. Hess (in preparation)
9. **Ictal epilepsy;** Y. Aghakhani, B. Mansouri
10. **The functional consequences of neurosurgical treatment for medial-temporal lobe epilepsy;** S. Smith, Y. Aghakhani, B. Mansouri (in preparation)

Professional
Affiliations

- 2003** Society for Neuroscience, USA
- 2001** The Association for Research in Vision and Ophthalmology, USA
- 2001** Vision Sciences Society, USA
- 1998** Medical Doctors Association, Iran

Teaching
Experiences

- **Teaching Assistant 2004-2006**, Neuroanatomy course (lab), Faculty of Medicine, McGill University, Montreal, Canada
- **Teaching Upper Respiratory Track Infections 2000**, Gilan Medical University, Roodsar, Gilan, Iran
- **Teaching computer programming (part-time)**, Algorithm, FoxPro, Basic plus, Logo 1989-1995, IBM, Tehran, Iran (24 hours per week)

Work
Experiences

- Post doctoral fellow, Vision Research Unit, Ophthalmology Department, McGill University, Since 2005**
- Graduate Student Research Assistant, Vision Research Unit, Ophthalmology Department, McGill University 2001-2004**
- Research Assistant (part-time) 2000-2001, Mazandaran Medical University Medical University, Sari, Iran**
- General Practitioners and Researcher 2000-2001, Khodrosazan Company, Tehran, Iran**
- Clinical director and General Practitioner, Siahkalrood, Gilan, Iran, Health and Medical Education Ministry of Iran, Gilan Medical University, Gilan, Iran, 1998-2000**

Clinical
Experience

- Clinical observer-ship (3 weeks), Ophthalmology Department, McGill University, 2006**
- Clinical observer-ship (2 weeks), Neurology Department, McGill University, 2005**
- Clinical director and General Practitioner, Siahkalrood, Gilan, Iran, Health and Medical Education Ministry of Iran, Gilan Medical University, Gilan, Iran, 1998-2000**
- General Practitioners 2000-2001, Khodrosazan Company, Tehran, Iran**

- Medical internship 1996-1998, Duties: Examining, diagnosing, and treating patients under the supervision of academic faculty members (Neurology, Neurosurgery, General Surgery, Psychiatry Orthopedics, Urology, Internal Medicine, Gynecology & Obstetrics, Heart diseases, Pediatrics, ENT, Ophthalmology, Dermatology and Family Medicine), in more than 15 hospitals and visiting more than 2000 patients, Tehran Medical School, Tehran, Iran (40 hours per week including 8-10 night shifts in month). Researching how computer and artificial intelligence could be applied in medicine
- Medical externship 1993-1996, Duties: Working with Hospital attending professor in various wards (Neurology, General Surgery, Orthopedics, Urology, Internal Medicine, Gynecology & Obstetrics, Heart diseases, Pediatrics, ENT, Ophthalmology, Dermatology, Psychiatry and Clinical Hygiene) in different hospitals, Tehran Medical School, Tehran, Iran (40 hours per week)

Languages

Farsi: Written: Excellent Spoken: Excellent (Maternal language)

English: Written: Excellent Spoken: Excellent

French: Written: Good Spoken: Good

Turkish: Written: Good Spoken: Good

Arabic: Written: Fair Spoken: Fair

Licenses & Certificates

Medical License from Medical Council of Iran 1998

Medical License from Medical Council of Canada 2007

Transcranial Magnetic Stimulation Application Certificate 2007 (McGill University Health Center TMS laboratory)

Tests

2007 United State Medical Licensing Examination STEP I (Basis Sciences): Pass

2006 United State Medical Licensing Examination II (Clinical Skill): Pass

2007 Medical Council of Canada Qualification Exam II: Pass

2005 Medical Council of Canada Qualification Exam I: Pass

2004 Medical Council of Canada Evaluating Exam: Pass

2000 TOEFL TOTAL = 267/300 (Listening = 26/30 Structure & Writing = 24/30 Reading 30/30) **TWE** = 4.5/6

2000 GRE Quantitative = 780 Analytical = 710 Verbal = 320

Experimental Techniques & Computer Programming

I am familiar with following research techniques and computer programs:

1. Psychophysics
2. Eye tracking

3. FMRI imaging and data analysis (Brain Voyager)
4. Transcranial Magnetic stimulation (TMS)
5. Matlab and Psychophysics toolbox
6. Windows and Microsoft office
7. Fortran, Basic and FoxPro (concept of database programming)

Honors and awards

2005 The Best Graduate Student Basic Science Presentation Award,
Department of Ophthalmology, McGill University, Montreal, Canada

2001 Tuition fee waiver, McGill University

1989 rank **83rd** in Iran Mathematical Olympiad

1990 rank **3rd** in Iran Karate competition

1991 Amongst the top graduates of “**Gifted & Talented Education High School**”

1991 rank **113th** amongst **800,000** participants, University national entrance exam

Dichoptic Motion Integration in Amblyopia

B. Mansouri, B. Thompson, T. Ledgeway and R. F. Hess SFN 2007

New adventures in improving residual vision in amblyopia, Mansouri B, Thompson B, Hess RF McGill Ophthalmology Clinical and Scientific Research Day 2007

Monocular, binocular and dichoptic masking in strabismic amblyopia, Daniel H Baker, Tim S Meese, Behzad Mansouri & Robert F Hess; Perception 2006

Spatial frequency-dependence of the cortical deficit in human amblyopia (fMRI study), Li XF, Mansouri B, Hess RF, 37th Annual meeting of Society for Neuroscience SFN 2006

Within-voxel variability of the hemodynamic response function of early visual areas in amblyopes, Mansouri B, Farivar R, Li XF, Hess RF, 37th Annual meeting of Society for Neuroscience SFN 2006

Temporal aspects of stereopsis revealed by dynamic random-dot stereograms, Oliver KM, Gheorghiu E, Mansouri B, Hess RF. McGill Ophthalmology Clinical and Scientific Research Day 2006

Biological motion in amblyopia, Hess RF, Mansouri B, Wastson R, Leitz G, McGill 2006

A disrupted retinotopic map in amblyopia, Mansouri B, Hess RF, VSS 2006 & McGill Ophthalmology Clinical and Scientific Research Day 2006

Signal segregation not signal integration is abnormal in amblyopia, Mansouri B, Hess RF, 78th Annual meeting of the Association for Research in

Abstract publication

Vision and Ophthalmology ARVO 2006

Amblyopic suppression: all-or-none or graded? Mansouri B, Hess RF, European Conference on Visual Perception, 2005

Regions of spared cortical function in human amblyopia (fMRI study), Li X, Dumolin S, Mansouri B, Hess RF, 36th Annual meeting of Society for Neuroscience SfN, 2005

Integration of global information in amblyopia; the role of signal and noise, Mansouri B, Hess RF, McGill Ophthalmology Clinical and Scientific Research Day 2005

Variance discrimination in amblyopia, Mansouri B, Allen HA, Hess RF, 5th annual meeting of Vision Sciences Society VSS, 2004

Integration of second-order information in amblyopia, Mansouri B, Allen HA, Hess RF, Dakin SC., 77th Annual meeting of the Association for Research in Vision and Ophthalmology ARVO, 2004

Integration of global information in amblyopia and the effect of noise, Mansouri B, Allen HA, Hess RF, Dakin SC, 34th Annual meeting of Society for Neuroscience SfN, 2004

The site of orientation integration, Mansouri B, Allen H, Hess RF, Dakin SC, McGill Ophthalmology Clinical and Scientific Research Day 2004

Amblyopes can integrate second-order orientation information across space, Mansouri B, Allen HA, Hess RF, Dakin SC, 33rd Annual meeting of Society for Neuroscience SfN, 2003

The site of orientation integration, Mansouri B, Allen HA, Hess RF, Dakin SC, 4th Annual meeting of Vision Sciences Society VSS, 2003

Spatial integration of second-order orientation in amblyopes, Mansouri B, Allen HA, Hess RF, Dakin SC, Ehrt O., 76th Annual meeting of the Association for Research in Vision and Ophthalmology ARVO, 2003

Integration of first- and second-order orientation, Allen HA, Hess RF, Mansouri B, Dakin SC., 3rd Annual meeting of Vision Sciences Society VSS 2003

Integration of first-order orientation in amblyopia, Mansouri B, Allen HA, Hess RF, Dakin SC, Ehrt O., 33rd Annual meeting of Society for Neuroscience SfN, 2003

Amblyopes can combine information across space, Mansouri B, Allen HA, Hess RF, Dakin SC, Ehrt O., 75th Annual meeting of the Association for Research in Vision and Ophthalmology ARVO, 2002

Additional
courses

2004 Advances in visual perception, Department of Psychology, McGill University, Montreal, Canada

2002 Statistics in Neurosciences, Department of Psychology, McGill University, Montreal, Canada

2001 Principles of Neuroscience I, Department of Neurology and Neurosurgery, McGill University, Montreal, Canada

1995 Homeopathy, one-month course. Tehran University, Tehran, Iran.

1994 Applicability of Computers in Medicine twelve-month course, Tehran University. Tehran, Iran.

1993 Usage of Hypnosis in Medicine, two-month course, Tehran University, Tehran, Iran.

1990 Microprocessors, four-month course, Sharif University, Tehran, Iran.

1989 Logical Circuits, twelve-month course, Sharif University, Tehran, Iran

Presentations

2006 Oral presentation: "A disrupted retinotopic map in amblyopia", McGill Ophthalmology Clinical and Scientific Research Day 2006

2005 Oral presentation: "Amblyopia suppression, all-or-non or graded?" ECVP, La Coruna, Spain.

2005 Oral presentation: "Integration of global information in amblyopia; the role of signal and noise", McGill Ophthalmology Clinical and Scientific Research Day 2005

2004 Oral presentation: "Integration of global information in amblyopia and the effect of noise", Neuroscience meeting, San Diego, USA.

2004 Poster presentation: (McGill Day) "Variance discrimination in amblyopia", Ophthalmology Department, McGill University, Montreal, Canada.

2004 Poster presentation: "Variance discrimination in amblyopia", VSS (Vision Sciences Society), Sarasota, USA.

2003 Poster presentation: "Detection, discrimination and integration of second-order orientation information in amblyopia", Neuroscience meeting, New Orleans, USA.

2003 Poster presentation: (McGill Day) "The site of orientation integration", Ophthalmology Department, McGill University, Montreal, Canada.

2003 Oral presentation (McGill Day) "Detection, discrimination and integration of second-order orientation information in amblyopia", Ophthalmology Department, McGill University, Montreal, Canada.

2003 Poster presentation "The site of orientation integration", VSS (Vision Sciences Society), Sarasota, USA.

2002 Abstract accepted: "Integration of second-order orientation information in amblyopia", ARVO (The Association for Research in Vision and Ophthalmology), Fort Lauderdale, USA.

2002 Abstract accepted: "The site of orientation integration", VSS (Vision Sciences Society), Sarasota, USA.

2002 Oral presentation (McGill Day) “Integration of orientation information in amblyopia”, Ophthalmology Department, McGill University, Montreal, Canada.

2002 Oral presentation: “Amblyopes can combine information across space”, ARVO (The Association for Research in Vision and Ophthalmology), Fort Lauderdale, USA.

2002 Poster presentation in VSS, “Spatial integration of second-order orientation”, VSS (Vision Sciences Society), Sarasota, USA.

2000 Oral presentation, “Medication Side-effects in 100 Epileptic patients in Gilan, North of Iran”, Gilan Medical University, Gilan, Iran.

1997 Oral presentation and thesis defence: “Epidemiology of Goitre and its dependant variants and affecting factors amongst young girls aged between 12 and 18”. (Score: 20 / 20) Tehran Medical School, Tehran, Iran.

1991 Lecture series on “Memory cells in immunology”. Tehran Medical School, Tehran, Iran.

Medical
Research
Experiences

2001-2005 Psychophysics and Amblyopia: A multidisciplinary approach (i.e. imaging (fMRI), psychophysical experiments) to investigate the visual deficiency in amblyopia (lazy eye). McGill Vision Unit, McGill University, Montreal, Canada.

2000-2001 Cognitive Neuroscience and Psychophysics: Visual Perception Research (Reaction-Time and Shape perception). Shahid Beheshti Medical University, Tehran, Iran.

1999-2000 Medication side effects in 100 epileptic patients, Gilan Medical University, Gilan, Iran.

1995-1997 Epidemiology of Goiter and its dependant variants and affecting factors amongst young girls aged between 12 and 18, Tehran Medical University, Tehran Iran.

1990-1995 Neuroscience related subjects, group study and research. Tehran Medical University, Tehran Iran

Extra-
curricular
activities

Teaching and coaching Karate (part-time) 1990-2000

Since 2004 Political activist

Since 2005 Learning Guitar

Since 1991 Coaching Karate

Voluntarily participation in McGill day care programs 2003–2005

Member of Board of Directors, House of Iran in Montreal, Canada Since 2005

Vice-president, McGill Iranian Student Association 2005-2006

Member of Board of Directors, “Dehkhoda” elementary school, Montreal,

Canada 2004–2005

Teacher (part-time) “Dehkhoda” elementary school, Montreal, Canada 2004–2005

Translating “Computer in Medicine” book from English to Farsi 1993

Leaning Setar (Persian traditional musical instrument) 1993-1996

Persian traditional singing 1989-1996

Karate, Black Belt DAN 1, 1989

Karate, Black Belt DAN 2, 1991

Research on “British Industrial revolution” 1987

Research on “Max Weber & Carl Popper’s theories” 1986

Research on “Persian Carpet” 1985

Hobbies

Volunteer social activities

Sport: Karate, Soccer, Tennis, Swimming, Mountain climbing

References

Dr. Robert Hess Ph.D. D.Sc. Director of Research, Department of Ophthalmology

Professor, McGill University, 687 Pine Avenue West, H4-14, Montreal Canada H3A1A1, robert.hess@mcgill.ca

Dr. Miguel N. Burnier Jr. M.D., Ph.D. Chair, Department of Ophthalmology

Professor Ophthalmology, Pathology, Medicine, Anatomy & Cell Biology.
Chief of Ophthalmology, MUHC & JGH.

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