

*Curriculum Vitae*  
**ALEXANDRE RASOULI, MD**

**APPOINTMENTS**

- 2008-Present      **The Spine Institute**, Santa Monica, CA  
Specializing in cervical, thoracic, and lumbar disorders of the spine, degenerative disorders, spinal trauma, adult and pediatric deformity, spinal oncology, minimally invasive surgery, and computer-assisted surgery.
- 2008-Present      **The Journal of Bone & Joint Surgery**, Boston, MA  
Consultant Reviewer

**EDUCATION**

- 2007-2008      **University of Miami/Jackson Memorial Hospital**, Miami, FL  
**Frank J. Eismont, MD (Director)**  
Combined Neurosurgical/Orthopaedic Spinal Surgery Fellowship
- Miami Children's Hospital**, Miami, FL  
**Harry L. Shufflebarger, MD (Director)**  
Spinal Deformity Fellowship
- 2002-2007      **University of California**, Irvine, CA  
Orthopaedic Surgery Residency
- 1998-2002      **University of California**, Irvine, CA  
Doctor of Medicine
- 1994-1998      **Stanford University**, Stanford, CA  
Bachelor of Science with Honors
- Honors Thesis: A Novel Mechanism of T-Cell Subset Commitment:  
The B-cell Mediated Th2 Induction System**

**RESEARCH POSITIONS**

- 2008-PRESENT      **Stem Cells in Spinal Cord Injury Treatment**, Spine Research Foundation,  
The Spine Institute, Santa Monica  
Investigating novel application of stem cells for spinal cord injury in rat contusion and hemisection models.

## RESEARCH POSITIONS *(continued)*

- 2003-2007            **Spinal Cord Injury Repair**, Peripheral Nerve Laboratory, University of California, Irvine College of Medicine  
Developed and implemented novel methods of spinal cord regeneration in rat contusion and hemisection models.
- 1998-2003            **Laser-Mediated Cartilage Reshaping**, Beckman Laser Institute, University of California, Irvine College of Medicine  
Pioneered chondrocyte viability assessment using flow cytometry. Developed and implemented novel cellular biology techniques.
- 1994-1998            **Lymphocyte Subset Commitment**, Dept. of Biology, Stanford University  
Sought basis for immune therapy of Multiple Sclerosis. Elucidated a cause of T-helper cell commitment to the Th2 subset. Investigated, through 3D computer modeling, the effect of allelic variance in MHC allotypes on MHC structure and function. Researcher since freshman year.
- 1996-1997            **Mitral Valve Annuloplasty**, Dept. of Surgery, Stanford University  
Investigated and compared efficacy of rigid and flexible annuloplasty rings for repair of mitral valve regurgitation. Assisted with implantation surgeries and with follow-up studies of valve integrity after ring installation.
- 1993-1994            **HIV Mutation**, Dept. of Genetics, University of California, Irvine  
Investigated the mutation rates of Human Immunodeficiency Virus (HIV) in effort to determine feasibility of conventional vaccination. Worked in laboratory of Dr. Walter Fitch, Chairman, Dept. of Genetics. Compared intra- and interpatient virus mutation rates from infected patients in San Francisco; Miami; Edinburgh, Scotland; and Zaire.

## PUBLICATIONS

1.    **Rasouli, A.**, Kim, C., Basu, R., Wong, B.J.F. Use of flow cytometry to assess chondrocyte viability after laser-reshaping of porcine cartilage. *Proceedings SPIE*, 3907: 328-338, 2000.
2.    **Rasouli, A.**, Burden, M., Johansen, E., Wong, B.J.F., Basu, R. Correlation of Tissue Viability with Laser Parameters and Shape Change in Porcine and Lagomorph Cartilage. In submission to *Proceedings SPIE*.
3.    Karamzadeh, A.M., **Rasouli, A.**, Tanenbaum, B.S. Milner, T.E., Nelson, J.S., Wong, B.J.F. Laser-Mediated Cartilage Reshaping With Feedback-Controlled Cryogen Spray Cooling: Biophysical Properties And Viability, *Lasers in Surgery and Medicine*, 28: 1-10, 2001.

## PUBLICATIONS *(continued)*

4. **Rasouli, A.**, Wong, B.J.F., Viability and Shape Change in Lagomorph Cartilage: Construction of a Biophysical Matrix. In submission to *Lasers in Surgery and Medicine*.
5. **Rasouli, A.**, Karamzadeh, A., Wong, B.J.F. Quantitative Assessment of Chondrocyte Viability After Laser-Mediated Reshaping: A Novel Application of Flow Cytometry. *Lasers in Surgery and Medicine*, 2003, 32: 3-9.
6. Cartilage reshaping: an overview of the state of the art. Amir M. Karamzadeh, Emil N. Sobol, **Alexandre Rasouli**, J. Stuart Nelson, Thomas E. Milner, and Brian J. Wong. *Proc. SPIE Int. Soc. Opt. Eng.* 4244, 208.
7. Kim, C.C., Wallace, V., **Rasouli, A.**, Coleno, M., Dao, X., Tromberg, B., Wong, B.J.F., Two-photon excitation laser scanning microscopy of porcine cartilage following Nd:YAG Laser mediated stress relaxation. *Proceedings SPIE*, 3907: 380-388, 2000.
8. Keefe, M., **Rasouli, A.**, Telenkov, S., Karamzadeh, A., Milner, T., Crumley, R., Wong, B., Radiofrequency cartilage reshaping: efficacy, biophysics and cell viability. *Arch Facial Plast Surg*, 5: 46-52, 2003.
9. Dinh, P., Bhatia, N., **Rasouli, A.**, Cahill, K., Gupta, R. Transplantation of Preconditioned Schwann Cells following Hemisection Spinal Cord Injury. *Spine*. 2007 Apr 20;32(9):943-9.
10. **Rasouli, A.**, Bhatia, N., Cahill, K., Gupta, R. Transplantation of Preconditioned Schwann Cells in Peripheral Nerve Grafts Following Contusion Injury to the Adult Spinal Cord Improves Recovery in a Rat Model. *Journal of Bone and Joint Surgery [Am]* 88: 2400-2410, 2006.
11. Cuartas, E., **Rasouli, A.**, O'Brien, M., Shufflebarger, H. Treatment of Adolescent Idiopathic Scoliosis (AIS) with all-Pedicle Screw Constructs. *Journal of the American Academy of Orthopaedic Surgeons*, in press.
12. **Rasouli, A.**, Bhatia, N., Cahill, K., Suryadevara, S., Gupta, R. Resection of Glial Scar Following Spinal Cord Injury. *Journal of Orthopaedic Research*, in press JOR-07-0339.

## PUBLISHED ABSTRACTS

1. **Rasouli, A.**, Wong, B.J.F., Viability and Shape Change in Lagomorph Cartilage: Construction of a Biophysical Matrix. *Lasers in Surgery and Medicine*, Supplement 2001
2. **Rasouli, A.**, Burden, M., Johansen, E., Wong, B.J.F., Basu, R. Correlation of Tissue Viability with Laser Parameters and Shape Change in Porcine and Lagomorph Cartilage. *Technical Summary of BiOS 2001*, January 2001, 4244-67, Number 10

**PUBLISHED ABSTRACTS** (continued)

3. **Rasouli, A.**, Karamzadeh, A., Wong, B.J.F. Quantitative Assessment of Chondrocyte Viability After Laser-Mediated Reshaping: A Novel Application of Flow Cytometry. *Lasers in Surgery and Medicine*, Supplement 2000
4. Karamzadeh, A., **Rasouli, A.**, Tanenbaum B., Milner, T., Basu, R., Wong, B.J.F. Laser-Mediated Cartilage Reshaping with Feedback-Controlled Cryogen Spray Cooling. *Lasers in Surgery and Medicine*, Supplement 2000
5. **Rasouli, A.**, Wong, B.J.F., Basu, R. Using FACS to Assess Cell Death in Laser-Reshaped Cartilage. *Journal of Investigative Medicine*, February 2000
6. **Rasouli, A.**, Kim, C., Wong, B.J.F. Use of Flow Cytometry to Assess Chondrocyte Viability after Laser-Reshaping of Porcine Cartilage. *Abstract Digest of the International Biomedical Optics Symposium*, January 2000, 3907C-45
7. **Rasouli, A.**, Wong, B.J.F., Sun, C. The Use of Fluorescent Dyes in the Intracellular Staining of Chondrocytes. *Abstract Digest of the International Biomedical Optics Symposium*, January 2000, 3914A-79
8. **Rasouli, A.**, Bhatia, N., Cahill, K., Gupta, R. Novel Transplantation of Preconditioned Schwann Cells Following Adult Spinal Cord Contusion Injury. *The Spine Journal/Proceedings of the North American Spine Society*, 20th Annual Meeting, July/August 2005, Volume 4, Number 4S, page 33S
9. Bhatia, N., **Rasouli, A.**, Cahill, K., Gupta, R. Resection of Glial Scar Following Adult Spinal Cord Injury. North American Spine Society, 20th Annual Meeting
10. **Rasouli, A.**, Bhatia, N., Cahill, K., Gupta, R. Adult Spinal Cord Contusion Injury: Novel Transplantation Technique. *Proceedings of the Cervical Spine Research Society*, 33rd Annual Meeting, Dec 1-3, 2005; page 116-117. Resident Fellow Research Award Finalist
11. Bhatia, N., **Rasouli, A.**, Cahill, K., Gupta, R. Role of Glial Scar in Adult Spinal Cord Injury. *Transactions of the 12th International Meeting on Advanced Spine Techniques (IMAST)*
12. **Rasouli, A.**, Bhatia, N., Cahill, K., Gupta, R. Novel Transplantation of Preconditioned Schwann Cells Following Adult Spinal Cord Contusion Injury. *Transactions of the Scoliosis Research Society Meeting*, 2005. Russel Hibbs Award Finalist
13. Bhatia, N., **Rasouli, A.**, Cahill, K., Gupta, R. Resection of Glial Scar Following Spinal Cord Injury. *Transactions of the Orthopaedic Research Society* 31: 1258, 2006

## **PUBLISHED ABSTRACTS** *(continued)*

14. **Rasouli, A.**, Bhatia, N., Cahill, K., Gupta, R. Transplantation of Preconditioned Schwann Cells for Spinal Cord Injury with a Contusion Model. *Transactions of the Orthopaedic Research Society* 31: 1261, 2006

## **BOOK CHAPTERS**

- Rasouli, A.**, Gupta, R.: Elbow, Wrist & Hand Injuries. In McMahon, P. (ed.): *Current Diagnosis & Treatment in Sports Medicine*. Philadelphia: LANGE Medical Publications/McGraw-Hill, 2006
- Rasouli, A.**, Lammertse, D., Wang, M.: Acute Treatment Strategies for Spinal Cord Injury. In Lin, V. (ed.): *Spinal Cord Medicine: Principles and Practice*. New York: Demos Medical Publishing, in press
- Rasouli, A.**, Eismont, FJ. Tumors of the Sacral Spine. In Bridwell, K., Dewald, R. (eds.): *Textbook of Spinal Surgery*, 4th Edition. Philadelphia: Lippincott Williams & Wilkins, in press
- Rasouli, A.**, Dietrich, D. Basic Science of Spinal Cord Injury. In Herkowitz, H., Garfin, S., Eismont, FJ., Bell, G., Balderston, R. (eds.): *Rothman-Simeone: The Spine*, 6th edition. New York: Elsevier Science, in press

## **ORAL PRESENTATIONS**

1. “The Parameter Correlation Matrix: Uniting Physical and Biological Factors in the Laser-Mediated Reshaping of Cartilage.” American Society for Lasers in Medicine and Surgery. **Invited Speaker**, Twenty-First Annual Conference, April 2001, New Orleans, LA
2. “Laser Reshaping: Laser Parameters, Reshaping Efficacy, and Tissue Viability in Lagomorph Cartilage.” Lasers in Otolaryngology, BIOS 2001 International Symposium, Society of Optical Engineering, January 2001, San Jose, CA
3. “A Novel Application of Flow Cytometry: Ultra-Rapid Determination of Viability in Laser-Reshaped Porcine Cartilage.” American Society for Lasers in Medicine and Surgery. **Invited Speaker**, Twentieth Annual Conference, April 2000, Reno, NV
4. “Using FACS to Assess Cell Death in Laser-Reshaped Cartilage.” Surgical Forum of the American Federation for Medical Research, Twenty Eighth Annual Western Meeting, February 2000, Carmel, CA
5. “Fluorescence-Activated Cell Sorting: Solving the Viability Question in Laser-Reshaped Cartilage.” Annual Dean's Summer Research Symposium at the University of California, Irvine College of Medicine, May 2000, Irvine, CA

## ORAL PRESENTATIONS *(continued)*

6. “Flow Cytometric Analysis of Viability in Laser-Irradiated Porcine Cartilage.” Lasers in Otolaryngology, BiOS 2001 International Symposium, Society of Optical Engineering, January 2000, San Jose, CA
7. “Novel Transplantation of Preconditioned Schwann Cells Following Adult Spinal Cord Contusion Injury.” Scoliosis Research Society. 2005 SRS Annual Meeting, September 2005, Miami, FL
8. “Transplantation of Preconditioned Schwann Cells Following Adult Spinal Cord Contusion Injury: Novel Approach to Treatment.” Cervical Spine Research Society. 2005 CSRS Annual Meeting, December 2005, San Diego, CA
9. “Multiple-level Cervical ADR: A Clinical and Radiographic Analysis of Sagittal Motion Preservation at 2-5 Years.” Spine Arthroplasty Society. 2009 SAS Annual Meeting, May 2009 (upcoming), London, England
10. “Multiple-level Lumbar Artificial Disk Replacement Adjacent to Concurrent Anterior Lumbar Interbody Fusion: A Clinical and Radiographic Analysis of Sagittal Motion Preservation at 2-6 Years.” Spine Arthroplasty Society. 2009 SAS Annual Meeting, May 2009 (upcoming), London, England

## AWARDS & RECOGNITIONS

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| 2007 | University of California, Irvine Department of Orthopaedic Surgery <b>Senior Resident Research Award</b> , given to the resident with the best academic research achievement |
| 2005 | <b>Russell Hibbs Award Finalist</b> , Basic Science, Scoliosis Research Society  |
| 2005 | <b>Resident Fellow Research Award Finalist</b> , Cervical Spine Research Society   |
| 2001 | Nominated to Sigma Xi Honors Research Society  |
| 2000 | Winner of the <b>Whitaker Foundation for Biomedical Engineering</b> Research Grant   |
| 2000 | Dean’s Recognition for scoring in the 99 Percentile on the NBME Physiology Exam  |
| 1999 | Winner of the <b>National Institutes of Health</b> Summer Research Fellowship  |
| 1999 | Dean’s Award for Academic Excellence for medical students in <b>top 10% of class</b>   |
| 1999 | Recognition by American Federation for Medical Research for excellence in research   |
| 1994 | Foothill High School graduating class <b>Valedictorian</b>   |
| 1994 | 8-semester member California Scholarship Federation  |
| 1993 | <b>Robert C. Byrd Honors</b> scholar   |

## **LEADERSHIP, COMMUNITY, AND TEACHING EXPERIENCE**

- 1998-2000            **Director, Medical Scholars Program**, University of California, Irvine College of Medicine. Director of program that fosters peer-led approaches to medical training, through such programs as Panel Discussions and ExamBase, a peer-run study-aid service.
- 1999-2000            **Director, Biochemistry Tutoring Program**, University of California, Irvine College of Medicine. Responsible for organizing tutoring sessions for first-year student physicians.
- 1997-1998            **Course Assistant, Biology Core Laboratory Courses**, Stanford University  
Responsibilities included teaching of weekly Molecular Biology sections, planning and improvement of courses, and student advising.
- 1994-1998            **Volunteer, USVH, Menlo Park VA Hospital**, Menlo Park, CA  
Worked since freshman year of college as volunteer at Menlo Park VA Hospital. Provided clinical services and social support for Alzheimer's and geriatric patients.