

**CURRICULUM VITAE – Samuel R. S. Barnes**

**PERSONAL INFORMATION:**

Sex: Male  
Place of Birth: Sacramento, California

**CITIZENSHIP:** USA

**CONTACT INFORMATION:**

MRI Institute for Biomedical Research  
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**PRESENT POSITION:**

Graduate Research Assistant  
Wayne State University  
Detroit, MI 48202

**EDUCATION:**

Graduate:  
2005-08 M.S. in Biomedical Engineering, Wayne State University,  
Detroit, Michigan. Cumulative GPA 4.0/4.0

Undergraduate:  
2000-05 B.S.E. Concentration Electrical Engineering summa cum  
laude, Walla Walla College, Walla Walla, Washington.  
Cumulative GPA 3.92/4.00

2003 Spanish Minor, Universidad Adventista de la Plata,  
Libertador San Martin, Argentina

## **MR RESEARCH AND INTERESTS:**

High Resolution MRA	Imaging the very small arteries of the brain using a custom MR sequence with optimal ordering, central MT application, and run at very high resolution (0.25x0.25x0.5mm <sup>3</sup> ).
Susceptibility Weighted Imaging (SWI)	Novel applications of SWI such as high field imaging (7T), simultaneous angiograph and venography in a single acquisition, and vessel wall imaging.
Vessel Segmentation	Segmenting small low contrast vessels using a statistical local thresholding algorithm with a novel shape filtering noise removal algorithm.
MR Software Development	Involved with the continued development of an MR image processing program called SPIN.
CSF Correction	It was desired to know the exact amount of CSF in a spectroscopy voxel to be able to quantitatively correct the spectroscopy values. Designed a Matlab script that would call a SPM2 functions to segment the image (into CSF, gray and white matter) and then add up the exact percentage for the spectroscopy voxel.

## **COMPUTER LANGUAGES:**

Very Proficient:	IDEA Sequence Programming (Siemens) Matlab Scripts C++ Assembly for 8051 Assembly for MSP430 VHDL
Familiar With:	Visual Basic .NET SNOBOL APL LISP

## **LANGUAGES:**

English  
Spanish

## **PUBLICATIONS, ABSTRACTS:**

**Barnes S**, Manova E, Haacke EM. Angiography and Venography in a Single SWI Acquisition. Proceedings of 16th annual meeting of ISMRM, 2008, Toronto, #2231.

Haacke EM, Neelavalli J, **Barnes S**, Latif Z. Observing Settling of blood in the supine resting condition in the peripheral vasculature. Proceedings of 16th annual meeting of ISMRM, 2008, Toronto, #822, Oral presentation.

Ge Y, **Barnes S**, Xu Y, Neelavalli J, Haacke EM. Optimization of phase contrast in susceptibility weighted imaging at 7T. Proceedings of 16th Annual Meeting of ISMRM, 2008, Toronto, #878, Oral presentation.

Ge Y, **Barnes S**, Heller S, Xu Y, Chen Q, Haacke EM, Grossman RI. 3D High Resolution Susceptibility Weighted Imaging (SWI) Venography at 3T and 7T. Proceedings of 16th annual meeting of ISMRM, 2008, Toronto, #1996.

Haacke EM, **Barnes S**, Latif Z, Neelavalli J. The settling properties of slow flow blood demonstrated using SWI. Proceedings of 11th annual scientific meeting of SCMR, 2008, Los Angeles.

**Barnes S**, Haacke EM. High Resolution MRA, Imaging M4 and Beyond. Proceedings of 19th Annual International Conference on Magnetic Resonance Angiography, 2007, Istanbul, Turkey, Oral Presentation.

**Barnes S**, Haacke EM, Latif Z. High Resolution MRA, Imaging M4 and Beyond. Proceedings of 14th Annual Meeting of ISMRM, 2006, Seattle.

## **PROFESSIONAL SOCIETIES:**

2005-present	Member, International Society of Magnetic Resonance in Medicine (ISMRM)
2003-2005	Member, Institute of Electrical and Electronics Engineering (IEEE)
2004-2005	Secretary, IEEE Student Chapter

## **WORK EXPERIENCE:**

2000	Lab assistant for Intro to Programming C++ class, Walla Walla College
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2000-02	Reader, Math/Computer Science Dept., Walla Walla College
2002-05	Computer Support, Information Services, Walla Walla College
2005	Loma Linda University MR Summer Scholarship, Department of Radiology, Loma Linda Medical Center
2005-Present	Graduate Research Assistant, Biomedical Engineering, Wayne State University