

BIOGRAPHICAL SKETCH

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NAME David A Bluemke	POSITION TITLE Associate Professor, Diagnostic Radiology and Medicine		
eRA COMMONS USER NAME dbluemke			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Wisconsin-Madison	B.S.E.	1982	Chemical Engineering
University of Chicago, Chicago, IL	Ph.D.	1987	Biophysics
University of Chicago, Chicago, IL	M.D.	1989	Medicine
Johns Hopkins University, Baltimore, MD	M.S.	1999	Business

A. Positions and Honors.**Positions and Employment**

1989-1993 Radiology resident, Dept. of Radiology, Johns Hopkins Univ., School of Medicine
 1993 Fellowship, MR and CT imaging, Dept. of Radiology, Johns Hopkins Univ., School of Medicine
 1993 to 1998 Deputy Editor, RADIOLOGY (Journal), Radiological Society of North America
 1994 to 1999 Assistant Professor, Department of Radiology, JHU, School of Medicine
 1996 to 1997 Acting Clinical Director of MRI, Department of Radiology, Johns Hopkins Hospital
 1997 to date Clinical Director of MRI, Department of Radiology, Johns Hopkins Hospital
 1999 Associate Professor, Department of Radiology, JHU, School of Medicine
 2000-2003 America Heart Association, Grant peer review panel
 2000 American College of Radiology, Committee on Standards – Body MRI, Committee for
 Standards and Accreditation of the Commission on Neuroradiology and MRI
 2004 Associate Professor, Department of Medicine, Division of Cardiology, JHU, School of Medicine

Honors

1982-1989 Medical Scientist Training Program (MSTP), University of Chicago, Sch. of Med.
 1990, 91, 93 Certificates of Merit, and Cum Laude Award, poster presentations, Rad. Soc.N. Am. (Also
 awarded in 1994, 95, 97, 99, 00, 01, 03)
 1993 Executive Council Award, outstanding research, Am. Roentgen Ray Soc., Ann Mtg
 1994 Picker-AUR Faculty Development Program, Assoc. of Univ. Radiologists
 1997 Society of Computed Body Tomography and Magnetic Resonance; Cum Laude Award.
 2000 Society of Computed Body Tomography and Magnetic Resonance, : Contrast Agent Award.
 1999-2001 Editor's Recognition Award with Distinction, Radiology
 2001 American Roentgen Ray Society, Silver Medal
 2001 Association of University Radiologists, Herbert M. Stauffer Award Best Laboratory Paper
 2002 Editorial Board, Radiology
 2003 Executive Council Award, American Roentgen Ray Society

B. Selected peer-reviewed publications (in chronological order) from approximately 200 peer reviewed publications

1. Edvardsen T, Gerber BL, Garot J, **Bluemke DA**, Lima JA, Smiseth OA. Quantitative assessment of intrinsic regional myocardial deformation by Doppler strain rate echocardiography in humans: validation against three-dimensional tagged magnetic resonance imaging. *Circulation*. 2002 Jul 2;106(1):50-6
2. Gerber, B.L., **Bluemke, DA**, Chin, B.B., Boston, R.C., Heldman, A.W., Lima, J.A.C., Kraitchman, D.L. Single-Vessel Coronary Artery Stenosis: Myocardial Perfusion Imaging with Gadomer-17 First-Pass MR Imaging in a Swine Model of Comparison with Gadopentetate Dimeglumine. *Radiology* 2002; 225 104-112 (October).
3. Edvardsen, T, Gerber, B.L., Garot, J., **Bluemke, DA**, Lima, J.A.C., Smiseth, O.A. Quantitative Assessment of Intrinsic Regional Myocardial Deformation by Doppler Strain Rate Echocardiography in Humans. *Circulation*. 2002 Jul 2;106(1):50-56.

4. **Bluemke, DA**, Kraitchman, D.L., Heldman, A., Chin, B.B. Optimal characterization of myocardial perfusion with AngioMARK. *Acad Radiol.* 2002 May;9 Suppl 1:S78.
5. Kraitchman DL, Chin BB, Heldman AW, Solaiyappan M, **Bluemke DA** MRI detection of myocardial perfusion defects due to coronary artery stenosis with MS-325. *J Magn Reson Imaging.* 2002 Feb;15(2):149-58
6. Gerber, B.L., Garot, J, **Bluemke, DA**, Wu, K.C., Lima, J.A.C. Accuracy of contrast-enhanced magnetic resonance imaging in predicting improvement of regional myocardial function in patients after acute myocardial infarction. *Circulation* 2002 August 106:1083-1089.
7. Gerber BL, **Bluemke DA**, Chin BB, Boston RC, Heldman AW, Lima JA, Kraitchman DL. Single-vessel coronary artery stenosis: myocardial perfusion imaging with Gadomer-17 first-pass MR imaging in a swine model of comparison with gadopentetate dimeglumine. *Radiology* 2002 Oct;225(1):104-12
8. Bild DE, **Bluemke DA**, Burke GL, Detrano R, Diez Roux AV, Folsom AR, Greenland P, Jacobs Jr DR, Kronmal R, Liu K, Nelson JC, O'Leary D, Saad MF, Shea S, Szklo M, Tracy RP. Multi-ethnic study of atherosclerosis: objectives and design. *Am J Epidemiol* 2002 Nov 1;156(9):871-81.
9. Tandri, H., Calkins, H., Nasir, K., Castillo, E., Rutberg, J., Tichnell, C., Lima, J.A.C., **Bluemke, DA** Magnetic Resonance Imaging Findings In Patients Meeting Task Force Criteria For Arrhythmogenic Right Ventricular Dysplasia. *J Cardiovasc Electrophysiol.* 2003 (May) 14(5):476-482.
10. Kraitchman, D.L., Sampath, S., Castillo, E., Derbyshire, J.A., Boston, R.C., **Bluemke, DA**, Gerber, B.L., Prince, J.L., Osman, N.F. Quantitative Ischemia Detection during Cardiac Magnetic Resonance Stress Testing by Use of FastHARP. 2003 Apr 22;107(15):2025-30:
11. Hofmann, L.V., Liddell, RP, Eng, J, Arepally, A, Montague, B., Yang, X., Wasserman, B.A., Lee, D.S., **Bluemke, DA** In vivo intravascular MR imaging: transvenous technique for arterial wall imaging. *J Vasc Interventional Radiol.* *J Vasc Interv Radiol* 2003; 14:1317-1327
12. **Bluemke, DA**, Krupinski, E.A., Ovitt, T., Gear, K, Unger, E., Axel, L, Boxt, L.M., Casolo, G., Ferrari, V.A., Funaki, B., Globits, S., Higgins, C.B., Julsrud, P., Lipton, M., Mawson, J., Nygren, A., Pennell, D.J., Stillman, A., White, R.D., Wichter, T., Marcus, F. MR Imaging of Arrhythmogenic Right Ventricular Cardiomyopathy: Morphologic Findings and Interobserver Reliability. *Cardiology*, 2003 (June) 99(3): 39-48.
13. Kato R, Lickfett L, Meininger G, Dickfeld T, Wu R, Juang G, Angkeow P, LaCorte J, **Bluemke DA**, Berger R, Halperin HR, Calkins H. Pulmonary vein anatomy in patients undergoing catheter ablation of atrial fibrillation: lessons learned by use of magnetic resonance imaging. *Circulation.* 2003 Apr 22;107(15):2004-10.
14. Macura KJ, Corl FM, Fishman EK, **Bluemke DA**. Pathogenesis in acute aortic syndromes: aortic dissection, intramural hematoma, and penetrating atherosclerotic aortic ulcer. *AJR Am J Roentgenol.* 2003 Aug;181(2):309-16.
15. Macura KJ, Corl FM, Fishman EK, **Bluemke DA**. Pathogenesis in acute aortic syndromes: aortic aneurysm leak and rupture and traumatic aortic transection. *AJR Am J Roentgenol.* 2003 Aug;181(2):303-7.
16. Castillo E, Lima JA, **Bluemke DA**: Regional myocardial function: advances in MR imaging and analysis. *Radiographics.* 2003 Oct;23 Spec No:S127-40.
17. Hofmann LV, Liddell RP, Arepally A, Montague B, Yang X, **Bluemke DA**. In vivo intravascular MR imaging: transvenous technique for arterial wall imaging. *J Vasc Interv Radiol.* 2003 Oct;14(10):1317-27
18. Pulmonary Vein Occlusion: An Unanticipated Complication of Catheter Ablation of Atrial Fibrillation Using the Anatomic Circumferential Approach. Chandrasekhar R. Vasamreddy, C.R., Jayam, V., **Bluemke, DA**, Calkins, H. *Heart Rhythm.* In press.
19. Rosen, D., Gerber, B.L., Edvarsen, T., Castillo, E., Amado, L., Nasir, K., Kraitchman, D.L., Osman, N.F., **Bluemke, DA**, Lima, J.A.C. Late systolic onset of regional left ventricular relaxation demonstrated in three dimensional space by MRI tissue tagging. *Am J Physiol Heart Circ Physiol.* 2004 Jun 17
20. Roguin, A., Zviman, M.M., Meininger, G.R., Rodrigues, E.R., Dickfeld, T.M., **Bluemke, DA**, Lardo, A., Berger, R.D., Calkins, H., Halperin, H.R. Modern Pacemaker and Implantable Cardioverter/Defibrillator Systems Can Be Magnetic Resonance Imaging Safe: In Vitro and In Vivo Assessment of Safety and Function at 1.5 T. *Circulation* 2004;110 (August) 475-482
21. Foo, TKF, Ho, V.B., Saranathan, M., Cheng, L, Sakuma, H., Kraitchman, D.L., Wu, K.C., **Bluemke, DA** High Spatial Resolution 3D Breath-held MR Coronary Artery Imaging: Feasibility of Integration with Myocardial Perfusion and Viability Studies. *Radiology* In press.
22. Hazirolan, T, Gupta, S.N., Mohamed, M., **Bluemke, DA** Reproducibility of black blood coronary vessel MR imaging. *J Cardiovasc Mag Res* 2004; 7(1). In press.
23. Silber HA, Ouyang P, **Bluemke DA**, Gupta SN, Foo TK, Lima JA. Why is Flow Mediated Dilation Dependent on Arterial Size? Assessment of the Shear Stimulus Using Phase Contrast Magnetic Resonance Imaging. *Am J Physiol Heart Circ Physiol.* 2004 Sep 2
24. Wolff SD, Schwitter J, Coulden R, Friedrich MG, **Bluemke DA**, Biederman RW, Martin ET, Lansky AJ, Kashanian F, Foo TK, Licato PE, Comeau CR. Myocardial first-pass perfusion magnetic resonance imaging: a multicenter dose-ranging study. *Circulation.* 2004 Aug 10;110(6):732-7.

C. Research Support

Ongoing Research Support

ACTIVE

- *R01 HL78909 (Bluemke) 08/01/05 – 06/30/08
NHLBI
Coronary Atherosclerosis Evaluation by Arterial Wall MRI
To relate coronary wall thickness to subclinical measures of coronary heart disease.
- Foundation Award (Marban) 07/01/03 – 06/30/07
Reynolds Foundation
Evaluation of Etiologic Factors in Sudden Cardiac Death
To determine structural correlates in the heart that predict sudden cardiac death.
- 5R01AG021570-03 (Lima) 04/01/03-02/28/07
NIA
HDL Increased Plaque Stabilization in the Elderly
To investigate the benefit of increased HDL on atherosclerotic plaque architecture and composition over and above those achieved by lipid lowering statin therapy.
- 5R01DK050183-07 (Szabo) 04/01/02-01/31/07
NIDDKD
Investigation of Ang II/AT1 Receptors with Pet Role: Co-Investigator
To assess the role of angiotensin receptor in hypertension with PET.
- HL47405 (Prince) 08/01/04-07/31/06
NIH/NHLBI
Harmonic Phase MRI for Ultrafast Cardiac Strain Imaging
To implement 3d real time strain methods using MRI.
- *5R21CA095907-02 (Ouwkerk) 09/15/03-08/31/06
NCI
Quantitative ²³NaMRI of Breast Cancer Role: Co-Investigator
To evaluate ²³NaMRI for breast cancer.
- *5R01AR051874-02 (Stone) 09/27/04-06/30/07
NIAMSD
Vasculitis Outcome Measures: Development and Validation
To evaluate MRI for vasculitis evaluation.
- *IRAT Supplement Award (Abeloff) 12/01/05-11/30/08
NIH/NCI
(Imaging Response Assessment Teams)
To use imaging to evaluate tumor response.
- *RO1CA100184 (Jacobs) 07/01/04-06/30/08
NIH NCI
Multiparametric MRI in Breast Cancer Tissue
To evaluate the role of novel MRI techniques such as proton MR, sodium, and spectroscopy in the characterization of breast cancer

Principal Investigator/Program Director (Last, First, Middle):

Principal Investigator/Program Director (Last, First, Middle): Bluemke, David A

N01HC-95168-01(Bluemke) 01/15/99-01/14/09
NIH/NHLBI
Subclinical Cardiovascular Disease Study, MRI Reading Center
To study the characteristics of subclinical cardiovascular disease that predict progression to clinically overt cardiovascular disease.

5 U01 HL 65594-02(Marcus) 09/27/01-07/31/06
NIH/NHLBI/University of Arizona
Multidisciplinary Study of Right Ventricular Dysplasia
To analyze MR scans of patients suspected of having right ventricular dysplasia.

*N01-CM-27018 (Bluemke) 09/30/02-09/30/06
NIH/NCI
Early Clinical Trials of Imaging Agents
Role: Principal Investigator
To conduct early clinical trials of molecular imaging agents.

*Industry Contract (Lima) 07/01/05-06/30/07
Toshiba Medical Systems Corp.
Coronary Evaluation Using Multi-Detector Spiral Computed Tomography Angiography Using 64 Detectors Toshiba Medical Systems Corporation (Lima)
To evaluate 64 slice MDCT for coronary heart disease.

ACRIN 6667 07/01/03-12/31/06
American College of Radiology
MR Evaluation of the Contralateral Breast in Women with a Recent Diagnosis of Breast Cancer
To evaluate the potential for MR detection of breast cancer in the contralateral breast.

Completed Research Support

R01 HL66075 (Lima) July 1, 2001-June 30, 2005
NIH/NHLBI
Evaluation of myocardial systolic and diastolic function in MESA
The goal of this research is evaluate systolic and diastolic function in the MESA study, and correlate this with atherosclerotic burden.

Role: Co-Investigator
NIH 5R01HL069905-02 (Wasserman) 9/1/2002-8/31/05
NHLBI
Contrast enhanced MRI of the carotid artery in MESA
Role: Co-investigator
The goal of this study is to evaluate the relationship between inflammatory serum markers and enhancement of the carotid arterial wall in the MESA study.

A Phase III, Multicenter Study to Evaluate the Safety and Efficacy of MultiHance-Enhanced Magnetic Resonance Angiography (MRA) in the Assessment of Renal/ Abdominal Arteries as compared to Unenhanced MRA Using Digital Subtraction Angiography (DSA) as the Gold Standard September 30, 2002-December 31, 2003
Bracco Diagnostics, Inc
Role: PI

A Phase III, Multinational, Multicenter Study Evaluating the Safety and Efficacy of MultiHance in Contrast-Enhanced Magnetic Resonance Angiography (MRA) in the Assessment of Carotid Arteries Using Digital Subtraction Angiography (DSA) as the Gold Standard September 30, 2002-December 31, 2003
Bracco Diagnostics, Inc
Role: PI

ACRIN 6667 (Bluemke) June 1, 2003-December 31, 2003

Principal Investigator/Program Director (Last, First, Middle):

MRI evaluation of the contralateral breast in women with a recent diagnosis of breast cancer
Role: Site PI

ACRIN 6659 (Bluemke) April 1, 2003-March 30, 2004
MR imaging and MR spectroscopic imaging of prostate cancer prior to radical prostatectomy: a prospective multi-institutional clinicopathological study
Role: Site PI

NO1 AG-5-2113 (Bluemke) September 30, 1995-August 29,2004
NIH
Longitudinal evaluation of prostate growth and disease in male BLSA subjects; MRI studies
The major goal of this project is to provide MRI evaluation of prostate size for participants in Baltimore Longitudinal Study on prostate aging
Role: Principal Investigator

R21CA/RR91798-01 (Dual R21/R33) (Barker) July 1, 2001-June 30, 2005
NIH
Proton MR Spectroscopic Imaging in Human Breast Cancer
The goal of this project is to develop techniques for proton spectroscopy in the human breast for the diagnosis of breast cancer.
Role: Co-Investigator

Evaluation of cardiac perfusion using an intravascular contrast agent for MRI.
Sponsor: Epix Medical 1/1/98-12/31/98
Role: P.I.

Dynamic 3D Tagged MRI of the Cardiac Cycle in Ischemia
Sponsor: NIH
Funding level: \$282,000.
P.I. E. Zerhouni, M.D. 10/1/1992-9/30/1997
Role: Co-Investigator

A Phase II Study of the Safety and Preliminary Efficacy of MS-325 Enhanced Magnetic Resonance Angiography in Carotid and Peripheral Arteries 1/1/97-12/31/97
Sponsor: Epix Medical, Inc
Role: P.I.