## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
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| NAME | POSITION TITLE |
|---|---|
| Giaquinto, Randy, O | Research Instructor - RF Engineer |
| eRA COMMONS USER NAME | |

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 |
|---|---|---|---|
| Morrisville State College SUNY | A.A.S. | 1976 | Electrical Technologies |
| Union College | | 1977-1979 | Electrical Engineering |

## A. Positions and Honors.

### Positions and Employment

1976 - 1980 Insulating Systems Electrical / Mechanical Staff, GE Turbine Technology Laboratory, Schenectady, NY

1980 – 2010 MRI Research RF Engineering Staff, GE Global Research Center, Niskayuna, NY

2010 - Present Senior Imaging Research Engineer
Instructor, University of Cincinnati College of Medicine
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

### Other Experience and Professional Memberships

Member, International Society for Magnetic Resonance in Medicine

### Honors

2008 32 Channel Prostate Array – Bavarian Government grant, Munich, Germany
2007 GE MNST Patent of the year - Integrated low noise amplifier and balun for MRI receivers
2005 Whitney Tech Achievement GEGRC - High Channel Parallel Imaging
1996 Whitney Technical Achievement GEGRC 1996 - MR Device Tracking
2003 Silver Patent Award
2002 Imaging Technology Center - High Speed Imaging

## B. PEER-REVIEWED JOURNAL PUBLICATIONS (From 16 papers, 41 abstracts, 16 patents.)

1. "What is the Optimum Phased Array Coil Design for Cardiac and Torso Magnetic Resonance?", Paul A. Bottomley, Carlos H. Lugo Olivieri, Randy Giaquinto, *Magnetic Resonance in Medicine* 37:591-599 (1997).

2. "Improved high-resolution MRI of human coronary lumen and plaque with a new cardiac coil", Z. Fayad , C. Hardy, R. Giaquinto, *Circulation* 102 (SuppII): II-399 (2000).

3. "A Broadband Phased-Array System for Direct Phosphorus and Sodium Metabolic MRI on a Clinical Scanner", Ray F. Lee, Randy Giaquinto, Chris Constantinides, Steven Souza, Robert Weiss, and Paul Bottomley, *Magnetic Resonance in Medicine* 43:269-277 (2000).

4. "An Apparatus for MR-Guided Breast Lesion Localization and Core Biopsy and Preliminary Results". Erika Schneider, Kenneth W. Rohling, Mitchell D. Schnall, Randy O. Giaquinto, Elizabeth A. Morris, and Doug Ballon, *J. Magn. Reson. Imaging* 14:243-253 (2001).

5. "Magnetic Resonance Imaging compatible neonate incubator", C. Dumoulin, K.W. Rohling, J.E. Piel, C.J. Rossi, R.O. Giaquinto, R.D. Watkins, D.B. Vigneron, A.J. Barkovich and N. Newton, *Concepts in Magnetic Resonance - Magnetic Resonance Engineering*, 15:117-128 (2002).

6. "Coupling and Decoupling Theory and Its Application to the MRI Phased Array", Ray F. Lee, Randy O. Giaquinto, and Christopher J. Hardy, *Magnetic Resonance in Medicine* 48:203-213 (2002).

7. "Highly Parallel Volumetric Imaging with a 32-Element RF Coil Array", Yudong Zhu, Christopher J. Hardy, Daniel Sodickson, Randy O. Giaquinto, Charles L. Dumoulin, Gontran Kenwood, Thoralf Niendorf, Hubert Lejay, Charles A. McKenzie, Michael A. Ohliger, and Neil M. Rofsky, *Magnetic Resonance in Medicine* 52:869-877 (2004).

8. "Large Field-of View Real Time MRI with a 32-Channel System
Christopher J. Hardy, Robert. D. Darrow, Manojkumar Saranathan, Randy O. Giaquinto, Yudong, Zhu, Charles L. Dumoulin, and Paul Bottomley", *Magnetic Resonance in Medicine* 52:878-884 (2004).

9. "Mapping of the prostate in endorectal coil-based MRI/MRSI and CT: A deformable registration and validation study", J. Lian, L. Xing, S. Hunjan, C. Dumoulin, J. Levin, A. Lo, R. Watkins, K. Rohling, R. Giaquinto, D. Kim, D. Spielman, B. Daniel, *Med. Phys.* 31 (11), November 2004.

10. "Feasibility of Single Breath-Hold Whole Heart Coverage Coronary MRA Using Highly Accelerated Parallel Imaging with a 32-Channel MR System", Niendorf T, Hardy CJ, Darrow RD, Giaquinto RO, Gross P, Cline H, Darrow RD,
Cohen WS, Joshi S, Kenwood G, Rofsky NM, Sodickson DK., *J. Cardiovasc. Magn. Res* 7:58-59 (2005).

11. "Rapid Volumetric MRI Using Parallel Imaging with Order-of-Magnitude Accelerations and a 32-Element RF Coil Array: Feasibility and Implications", Daniel K. Sodickson, Christopher J. Hardy, Yudong Zhu, Randy O. Giaquinto, Patrick Gross, Gontran Kenwood, Thoralf Niendorf, Hubert Lejay, Charles A. McKenzie, Michael A. Ohliger, Aaron K Grant. Neil M. Rofsky, *Academic Radiology* 12:626-635 (2005).

12. "Concentric Coil Arrays for Parallel MRI", Michael A. Ohliger, Robert L. Greenman, Randy Giaquinto, Charles A. McKenzie, Graham Wiggins, and Daniel K. Sodickson
*Magnetic Resonance in Medicine* 54:1248-1260 (2005).

13. "32-element receiver-coil array for cardiac imaging", Christopher J. Hardy, Harvey E. Cline, Randy O. Giaquinto, Thoralf Niendorf, Aaron K. Grant, Daniel K. Sodickson, *Magnetic Resonance in Medicine* 55:1142-1149 (2006).

14. "Toward single breath-hold whole-heart coverage coronary MRA using highly accelerated parallel imaging with a 32-channel MR system", Thoralf Niendorf, Christopher J. Hardy, Randy O. Giaquinto, Patrick Gross, Harvey E. Cline, Yudong Zhu, Gontran Kenwood, Shmuel Cohen, Aaron K. Grant, Sanjay Joshi, Neil M. Rofsky, Daniel K. Sodickson, *Magnetic Resonance in Medicine 56:167-176 (2006).*

15. **"**128-Channel Body MRI With a Flexible High-Density Receiver-Coil Array",
Christopher J. Hardy, Randy O. Giaquinto, Joseph E. Piel, Kenneth W. Rohling, Luca Marinelli, Daniel J. Blezek, Eric W. Fiveland, Robert D. Darrow, Thomas K.F. Foo
*J. Magn. Reson. Imaging* 28:1219–1225 (2008).

16. "Accelerated spectroscopic imaging of hyperpolarized C-13 pyruvate using SENSE parallel imaging" Arjun Arunachalam, Davis Whitt, Kenneth Fish, Randy Giaquinto, Joseph Piel, Ronald Watkins and Ileana Hancu *NMR In Biomedicine* 1 June 2009; 867- 873

**Research Support:**

5R01EB005307-02 Hancu I (PI) 09/01/07-08/31/10
*Parallel Excitation for High-Speed and High-Field MRI*
The major goal of this project is to develop hardware and data acquisitions techniques to solve the problems of inhomogeneous excitation and high specific absorption rate in high field through the use of multiple excitation/reception technology.