

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed for Form Page 2.  
 Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME <b>ARISTIZÁBAL, ORLANDO</b>		POSITION TITLE <b>ASSOCIATE RESEARCH SCIENTIST</b>	
EDUCATION / TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(S)	FIELD OF STUDY
The City College of New York, New York, NY	B.S.	1986	Physics
City University of New York (CUNY), New York, NY	M. Phil.	1993	Physics

RESEARCH AND/OR PROFESSIONAL EXPERIENCE: Concluding with present position, list in chronological order previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of publications in the last three years exceeds two pages, select the most pertinent publications. **DO NOT EXCEED TWO PAGES.**

**A. PROFESSIONAL AND RESEARCH EXPERIENCE:**

- 1986-94 Teaching Assistant, CUNY
- 1989-93 Research Assistant, CUNY (50 MHz ultrasonic studies of high temperature superconducting films)
- 1993-95 Visiting Scholar, Department of Physics, University of Urbana-Champaign
- 1996-2010 Assistant Research Scientist, Structural Biology Program, Skirball Institute, NYUSOM
- 2008- Member of the Research Staff, Lizzi Center for Biomedical Engineering, New York, NY
- 2009-2012 Manager, Mouse Imaging Shared Core Facility
- 2010- Associate Research Scientist, Structural Biology Program, Skirball Institute, NYUSOM
- 2012- Manager, Small Animal Imaging Core, Office of Collaborative Science, NYU Medical Center

**Honors and Awards:**

- 1982-86 City College Merit Scholarship
- 1986 Honors Graduate (Cum Laude), The City College of New York

**B. PEER-REVIEWED PUBLICATIONS:**

- E. Filoux, J. Mamou, **O. Aristizábal** and J.A. Ketterling, "Characterization of the performance of a high-frequency annular-array based imaging system using anechoic-pipe phantoms," *IEEE Trans. Ultrason. Ferroelect. Freq. Contr.*, 59:2825-2830, 2012.
- Bartelle BB, Berrios-Otero CA, Rodriguez JJ, Friedland AE, **Aristizábal O**, Turnbull DH (2012). Novel Genetic Approach for In Vivo Vascular Imaging in Mice. *Circulation Research* 110, 938–947.
- Filoux, E., Mamou, J., **Aristizábal, O.**, Ketterling, J.A., "Characterization of the spatial resolution of different high-frequency imaging systems using a novel anechoic-sphere phantom," *IEEE Trans. Ultras. Ferro. Freq. Cont.*, 58 (5):994-1005, 2011. PMID: PMC3105360
- Aristizábal, O.**, Mamou, J., Filoux, E., Ketterling, J.A., Turnbull, D.H. and Chitnis, P.V., "Simultaneous photoacoustic and high-frequency ultrasound of in vivo embryonic-mouse vasculature," in *Proc. 2011 IEEE-Int. Ultrasonics Symp.*, pp. 288-291.

- Filoux, E., Mamou, J., **Aristizabal**, O., Ketterling, J.A., "Spatial resolution of different high-frequency imaging systems using a novel anechoic sphere phantom," in *2010 IEEE Ultrasonics Symposium* pp. 2303-2206.
- Mamou, J., **Aristizabal**, O., Silverman, R.H., and Ketterling, J.A., "A perspective on high-frequency ultrasound for medical applications," in *Physics Procedia of the 2009 International Congress on Ultrasonics*, Santiago de Chile, 3(1): 289-295, 2010.
- Filoux, E., Mamou, J., Aristizabal, O., Ketterling, J.A., "Estimation of the spatial resolution of different high-frequency imaging systems using a novel anechoic sphere phantom," in *2010 IEEE Ultrasonics Symposium*, pp. 2203-2206.
- Aristizabal**, O., Mamou, J., Ketterling, J.A., Turnbull, D.T., "In vivo 3D quantitative analysis of the mouse embryonic brain with a 38 MHz annular array and coded excitation," in *2010 IEEE Ultrasonics Symposium*. pp. 794-797.
- Ketterling, J.A., **Aristizabal**, O., "Prospective ECG-gated mouse cardiac imaging with a 34-MHz annular array transducer," *IEEE Trans Ultrason Ferroelectr Freq Control*, 56(7):1394-1404, 2009. PMID: PMC2752351
- Mamou, J., **Aristizabal**, O., Silverman, R.H., Ketterling, J.A., and Turnbull, D.H., "High-frequency chirp ultrasound imaging with an annular-array for ophthalmologic and small-animal imaging," *Ultrasound Med. Biol.*, 35(7):1198-1208, 2009. PMID: PMC2703701
- Aristizabal**, O., Mamou, J., Turnbull, D.H., and Ketterling, J.A., "Doppler-derived trigger signals for high-frame-rate mouse cardiovascular imaging," in *Proc of the 31st Annual International Conference of the IEEE EMBS*, pp. 1987-1990, 2009. pp. 1987-1990, PMID: PMC2805905
- Aristizabal**, O., Mamou, J., Turnbull, D.H., and Ketterling, J.A., "High-frame-rate mouse embryo cardiac imaging using doppler derived gating," in *Proceedings of the 2009 IEEE Ultrasonics Symposium* (in press).
- Mamou, J., **Aristizabal**, O., Silverman, R.H., and Ketterling, J.A., "40-MHz ultrasound imaging with chirps and annular arrays," *Proceedings of the IEEE International Conference of the Engineering in Medicine and Biology Society*, 1:2518-2521, 2008.
- Aristizabal**, O., Mamou, J., Turnbull, D.H., and Ketterling, J.A., "40 MHz annular-array in utero imaging of mouse embryos with chirp coded excitation," *Proceedings of the 2008 IEEE Ultrasonics Symposium*, pp. 126-129, K.R. Waters (Ed.), Institute of Electrical and Electronics Engineers, Piscataway, 2008.
- Ketterling, J.A., **Aristizabal**, O., and Turnbull, D.H., "ECG-gated imaging of a mouse heart using a 40-MHz annular array," *Proceedings of the 2008 IEEE Ultrasonics Symposium*, pp. 116-119, K.R. Waters (Ed.), Institute of Electrical and Electronics Engineers, Piscataway, 2008.
- Yu X, Sanes DH, **Aristizabal** O, Wadghiri YZ, Turnbull DH (2007). Large-scale reorganization of the tonotopic map in mouse auditory midbrain revealed by MRI. *Proc Natl Acad Sci USA* 104: 12193-98.
- Williamson, R., Aristizabal, O., Turnbull, D.H., Ketterling, J.A., Wadghiri, Y.Z., Douadi, M., and Fahmy, T.M., "Polymer contrast particles for cellular imaging with ultrasound and MRI," in *Proc. 2007 IEEE-Int. Ultrasonics Symp.*, pp. 648-651, M.P. Yuhas (Ed.), Institute of Electrical and Electronics Engineers, Piscataway, 2007.
- Ramachandran, S. and Ketterling, J.A., "A comparison of acoustic beam properties of a high-frequency annular and linear array," in *Proc. 2007 IEEE-Int. Ultrasonics Symp.*, pp. 1689-1692, M.P. Yuhas (Ed.), Institute of Electrical and Electronics Engineers, Piscataway, 2007.
- Wadghiri YZ, Schneider AE, Gray E, **Aristizabal** O, Berrios CA, Turnbull DH, Gutstein DE (2007). Contrast enhanced MRI of right ventricular abnormalities in Cx43 mutant mouse embryos. *NMR Biomed.* 20:366-74.
- Aristizabal** O, Turnbull DH. and Ketterling, JA (2006) Analysis of 40 MHz annular array imaging performance in mouse embryos, in *Proc.2006 IEEE-Int. Ultrasonics Symp.*, pp. 872-875, M.P. Yuhas (Ed.), Institute of Electrical and Electronics Engineers, Piscataway.

- Aristizábal O**, Ketterling JA, Turnbull DH (2006). 40-MHz annular array imaging of mouse embryos. *Ultrasound Med Biol* 32(11):1631-1637.
- Ketterling, JA, Mamou, J, Allen, JS, **Aristizabal, O**, Williamson, RG and Turnbull DH (2006) Excitation of polymer-shelled contrast agents with high-frequency ultrasound, *J Acoust Soc Am-EL*, 121(1):48-53.
- Aristizábal O**, Ketterling JA, Turnbull DH. 40-MHz annular array imaging of mouse embryos. *Ultrasound Med Biol*, 32(11):1631-1637, 2006.
- Aristizábal O**, Ketterling J, Turnbull DH Mouse embryo imaging with a 40 MHz annular array. in *Proceedings of the 2005 IEEE International Ultrasonics Symposium*, Institute of Electrical and Electronics Engineers, Piscataway, 2006, 361-364.
- Ketterling JA, **Aristizábal O**, Turnbull DH (2006). Polyimide backed 40 MHz PVDF transducers. in *Proceedings of the 2005 IEEE International Ultrasonics Symposium*, Institute of Electrical and Electronics Engineers, Piscataway, 2006, 117-120.
- Turnbull DT, **Aristizábal O**, Ketterling JA *In vivo* contrast-enhanced imaging of mouse vascular development. in *Proceedings of the 2005 IEEE International Ultrasonics Symposium*, Institute of Electrical and Electronics Engineers, Piscataway, 2006, 747-750.
- Ketterling JA, **Aristizábal O**, Turnbull DH (2006) High-frequency piezopolymer transducers with a copper-clad polyimide backing layer. *IEEE Trans Ultrason Ferroelectr Freq Control* 53:1376-1380.
- Ketterling JA, Ramachandran S, **Aristizábal O** Operational verification of a 40-MHz annular array transducer. *IEEE Trans Ultrason Ferroelectr Freq Control* 53(3):623-630, 2006.
- Ketterling JA, **Aristizábal O**, Turnbull DH, Lizzi FL (2005). Design and fabrication of a 40-MHz annular array transducer. *IEEE Trans Ultrason Ferroelectr Freq Control* 52: 672-681.
- Wear, K.A., Stiles, T.A., Frank, G.R., Madsen, E.L., Cheng, F., Feleppa, E.J., Hall, C.S., Kim, B.S., Lee, P., O'Brien, Jr., W.D., Oelze, M.L., Raju, B.I., Shung, K.K., Wilson, T.A., and Yuan, J.R., "Interlaboratory comparison of ultrasonic backscatter coefficient measurements from 2 to 9 MHz," *J. Ultrasound Med.*, 24:1235-1250, 2005.
- Ramachandran, S., Ketterling, J.A., Lizzi, F.L., Aristizabal, O., and Turnbull, D.T., "Implementation of digital synthetic aperture technique for a high frequency annular array transducer, in *Proceedings of the 2004 Ultrasonics Symposium*, pp. 2065-2068, M.P. Yuhas (Ed.), Institute of Electrical and Electronics Engineers, Piscataway, 2005.
- Ketterling, J., Aristizabal, O., Turnbull, D.H., and Lizzi, F.L., "Design and fabrication of a 40-MHz annular array transducer," *IEEE Trans. Ultrason., Ferroelec., Freq. Contr.* 52(4):672-681, 2005. PMID: PMC135129
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- Aristizábal O**, Christopher DA, Foster FS, Turnbull DH (1998). 40 MHz echocardiography scanner for cardiovascular assessment of mouse embryos. *Ultrasound Med Biol* 24: 1407-1417.

Fatkin D, Christe ME, **Aristizábal O**, McConnell BK, Srinivasan S, Schoen FJ, Seidman CE, Turnbull DH, Seidman JG (1999). Neonatal cardiomyopathy in homozygous Arg403Gln a cardiac myosin heavy chain mutant mice. *J Clin Invest* 103: 147-153.

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