

## Donald S. Crankshaw, Ph.D.

Director

(617) 807-8549  
donald.crankshaw@aon.com  
53 State Street, Suite 2201  
Boston, MA 02109

## Professional Experience

- Elysium Digital, LLC, a subsidiary of Aon Corporation, Director, 2019 – Present
- Stroz Friedberg, LLC, Director, 2017 – 2019
- Stroz Friedberg, LLC, Manager, 2016 – 2017
- Stroz Friedberg, LLC, Senior Consultant, 2015 – 2016
- Elysium Digital, LLC, Computer Scientist, 2011 – 2015
- Cardinal Intellectual Properties, LLC, Analyst, 2008 – 2011
- Massachusetts Institute of Technology Lincoln Laboratory, Technical Staff, 2005 – 2008
- University of Rochester, Postdoctoral Fellow, 2003 – 2004
- Massachusetts Institute of Technology, Research Assistant, 1996 – 2003

## Education

- Ph.D., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2003
- M.S., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Thesis: "Aligned GaAs Pillar Bonding," 1998
- B.S., Electrical Engineering, University of South Carolina, 1996

## Publications

- *Back of the Envelope (blog)*. <http://www.donaldscrankshaw.com>
- "Probing Decoherence with Electromagnetically Induced Transparency in Superconductive Quantum Circuits." K. V. R. M. Murali, Z. Dutton, W. D. Oliver, D. S. Crankshaw, and T. P. Orlando. *Physical Review Letters* 93 no. 8:087003n (2004).
- "DC Measurements of Macroscopic Quantum Levels in a Superconducting Qubit Structure with a Time-Ordered Meter." D. S. Crankshaw, K. Segall, D. Nakada, et al. *Physical Review B* 69 no. 14:144518 (2004).
- "Energy Relaxation Time between Macroscopic Quantum Levels in a Superconducting Persistent Current Qubit." Y. Yu, D. Nakada, J. C. Lee, B. Singh, D. S. Crankshaw, et al. *Physical Review Letters* 92 no. 11:117904 (2004).

- "An RSFQ Variable Duty Cycle Oscillator for Driving a Superconductive Qubit." D. S. Crankshaw, J. L. Habif, X. X. Zhou, et al. *IEEE Transactions on Applied Superconductivity* 13 no. 2:966-969 (2003).
- "Experimental Characterization of the Two Current States in a Nb Persistent-Current Qubit." K. Segall, D.S. Crankshaw, D. Nakada, et al. *IEEE Transactions on Applied Superconductivity* 13 no. 2:1009-1012 (2003).
- "Impact of Time-Ordered Measurements of the Two States in a Niobium Superconducting Qubit Structure." K. Segall, D. S. Crankshaw, D. Nakada, et al. *Physical Review B* 67 no. 22:220506 (2003).
- Ph.D., Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Dissertation: "Measurement and On-Chip Control of a Niobium Persistent Current Qubit," 2003.
- "Engineering the Quantum Measurement Process for the Persistent Current Qubit." T. P. Orlando, L. Tian, D. S. Crankshaw, et al. *Physica C-Superconductivity and its Applications* 368 no. 1-4:294-299 (2002).
- "Magnetic Flux Controlled Josephson Array Oscillators." D.S. Crankshaw, E. Trias, and T.P. Orlando. *IEEE Transactions on Applied Superconductivity* 11 no. 1:1223-1226 (2001).
- "Inductance Effects in the Persistent Current Qubit." D. S. Crankshaw and T. P. Orlando. *IEEE Transactions on Applied Superconductivity* 11 no. 1:1006-1009 (2001).

## Testimony

- [1] *Amtote International Inc. v. Kentucky Downs LLC et al.*  
 U.S. District Court, Western District of Kentucky, Case No. 1:15-cv-00047  
 Submitted declaration on behalf of Kentucky Downs LLC, Exacta Systems LLC, and Magellan Gaming LLC (represented by Jackson Kelly) in a trade secret matter involving gaming technology, 2018.
- [2] *Vesta Corporation v. Commissioner of Internal Revenue*  
 U.S. Tax Court, Case Nos. 26847-16 and 26503-17  
 Submitted expert report on behalf of Commissioner of Internal Revenue, 2018.