



## Donald S. Crankshaw, Ph.D.

Director

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

## Background

Donald S. Crankshaw, Ph.D. is a director at Aon, specializing in intellectual property litigation. Donald has been part of the company for over eight years, working on diverse projects involving semiconductor fabrication, electrical circuit design, data analysis, and code comparison in patent litigation, software copyright, student discipline, and prior art search cases. In the course of this work, Donald has served as an expert witness in cases involving trade secret misappropriation and online software. He has designed and programmed numerous tools to assist in these projects.

Donald has an M.S. and Ph.D. in electrical engineering and computer science from MIT, and a B.S. from the University of South Carolina Honors College. He is also a professionally published science fiction and fantasy writer and a member of the Science Fiction and Fantasy Writers of America, with stories in Nature Futures and Intergalactic Medicine Show among other venues, and he edits and publishes an online speculative fiction magazine.

Prior to joining Aon, Donald worked on superconducting circuit design and test for MIT and the University of Rochester, RF and optical engineering for MIT Lincoln Laboratory, and prior art searching for Cardinal Intellectual Properties.

## 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.donaldsrankshaw.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.