Donald S. Crankshaw, Ph.D.

Vice President

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Professional Experience

- Elysium Digital, LLC, a LevelBlue company, Vice President, 2026 – Present
- Elysium Digital, LLC, a LevelBlue company, Director, 2025 – 2026
- Elysium Digital, LLC, a subsidiary of Aon Corporation, Director, 2019 – 2025
- Stroz Friedberg, LLC, an Aon company, Director, 2017 – 2019
- Stroz Friedberg, LLC, an Aon company, Manager, 2016 – 2017
- Stroz Friedberg, LLC, an Aon company, 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, 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).
- M.S., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Thesis:“Aligned GaAs Pillar Bonding,” 1998.

Testimony

[1] *PLS IV, LLC v. GDC Technology Ltd.*
U.S. District Court, Eastern District of Texas, 2:24-cv-00466
Testified as expert witness, was deposed and submitted two expert reports on behalf of PLS IV, LLC (represented by Quinn Emanuel Urquhart & Sullivan) in a patent matter involving DRM and secure content distribution, 2025, 2026.

[2] *Internet Sports International, Ltd. v. Amelco USA, LLC et al.*
U.S. District Court, District of Nevada, Case No. 2:23-cv-00893
Was deposed and submitted expert report on behalf of Amelco USA, LLC and Amelco UK Ltd. (represented by Fennemore Craig) in a trade secret matter involving betting kiosks, 2024.

[3] *International Business Machines Corporation v. LzLabs GmbH et al.*
U.S. District Court, Western District of Texas, Case No. 6:22-cv-00299
Submitted three declarations on behalf of International Business Machines Corp. (represented by Desmarais) in a patent and trade secret matter involving mainframe technology, 2023, 2024.

[4] *Tecnomatic S.p.A. v. Atop S.p.A. et al.*
U.S. District Court, Eastern District of Michigan, Case No. 2:18-cv-12869
Was deposed and submitted expert report on behalf of Tecnomatic S.p.A. (represented by Miller Canfield Paddock & Stone) in a patent matter involving electric motor assembly technology, 2023.

[5] *The Matter of Variable Speed Wind Turbine Generators and Components Thereof*
U.S. International Trade Commission, Inv. No. 337-TA-1218
Testified as expert witness, was deposed and submitted expert report on behalf of Gamesa Electric S.A.U., Siemens Gamesa Renewable Energy Inc., and Siemens Gamesa Renewable Energy S.A. (represented by Baker & Hostetler) in a matter involving renewable energy technology, 2021.

[6] *Intertrust Technologies Corporation v. Cinemark Holdings, Inc.*
U.S. District Court, Eastern District of Texas, Case No. 2:19-cv-00266
Submitted declaration on behalf of Intertrust Technologies Corporation (represented by Quinn Emanuel Urquhart & Sullivan) in a patent matter involving DRM and secure content distribution, 2020.

[7] *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.

[8] *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.