Stanford



Olga (Volotskova) Stafford

Clinical Assistant Professor, Radiation Oncology - Radiation Physics

Bio

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Radiation Oncology - Radiation Physics

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- President, Northern California Chapter of AAPM (2026 - present)
- Voting Member, AAPM State Champions Steering Subcommittee (2024 - present)
- Vice Chair, AAPM Corporate Relations Committee (2022 - 2025)
- Treasurer, Northern California Chapter of AAPM (2019 - 2025)

PROFESSIONAL EDUCATION

- Residency, New York University
- Post-Doctoral Fellow, Stanford University
- Doctor of Science, The George Washington University
- Master of Science, West Virginia University

Publications

PUBLICATIONS

- **A multi-institutional trial evaluating the use of an integrated quality assurance phantom for frameless single-isocenter multitarget stereotactic radiosurgery.** *Frontiers in oncology*
  Capaldi, D. P., Skinner, L. B., Pinkham, D. W., Zavgorodni, S., Stafford, O., Shirmohammad, M., Matney, J. E., Dubrowski, P., De Jean, P., Grafil, E. M., Yu, A. S.
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- **Microstructure changes in radiochromic films due to magnetic field and radiation.** *Medical physics*
  Volotskova, O., Fang, X., Keidar, M., Chandarana, H., Das, I. J.
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- **Cold Atmospheric Plasma Inhibits HIV-1 Replication in Macrophages by Targeting Both the Virus and the Cells.** *PloS one*
  Volotskova, O., Dubrovsky, L., Keidar, M., Bukrinsky, M.
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- **Efficient Radioisotope Energy Transfer by Gold Nanoclusters for Molecular Imaging** *SMALL*
  Volotskova, O., Sun, C., Stafford, J. H., Koh, A. L., Ma, X., Cheng, Z., Cui, B., Pratx, G., Xing, L.
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- **Differential Effects of Cold Atmospheric Plasma in the Treatment of Malignant Glioma** *Plos One*

Sui, A., Volotskova, O., Cheng, X., Khasla, S. S., Bian, K., Murad, F., Keidar, M., Sherman, J. H.
2015

- **Synergistic Assembly of Heavy Metal Clusters and Luminescent Organic Bridging Ligands in Metal-Organic Frameworks for Highly Efficient X-ray Scintillation** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Wang, C., Volotskova, O., Lu, K., Ahmad, M., Sun, C., Xing, L., Lin, W.
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- **Targeting the cancer cell cycle by cold atmospheric plasma** *Scientific Reports*
  Volotskova, O., Hawley, T., Stepp, M., Keidar, M.
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- **Integrin activation by cold atmospheric plasma** *New Journal of Physics*
  O. Volotskova, M. A. Stepp, M. Keidar
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- **The large-scale production of graphene flakes using magnetically-enhanced arc discharge between carbon electrodes** *Carbon*
  I. Levchenko, O. Volotskova, A. Shashurin, Y. Raitses, K. Ostrikov, M. Keidar
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- **Tailored Distribution of Single-Wall Carbon Nanotubes from Arc Plasma Synthesis Using Magnetic Fields** *ACS Nano*
  O. Volotskova, J. A. Fagan, J. Y. Huh, F. R. Phelan Jr., A. Shashurin, M. Keidar
  2010; 4 (9): 5187-5192

- **Single-step synthesis and magnetic separation of graphene and carbon nanotubes in arc discharge plasmas** *Nanoscale (part the web Nobel prize collection on graphene 2010)*
  O. Volotskova, I. Levchenko, A. Shashurin, Y. Raitses, K. Ostrikov, M. Keidar
  2010; 2 (10): 2281-2285

- **Treatment of Cancer In Vitro Using Radiation and High-Frequency Bursts of Submicrosecond Electrical Pulses** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Sano, M. B., Volotskova, O., Xing, L.
  2018; 65 (4): 928–35

- **Hard X-ray-induced optical luminescence via biomolecule-directed metal clusters** *CHEMICAL COMMUNICATIONS*
  Osakada, Y., Pratx, G., Sun, C., Sakamoto, M., Ahmad, M., Volotskova, O., Ong, Q., Teranishi, T., Harada, Y., Xing, L., Cui, B.
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- **Cold atmospheric plasma in cancer therapy** *Physics of Plasmas*
  Keidar, M. n., Shashurin, A. n., Volotskova, O. n., Stepp, M. n., Srinivasan, P. n., Sandler, A. n., Trink, B. n.
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- **Arc plasma synthesis of carbon nanostructures: where is the frontier?** *J. Phys. D: Appl. Phys.*
  M. Keidar, A. Shashurin, Jian Li, Olga Volotskova, M. Kundrapu, T. S. Zhuang
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- **Controlling Diameter Distribution of Catalyst Nanoparticles in Arc Discharge** *Journal of Nanoscience and Nanotechnology*
  J. Lee, O. Volotskova, A. Shashurin, M. Keidar
  2011; 11: 1-6

- **Plasma-Controlled Cell Migration: Localization of Cold Plasma?Cell Interaction Region** *Plasma Medicine*
  O. Volotskova, A. Shashurin, M. A. Stepp, S. Pal-Ghosh, M. Keidar
  2011; 1: 85-89

- **Ignition and temperature behavior of a single-wall carbon nanotube sample** *Nanotechnology*
  O. Volotskova, A. Shashurin, M. Keidar, Y. Raitses, V. Demidov, S. Adams
  2010; 21: 095705

- **Mechanism of carbon nanostructure synthesis in arc plasma** *Physics of Plasmas*
  M. Keidar, A. Shashurin, O. Volotskova, Y. Raitses, I. I. Beilis
  2010; 17: 57101