



## Suparna Dutt

Senior Research Scientist, Radiation Oncology - Radiation Therapy

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#### CURRENT ROLE AT STANFORD

Sr Research Scientist

#### EDUCATION AND CERTIFICATIONS

- PhD, University of Delhi , Biochemistry (2000)

### Publications

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#### PUBLICATIONS

- **Impact of ultra-high dose rate (FLASH) versus conventional radiotherapy on tumor control in wild-type and cGAS-knockout mice**  
Verma, B., Mutahar, A., Melemenidis, S., Verma, R., Whitmore, L., Dutt, S., Horst, K. C., Graves, E., Clarke, M. F., Li, L., Loo, B. W., Dirbas, F. M.  
AMER ASSOC CANCER RESEARCH.2026
- **FLASH radiotherapy maintains tumor control and enables safe re-irradiation while preserving normal tissue in breast cancer PDX models**  
Mutahar, A., Verma, B., Melemenidis, S., Dutt, S., Casey, K. M., Qi, Z., Kuo, A., Horst, K. C., Graves, E., Clarke, M. F., Loo, B. W., Dirbas, F. M.  
AMER ASSOC CANCER RESEARCH.2026
- **Donor-derived CD8+CD122+Tregs generated in mixed donor chimeric NOD mice delete autoreactive T cells.** *bioRxiv : the preprint server for biology*  
Pathak, S., Bader, C. S., Iliopoulou, B. P., Regmi, S., Chen, P., Gupta, B., Wu, X., Mosher, B., Wells, A., Witherspoon, L., Jenkins, K., Harper, W., Soohoo, et al  
2026
- **Combined non-myeloablative total lymphoid irradiation and low-dose total body irradiation enhances donor chimerism and leads to islet allograft acceptance.** *American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons*  
Pathak, S., Iliopoulou, B. P., Mosher, B., Wells, A., Witherspoon, L., Bader, C. S., Chen, P., Regmi, S., Gupta, B., Dutt, S., Wu, X., Nagy, N., Jensen, et al  
2025
- **Effectiveness of FLASH vs. Conventional Dose Rate Radiotherapy in a Model of Orthotopic, Murine Breast Cancer.** *Cancers*  
Melemenidis, S., Viswanathan, V., Dutt, S., Kapadia, N., Lau, B., Soto, L. A., Ashraf, M. R., Thakur, B., Mutahar, A. Z., Skinner, L. B., Yu, A. S., Surucu, M., Casey, et al  
2025; 17 (7)
- **Rapid Sterilization of Clinical Apheresis Blood Products Using Ultra-High Dose Rate Radiation.** *International journal of molecular sciences*  
Melemenidis, S., Nguyen, K. D., Baraceros-Pineda, R., Barclay, C. K., Bautista, J., Lau, H. D., Ashraf, M. R., Manjappa, R., Dutt, S., Soto, L. A., Katila, N., Lau, B., Viswanathan, et al  
2025; 26 (6)
- **Rapid Sterilization of Clinical Apheresis Blood Products using Ultra-High Dose Rate Radiation.** *bioRxiv : the preprint server for biology*

Melemenidis, S., Nguyen, K. D., Baraceros-Pineda, R., Barclay, C. K., Bautista, J., Lau, H., Ashraf, M. R., Manjappa, R., Dutt, S., Soto, L. A., Katila, N., Lau, B., Viswanathan, et al

2024

- **A multi-institutional study to investigate the sparing effect after whole brain electron FLASH in mice: Reproducibility and temporal evolution of functional, electrophysiological, and neurogenic endpoints.** *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*  
Drayson, O. G., Melemenidis, S., Katila, N., Viswanathan, V., Kramár, E. A., Zhang, R., Kim, R., Ru, N., Petit, B., Dutt, S., Manjappa, R., Ramish Ashraf, M., Lau, et al  
2024: 110534
- **Multi-Institutional Audit of FLASH and Conventional Dosimetry with a 3D-Printed Anatomically Realistic Mouse Phantom.** *International journal of radiation oncology, biology, physics*  
Ashraf, M. R., Melemenidis, S., Liu, K., Grilj, V., Jansen, J., Velasquez, B., Connell, L., Schulz, J. B., Bailat, C., Libed, A., Manjappa, R., Dutt, S., Soto, et al  
2024
- **Exploring deep learning for estimating the isoeffective dose of FLASH irradiation from mouse intestinal histology images.** *International journal of radiation oncology, biology, physics*  
Fu, J., Yang, Z., Melemenidis, S., Viswanathan, V., Dutt, S., Manjappa, R., Lau, B., Soto, L. A., Ashraf, R., Skinner, L., Yu, S. J., Surucu, M., Casey, et al  
2024
- **Human enteroids as a tool to study conventional and ultra-high dose rate radiation.** *Integrative biology : quantitative biosciences from nano to macro*  
Klett, K. C., Martin-Villa, B. C., Villarreal, V. S., Melemenidis, S., Viswanathan, V., Manjappa, R., Ashraf, M. R., Soto, L., Lau, B., Dutt, S., Rankin, E. B., Loo, B. W., Heilshorn, et al  
2023; 15
- **Development of immunosuppressive myeloid cells to induce tolerance in solid organ and hematopoietic cell transplant recipients.** *Blood advances*  
Jensen, K. P., Hongo, D., Ji, X., Zheng, P., Pawar, R. D., Wu, H., Busque, S., Scandling, J. D., Shizuru, J. A., Lowsky, R., Shori, A., Dutt, S., Waters, et al  
2021
- **Identification of Two Subsets of Murine DC1 Dendritic Cells That Differ by Surface Phenotype, Gene Expression, and Function.** *Frontiers in immunology*  
Hongo, D., Zheng, P., Dutt, S., Pawar, R. D., Meyer, E., Engleman, E. G., Strober, S.  
2021; 12: 746469
- **Density of CD3+ and CD8+ cells in gingivo-buccal oral squamous cell carcinoma is associated with lymph node metastases and survival.** *PloS one*  
Mukherjee, G. n., Bag, S. n., Chakraborty, P. n., Dey, D. n., Roy, S. n., Jain, P. n., Roy, P. n., Soong, R. n., Majumder, P. P., Dutt, S. n.  
2020; 15 (11): e0242058
- **FLASH Irradiation Results in Reduced Severe Skin Toxicity Compared to Conventional-Dose-Rate Irradiation.** *Radiation research*  
Soto, L. A., Casey, K. M., Wang, J. n., Blaney, A. n., Manjappa, R. n., Breikreutz, D. n., Skinner, L. n., Dutt, S. n., Ko, R. B., Bush, K. n., Yu, A. S., Melemenidis, S. n., Strober, et al  
2020
- **Novel Radiation Therapy Paradigms and Immunomodulation: Heresies and Hope.** *Seminars in radiation oncology*  
Dutt, S. n., Ahmed, M. M., Loo, B. W., Strober, S. n.  
2020; 30 (2): 194–200
- **Chemotherapeutic Potential of Monensin as an Anti-microbial Agent.** *Current topics in medicinal chemistry*  
Rajendran, V., Ilamathi, H., Dutt, S., Lakshminarayana, T. S., Ghosh, P. C.  
2018
- **Accelerated, but not conventional, radiotherapy of murine B-cell lymphoma induces potent T cell-mediated remissions.** *Blood advances*  
Dutt, S. n., Atallah, M. B., Minamida, Y. n., Filatenkov, A. n., Jensen, K. P., Iliopoulou, B. P., Tamosiuniene, R. n., Waters, J. n., Engleman, E. G., Strober, S. n.  
2018; 2 (19): 2568–80

- **Stearylamine Liposomal Delivery of Monensin in Combination with Free Artemisinin Eliminates Blood Stages of Plasmodium falciparum in Culture and P-berghei Infection in Murine Malaria** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*  
Rajendran, V., Rohra, S., Raza, M., Hasan, G. M., Dutt, S., Ghosh, P. C.  
2016; 60 (3): 1304-1318
- **Lack of IL7Ra expression in T cells is a hallmark of T-cell immunodeficiency in Schimke immuno-osseous dysplasia (SIOD).** *Clinical immunology*  
Sanyal, M., Morimoto, M., Baradaran-Heravi, A., Choi, K., Kambham, N., Jensen, K., Dutt, S., Dionis-Petersen, K. Y., Liu, L. X., Felix, K., Mayfield, C., Dekel, B., Bokenkamp, et al  
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- **Ablative Tumor Radiation Can Change the Tumor Immune Cell Microenvironment to Induce Durable Complete Remissions.** *Clinical cancer research*  
Filatenkov, A., Baker, J., Mueller, A. M., Kenkel, J., Ahn, G., Dutt, S., Zhang, N., Kohrt, H., Jensen, K., Dejbakhsh-Jones, S., Shizuru, J. A., Negrin, R. N., Engleman, et al  
2015; 21 (16): 3727-3739
- **Boosting Cancer Immunotherapy with Anti-CD137 Antibody Therapy** *CLINICAL CANCER RESEARCH*  
Yonezawa, A., Dutt, S., Chester, C., Kim, J., Kohrt, H. E.  
2015; 21 (14): 3113-3120
- **Stearylamine Liposomal Delivery of Monensin in Combination with Free Artemisinin Eliminates Blood Stages of Plasmodium falciparum in Culture and P. berghei Infection in Murine Malaria.** *Antimicrobial agents and chemotherapy*  
Rajendran, V., Rohra, S., Raza, M., Hasan, G. M., Dutt, S., Ghosh, P. C.  
2015; 60 (3): 1304-1318
- **Treatment of 4T1 Metastatic Breast Cancer with Combined Hypofractionated Irradiation and Autologous T-Cell Infusion.** *Radiation research*  
Filatenkov, A., Baker, J., Müller, A. M., Ahn, G., Kohrt, H., Dutt, S., Jensen, K., Dejbakhsh-Jones, S., Negrin, R. S., Shizuru, J. A., Engleman, E. G., Strober, S.  
2014; 182 (2): 163-169
- **Interactions between NKT cells and Tregs are required for tolerance to combined bone marrow and organ transplants** *BLOOD*  
Hongo, D., Tang, X., Dutt, S., Nador, R. G., Strober, S.  
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- **Donor Immunization with WT1 Peptide Augments Anti-Leukemic Activity After MHC-Matched Bone Marrow Transplantation** *53rd Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*  
Kohrt, H. E., Mueller, A. M., Baker, J. B., Goldstein, M. J., Newell, E., Dutt, S., Czerwinski, D. K., Lowsky, R., Strober, S.  
AMER SOC HEMATOLOGY.2011: 827-28
- **Donor immunization with WT1 peptide augments antileukemic activity after MHC-matched bone marrow transplantation.** *Blood*  
Kohrt, H. E., Müller, A., Baker, J., Goldstein, M. J., Newell, E., Dutt, S., Czerwinski, D., Lowsky, R., Strober, S.  
2011; 118 (19): 5319-5329
- **CD8(+)/CD44(hi) but not CD4(+)/CD44(hi) memory T cells mediate potent graft antilymphoma activity without GVHD** *BLOOD*  
Dutt, S., Baker, J., Kohrt, H. E., Kambham, N., Sanyal, M., Negrin, R. S., Strober, S.  
2011; 117 (11): 3230-3239
- **Memory Phenotype CD8+ T Cells Are Superior to Naive CD8+ T Cells in Separating Graft Anti-Tumor Activity From Gvhd After Bone Marrow Transplantation; Application to DLI.**  
Dutt, S., Baker, J., Kambham, N., Kohrt, H. E., Negrin, R., Strober, S.  
AMER SOC HEMATOLOGY.2009: 967
- **Host natural killer T cells induce an interleukin-4-dependent expansion of donor CD4(+)/CD25(+)/Foxp3(+) T regulatory cells that protects against graft-versus-host disease** *48th Annual Meeting of the American-Society-of-Hematology*  
Pillai, A. B., George, T. I., Dutt, S., Strober, S.  
AMER SOC HEMATOLOGY.2009: 4458-67
- **Naive and memory T cells induce different types of graft-versus-host disease** *JOURNAL OF IMMUNOLOGY*  
Dutt, S., Tseng, D., Ermann, J., George, T. I., Liu, Y. P., Davis, C. R., Fathman, C. G., Strober, S.  
2007; 179 (10): 6547-6554

- **Host NKT cells can prevent graft-versus-host disease and permit graft antitumor activity after bone marrow transplantation** *JOURNAL OF IMMUNOLOGY*  
Pillai, A. B., George, T. I., Dutt, S., Teo, P., Strober, S.  
2007; 178 (10): 6242-6251
- **L-selectin and beta(7) integrin on donor CD4 T cells are required for the early migration to host mesenteric lymph nodes and acute colitis of graft-versus-host disease** *BLOOD*  
Dutt, S., Ermann, J., Tseng, D., Liu, Y. P., George, T. I., Fathman, C. G., Strober, S.  
2005; 106 (12): 4009-4015
- **Only the CD62L(+) subpopulation of CD4(+)CD25(+) regulatory T cells protects from lethal acute GVHD** *BLOOD*  
Ermann, J., Hoffmann, P., Edinger, M., Dutt, S., Blankenberg, F. G., Higgins, J. P., Negrin, R. S., Fathman, C. G., Strober, S.  
2005; 105 (5): 2220-2226