



Tanya Stoyanova

Assistant Professor of Radiology (Cancer Early Detection-Canary Center)

CONTACT INFORMATION

- **Alternate Contact**

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Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Radiology
- Member, Bio-X
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Idea Development Award, Department of Defense, Prostate Cancer Research Program (2018-2021)
- McCormick and Gabilan Faculty Award, Stanford University (2016-2018)
- K99/R00 Pathway to Independence Award, National Institute of Health/National Cancer Institute (2014-2019)
- 2014 Stewart Rahr Prostate Cancer Foundation Young Investigator Award, Prostate Cancer Foundation (2014-2017)
- 2014 Department of Pharmacology Retreat Award, University of California, Los Angeles, CA (2014)
- Chancellor's Award for Postdoctoral Research, University of California, Los Angeles, CA (2014)
- Postdoctoral Fellowship, Prostate Cancer Research Program, Department of Defense (2012-2014)
- Postdoctoral Fellowship, California Institute for Regenerative Medicine (2010-2012)
- SIGMA Xi Student Research Forum Award for Graduate and Professional Students 2008, University of Illinois, Chicago, IL (2008)
- SIGMA Xi Student Research Forum Award for Graduate and Professional Students 2007, University of Illinois, Chicago, IL (2007)
- Sally Frost Mason Outstanding Woman Student in Biological Sciences 2003, University of Kansas, Lawrence, KS (2003)
- Sally K. Frost Mason and Kenneth A. Mason Outstanding Senior 2003, Division of Biological Sciences, University of Kansas, Lawrence, KS (2003)
- Ruben Zadigan Environmental Studies Scholarship, University of Kansas, Lawrence, KS (2001-2003)

PROFESSIONAL EDUCATION

- Postdoctoral, University of California, Los Angeles, CA, USA , Stem cell and Cancer Biology (2015)
- PhD, University of Illinois, Chicago, IL, USA , Biochemistry and Molecular Genetics (2009)
- BS, University of Kansas, Lawrence, KS, USA , Genetics (2003)

- BS, Technical University of Varna, Varna, Bulgaria , Ecology and Protection of the Environment (2002)

LINKS

- Stoyanova Lab: <http://med.stanford.edu/stoyanovalab.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research focuses on understanding fundamental molecular mechanisms underlying cancer development. Currently, we study signaling cascades initiated by cell surface receptors which are involved in: 1) the early event of prostate cancer initiation and 2) regulation of the transition from indolent to metastatic disease. The long term goal of our laboratory is to improve the stratification of indolent from aggressive prostate cancer and aid the development of better therapeutic strategies for the advanced disease.

Additionally, we are interested in understanding molecular mechanism that govern the self-renewal activity of adult stem cells and cancer stem cells. We use molecular biology techniques, cell culture based adult stem cell assays, in vivo tissue regeneration models of cancer.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Ali Ghoochani, En-Chi Hsu, Shiqin Liu, Meghan Rice

Publications

PUBLICATIONS

- **Trop2 is a driver of metastatic prostate cancer with neuroendocrine phenotype via PARP1.** *Proceedings of the National Academy of Sciences of the United States of America*
Hsu, E. C., Rice, M. A., Bermudez, A., Marques, F. J., Aslan, M., Liu, S., Ghoochani, A., Zhang, C. A., Chen, Y. S., Zlitni, A., Kumar, S., Nolley, R., Habte, et al
2020
- **Second-Generation Antiandrogens: From Discovery to Standard of Care in Castration Resistant Prostate Cancer** *FRONTIERS IN ONCOLOGY*
Rice, M. A., Malhotra, S., Stoyanova, T.
2019; 9
- **Loss of Notch1 Activity Inhibits Prostate Cancer Growth and Metastasis and Sensitizes Prostate Cancer Cells to Antiandrogen Therapies** *MOLECULAR CANCER THERAPEUTICS*
Rice, M. A., Hsu, E., Aslan, M., Ghoochani, A., Su, A., Stoyanova, T.
2019; 18 (7): 1230–42
- **Quantitative Proteomic Profiling Reveals Key Pathways in the Anticancer Action of Methoxychalcone Derivatives in Triple Negative Breast Cancer** *JOURNAL OF PROTEOME RESEARCH*
Going, C. C., Tailor, D., Kumar, V., Birk, A. M., Pandrala, M., Rice, M. A., Stoyanova, T., Malhotra, S., Pitteri, S. J.
2018; 17 (10): 3574–85
- **The Exosome Total Isolation Chip.** *ACS nano*
Liu, F., Vermesh, O., Mani, V., Ge, T. J., Madsen, S. J., Sabour, A., Hsu, E. C., Gowrishankar, G., Kanada, M., Jokerst, J. V., Sierra, R. G., Chang, E., Lau, et al
2017
- **Low CD38 Identifies Progenitor-like Inflammation-Associated Luminal Cells that Can Initiate Human Prostate Cancer and Predict Poor Outcome** *CELL REPORTS*
Liu, X., Grogan, T. R., Hieronymus, H., Hashimoto, T., Mottahedeh, J., Cheng, D., Zhang, L., Huang, K., Stoyanova, T., Park, J. W., Shkhyan, R. O., Nowroozizadeh, B., Rettig, et al
2016; 17 (10): 2596–2606

- **v-Src Oncogene Induces Trop2 Proteolytic Activation via Cyclin D1** *CANCER RESEARCH*
Ju, X., Jiao, X., Ertel, A., Casimiro, M. C., Di Sante, G., Deng, S., Li, Z., Di Rocco, A., Zhan, T., Hawkins, A., Stoyanova, T., Ando, S., Fatatis, et al
2016; 76 (22): 6723-6734
- **Activation of Notch1 synergizes with multiple pathways in promoting castration-resistant prostate cancer** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Stoyanova, T., Riedinger, M., Lin, S., Faltermeier, C. M., Smith, B. A., Zhang, K. X., Going, C. C., Goldstein, A. S., Lee, J. K., Drake, J. M., Rice, M. A., Hsu, E., Nowroozizadeh, et al
2016; 113 (42): E6457-E6466
- **Phosphoproteome Integration Reveals Patient-Specific Networks in Prostate Cancer** *CELL*
Drake, J. M., Paull, E. O., Graham, N. A., Lee, J. K., Smith, B. A., Titz, B., Stoyanova, T., Faltermeier, C. M., Uzunangelov, V., Carlin, D. E., Fleming, D. T., Wong, C. K., Newton, et al
2016
- **N-Myc Drives Neuroendocrine Prostate Cancer Initiated from Human Prostate Epithelial Cells** *CANCER CELL*
Lee, J. K., Phillips, J. W., Smith, B. A., Park, J. W., Stoyanova, T., McCaffrey, E. F., Baertsch, R., Sokolov, A., Meyerowitz, J. G., Mathis, C., Cheng, D., Stuart, J. M., Shokat, et al
2016; 11 (29)
- **Multidisciplinary intervention of early, lethal metastatic prostate cancer: Report from the 2015 Coffey-Holden Prostate Cancer Academy Meeting** *PROSTATE*
Miyahira, A., Lang, J., Den, R., Garraway, I., Lotan, T., Ross, A., Stoyanova, T., Cho, S., Simons, J., Pienta, K., Soule, H.
2015
- **Distinct phases of human prostate cancer initiation and progression can be driven by different cell-types** *CANCER CELL MICROENVIRON*
Stoyanova, T., Goldstein, A.
2014
- **Metastatic castration-resistant prostate cancer reveals inpatient similarity and interpatient heterogeneity of therapeutic kinase targets** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Drake, J. M., Graham, N. A., Lee, J. K., Stoyanova, T., Faltermeier, C. M., Sud, S., Titz, B., Huang, J., Pienta, K. J., Graeber, T. G., Witte, O. N.
2013; 110 (49): E4762-E4769
- **Identification, characterization and targeting of Docetaxel-resistant prostate cancer cells** *ASIAN JOURNAL OF ANDROLOGY*
Stoyanova, T. I., Goldstein, A. S.
2013; 15 (1): 83-84
- **Prostate cancer originating in basal cells progresses to adenocarcinoma propagated by luminal-like cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Stoyanova, T., Cooper, A., Drake, J., Liu, X., Armstrong, A., Pienta, K., Zhang, H., Kohn, D., Huang, J., Witte, O., Goldstein, A.
2013
- **Regulated proteolysis of Trop2 drives epithelial hyperplasia and stem cell self-renewal via beta-catenin signaling** *GENES & DEVELOPMENT*
Stoyanova, T., Goldstein, A. S., Cai, H., Drake, J. M., Huang, J., Witte, O. N.
2012; 26 (20): 2271-2285
- **Collaboration of Kras and Androgen Receptor Signaling Stimulates EZH2 Expression and Tumor-Propagating Cells in Prostate Cancer** *CANCER RESEARCH*
Cai, H., Memarzadeh, S., Stoyanova, T., Beharry, Z., Kraft, A. S., Witte, O. N.
2012; 72 (18): 4672-4681
- **Oncogene-specific activation of tyrosine kinase networks during prostate cancer progression** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Drake, J. M., Graham, N. A., Stoyanova, T., Sedghi, A., Goldstein, A. S., Cai, H., Smith, D. A., Zhang, H., Komisopoulou, E., Huang, J., Graeber, T. G., Witte, O. N.
2012; 109 (5): 1643-1648
- **p21 Cooperates with DDB2 Protein in Suppression of Ultraviolet Ray-induced Skin Malignancies** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Stoyanova, T., Roy, N., Bhattacharjee, S., Kopanja, D., Valli, T., Bagchi, S., Raychaudhuri, P.
2012; 287 (5): 3019-3028

- **Cul4A is essential for spermatogenesis and male fertility** *DEVELOPMENTAL BIOLOGY*
Kopanja, D., Roy, N., Stoyanova, T., Hess, R. A., Bagchi, S., Raychaudhuri, P.
2011; 352 (2): 278-287
- **Primitive origins of prostate cancer: In vivo evidence for prostate-regenerating cells and prostate cancer-initiating cells** *MOLECULAR ONCOLOGY*
Goldstein, A. S., Stoyanova, T., Witte, O. N.
2010; 4 (5): 385-396
- **DDB2 (Damaged-DNA binding protein 2) in nucleotide excision repair and DNA damage response** *CELL CYCLE*
Stoyanova, T., Roy, N., Kopanja, D., Raychaudhuri, P., Bagchi, S.
2009; 8 (24): 4067-4071
- **Proliferation defects and genome instability in cells lacking Cul4A** *ONCOGENE*
Kopanja, D., Stoyanova, T., Okur, M. N., Huang, E., Bagchi, S., Raychaudhuri, P.
2009; 28 (26): 2456-2465
- **DDB2 decides cell fate following DNA damage** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Stoyanova, T., Roy, N., Kopanja, D., Bagchi, S., Raychaudhuri, P.
2009; 106 (26): 10690-10695
- **The xeroderma pigmentosum group E gene product DDB2 activates nucleotide excision repair by regulating the level of p21(Waf1/Cip1)** *MOLECULAR AND CELLULAR BIOLOGY*
Stoyanova, T., Yoon, T., Kopanja, D., Mokyr, M. B., Raychaudhuri, P.
2008; 28 (1): 177-187