

# ROBIN OligoMET Center

## Monthly Research Update: October 2023

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Please submit all monthly updates to Jadyne Stewart at [jadynstewart@som.umaryland.edu](mailto:jadynstewart@som.umaryland.edu) by second Wednesday of each month.

- Figiel S, Yin W, Doultinos D, Erickson A, Poulouse N, Singh R, Magnussen A, Anbarasan T, Teague R, He M, Lundeberg J, **Loda M**, Verrill C, Colling R, Gill PS, Bryant RJ, Hamdy FC, Woodcock DJ, Mills IG, Cussenot O, Lamb AD. [Spatial transcriptomic analysis of virtual prostate biopsy reveals confounding effect of tissue heterogeneity on genomic signatures](#). *Mol Cancer*. 2023 Oct 3;22(1):162. doi: 10.1186/s12943-023-01863-2. PMID: 37789377; PMCID: PMC10546768.
- Hoang T, Sutera P, Nguyen T, Chang J, Jagtap S, Song Y, Shetty AC, Chowdhury DD, Chan A, Carrieri FA, Hathout L, Ennis R, Jabbour SK, Parikh R, Molitoris J, Song DY, DeWeese T, **Marchionni L, Ren L, Sawant A, Simone N**, Lafargue A, Van Der Eecken K, Bunz F, Ost P, **Tran PT**, Deek MP. [TP53 structure-function relationships in metastatic castrate-sensitive prostate cancer and the impact of APR-246 treatment](#). *Prostate*. 2024 Jan;84(1):87-99. doi: 10.1002/pros.24629. Epub 2023 Oct 9. PMID: 37812042.
- Ma C, Wang X, Dai JY, Turman C, Kraft P, Stopsack KH, Loda M, Pettersson A, Mucci LA, Stanford JL, Penney KL. [Germline Genetic Variants Associated with Somatic TMPRSS2:ERG Fusion Status in Prostate Cancer: A Genome-Wide Association Study](#). *Cancer Epidemiol Biomarkers Prev*. 2023 Oct 2;32(10):1436-1443. doi: 10.1158/1055-9965.EPI-23-0275. PMID: 37555839; PMCID: PMC10592169.
- Voong KR, Illei PB, Presson B, Singh D, Zeng Z, Lanis M, Hales RK, Hu C, **Tran PT**, Georgiades C, Lin CT, Thiboutout J, Brahmer JR, Forde PM, Naidoo J, Anagnostou V, Smith KN. [Ablative radiation alone in stage I lung cancer produces an adaptive systemic immune response: insights from a prospective study](#). *J Immunother Cancer*. 2023 Oct;11(10):e007188. doi: 10.1136/jitc-2023-007188. PMID: 37793854; PMCID: PMC10551924.

### Grants and Contracts

#### Funded:

- Phuoc Tran, MD PhD, PI/PD**, as a subaward with NRG Oncology Foundation, Inc., from NIH U10CA180868, for "Evaluating response to moderate hypofractionation vs. SBRT in NRG GU-005 based on decipher genomic classifier integrated biomarker" (\$19,858) (3/01/23–2/28/24).

#### Submitted:

- Lei Ren, PhD, PI/PD**, as a subaward with Emory University, to NIH/NCI PAR-20-185 for "Sample-efficient federated learning for pancreas cancer early diagnosis with model explanation guidance" (R01; \$168,480).

### Oral Presentations

- Phuoc T.**, ASTRO National Meeting, Session – Oligometastatic Prostate Cancer: How Far Do We Go? (October 2, 2023 – San Diego, CA). "Definition of oligometastatic disease in the PSMA PET era and treatment approach".

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## Oral Presentations

- **Phuoc T.**, Quantum Biology and Cancer Meeting – Cancer Research UK and The Guy Foundation: Therapeutic Approaches Session (October 17, 2023 – Virtual). “Tumor Treating Fields: at the crossroads between physics and biology for cancer treatment”.

## Abstracts

- Alan Dal Pra, Jessica A Lyness, Alan Pollack, **Phuoc T Tran**, Bridget F. Koontz, Matthew C. Abramowitz, Brandon A. Mahal, André-Guy Martin, Jeff M. Michalski, Alexander G. Balogh, Himanshu R. Lukka, Sergio L. Faria, George B. Rodrigues, Marie-Claude Beauchemin, R. Jeffrey Lee, Samantha A. Seaward, Scott D. Coen, Aaron M. Allen, Stephanie L. Pugh, Felix Y. Feng. Impact of Testosterone Recovery on Clinical Outcomes of Patients Treated with Salvage Radiotherapy and Androgen Suppression: A Secondary Analysis of the NRG/RTOG 0534 SPPORT Phase 3 Trial. Oral presentation for the ASTRO National Meeting 2023.
- C.T.A. Parker, L. Mendes, E. Grist, V. Liu, D. Van der Wal, J.R. Griffin, E. Chen, **P.T. Tran**, D. Spratt, L.R. Murphy, A. Sachdeva, S. Lall, M.K. Parmar, M.R. Sydes, L.C. Brown, A. Esteva, F. Feng, N.W. Clarke, N.D. James, G. Attard. External validation of a digital pathology-based multimodal artificial intelligence (MMAI)-derived model in high-risk localized (M0)/metastatic (M1) prostate cancer (PCa) starting androgen deprivation therapy (ADT) in the docetaxel (Doc) or abiraterone (AAP) phase III STAMPEDE trials. ESMO 2023 Annual Congress.
- Edlira Horjeti, Yohan Kim, Ali Arafa, Philip Sutera, Ryan Phillips, Daniel Song, Ana Kiess, **Phuoc Tran**, Sean Park, Fabrice Lucien. Tumor-Derived Extracellular Vesicles Predict Disease Recurrence in Oligometastatic Castration-Sensitive Prostate Cancer Treated with Stereotactic Ablative Radiotherapy: Analysis of the ORIOLE trial. Oral presentation for the ASTRO National Meeting 2023.
- Gregory S Alexander, Rebecca F Krc, James W Assif, **Kai Sun**, Jason K Molitoris, **Phuoc Tran**, **Søren M. Bentzen**, **Zaker Rana**, **Mark V Mishra**. Conditional Risk and Predictive Factors Associated with Late Toxicity for Prostate Cancer Patients Treated with External Beam Radiotherapy Alone on Randomized Trial RTOG 0126. Oral presentation for the ASTRO National Meeting 2023.
- James W Assif, Gregory S Alexander, Rebecca F Krc, **Kai Sun**, Jason K Molitoris, **Phuoc Tran**, **Søren M. Bentzen**, **Zaker Rana**, **Mark V Mishra**. Conditional Prostate Cancer-Specific Survival Probabilities in Recurrent Prostate Cancer (PCa) Patients Receiving Radiation ± Antiandrogen Therapy: Secondary Analysis of a Randomized Clinical Trial. ASTRO National Meeting 2023.
- Matthew P. Deek, Amol C. Shetty, Yang Song, Jason A. Efsthathiou, Felix Y. Feng, William U. Shipley, Jeffry P. Simko, Kent W. Mouw, David Miyamoto, Alan Pollack, M. Dror Michaelson, Anthony Zietman, John J. Coen, Douglas M. Dahl, Ashesh B. Jani, Luis Souhami, Brian K. Chang, R. Jeffrey Lee, Huong Thanh Pham, Joseph P. Rodgers, **Phuoc T. Tran**. Prognostic Significance of Pretreatment Immune Cell Infiltration in Muscle Invasive Bladder Cancer Treated with Definitive Chemoradiation. Oral presentation for the ASTRO National Meeting 2023. ASTRO 2023 Annual Meeting Biology Travel Award.
- Nrusingh Biswal, Sina Mossahebi, Weiguang Yao, William Regine, **Phuoc Tran**, **Mark Mishra**, Dan Kunaprayoon, Young Kwok, Zaker Rana, Matthew Ferris, Jason Molitoris, Elizabeth Nichols, Byong Yong Yi, Mark Zakhary, Streamlining Treatment Plan Evaluations on QACTs in Adaptive Proton Radiotherapy Using Standardized Review Criteria. 9th Annual Meeting of the Particle Therapy Cooperative Group—North America (PTCOG-NA).
- Rebecca Krc, William Mendes, Jason Molitoris, Matthew Ferris, Raneer Mehra, John Papadimitriou, Kyle Hatten, Rodney Taylor, Jeffrey Wolf, Kai Sun, **Søren Bentzen**, William Regine, **Phuoc Tran**, Witek, Matthew. Outcomes of Patients Treated with Re-Irradiation for Recurrent Head and Neck Cancer Using Pencil Beam Scanning Proton Therapy. ASTRO National Meeting 2023.

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**Abstracts**

- Ryan M. Phillips, James A. Proudfoot, Elai Davicioni, Daniel E. Spratt, Felix Y. Feng, Jeff M. Simko, Robert B. Den, Alan Pollack, Seth A. Rosenthal, A. Oliver Sartor, Christopher J. Sweeney, Gerhardt Attard, Samir Patel, William A. Hall, Jason A. Efstathiou, Amit B. Shah, Karen E. Hoffman, Stephanie L. Pugh, Howard M. Sandler, **Phuoc T. Tran**. Validation of a Genomic Classifier in the NRG Oncology/RTOG 0521 Randomized Phase III Trial of Docetaxel With Androgen Suppression and Radiotherapy for Localized High-Risk Prostate Cancer. Oral presentation for the ASTRO National Meeting 2023.
- Philip Sutera, Amol C. Shetty, Alex Hakansson, Kim Van der Eecken, Yang Song, Yang (Seagle) Liu, Valérie Fonteyne, Sofie Verbeke, Daniel Y. Song, Ashely E. Ross, Felix Feng, Silke Gillessen, Gerhardt Attard, Nicholas D. James, Tamara Lotan, Elai Davicioni, Christopher Sweeney, **Phuoc T. Tran**, Matthew P. Deek, Piet Ost. Transcriptomic heterogeneity of metastatic disease timing within metastatic castration-sensitive prostate cancer. ASTRO National Meeting 2023.
- Philip Sutera, Amol C. Shetty, Yang Song, Theresa Hodges, Tung Hoang, **Zaker Rana**, Kenneth Pienta, Felix Feng, Daniel Y. Song, Theodore DeWeese, Silke Gillessen, Nicholas James, Gerhardt Attard, Matthew Deek, **Phuoc T. Tran**. Identification of a predictive genomic biomarker for prostate directed therapy in synchronous low-volume metastatic castration sensitive prostate cancer. ASTRO National Meeting 2023.
- Phillip Sutera, Matthew Deek, Yuezhou Jing, David Pryor, Mai Anh Huynh, Bridget Koontz, Carole Mercier, Piet Ost, Ana Kiess, Antonio Conde-Moreno, Bradley Stish, Davide Giovanni Bosetti, Shankar Siva, Alejandro Berlin, Stephanie Kroeze, Niall Corcoran, Bruce Trock, Silke Gillessen, **Phuoc Tran**, Christopher Sweeney. Multi-Institutional Analysis of Metastasis Directed Therapy With or Without Androgen Deprivation Therapy in Oligometastatic Castration Sensitive Prostate Cancer. ASTRO National Meeting 2023.
- Soha Bazyar, Philip Sutera, Ryan Phillips, Matthew P. Deek, Noura Radwan, Catharine Marshall, **Mark Mishra**, **Zaker Rana**, Jason Molitoris, Young Kwok, Santosh Gupta, Rick Wenstrup, Theodore L. DeWeese, Daniel Y. Song, Felix Feng, Kenneth J. Pienta, Emmanuel S. Antonarakis, Ana Kiess, **Phuoc T. Tran**. Prospective characterization of circulating tumor cells in hormone sensitive oligometastatic prostate cancer patients on a metastasis-directed therapy trial. ASTRO National Meeting 2023.
- Tung Hoang, Philip Sutera, Triet Nguyen, Jinhee Chang, Shreya Jagtap, Yang Song, Amol C. Shetty, Dipanwita D. Chowdhury, Aaron Chan, Francesca A. Carrieri, Daniel Y. Song, Theodore DeWeese, Audrey Lafargue, Kim Van Der Eecken, Fred Bunz, Piet Ost, **Phuoc T. Tran**, Matthew Deek. The Impact of TP53 Mutations and Use of the TP53-Mutation-Reactivating Agent APR-246 on Metastatic Castrate-Sensitive Prostate Cancer. ASTRO National Meeting 2023.
- Tung Hoang, Philip Sutera, Triet Nguyen, Jinhee Chang, Shreya Jagtap, Yang Song, Amol C. Shetty, Dipanwita D. Chowdhury, Aaron Chan, Francesca A. Carrieri, Daniel Y. Song, Theodore DeWeese, Audrey Lafargue, Kim Van Der Eecken, Fred Bunz, Piet Ost, **Phuoc T. Tran**, Matthew Deek. The Impact of TP53 Mutations and Use of the TP53-Mutation-Reactivating Agent APR-246 on Metastatic Castrate-Sensitive Prostate Cancer. 30th Annual PCF Meeting 2023.
- **Yufeng Cao**, Philip Sutera, William Silva Mendes, Bardia Yousefi, Tom Hrinivich, Matthew Deek, Ryan Phillips, Danny Song, Ana Kiess, Ozan Cem Guler, Nese Torun, Mehmet Reyhan, **Phuoc Tran**, Cem Onal, **Lei Ren**. Automatic prediction of metastasis-free survival (MFS) using prostate-specific membrane antigen (PSMA) PET for oligometastatic castration-sensitive prostate cancer (omCSPC). Quick Pitch Oral presentation for the ASTRO National Meeting 2023.
- **Zaker Rana**, Daniel Redell, David Alicia, Toxicity and Outcomes from Intensity Modulated Proton Therapy for Thymic Malignancies. 9th Annual Meeting of the Particle Therapy Cooperative Group—North America (PTCOG-NA).

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## **Clinical Trial Enrollment**

- 3 patient was enrolled (14/122 total) on the **TERPS trial**.

## **Awards/Honors**

- **Phuoc T.** was handed award for the 2023 ASTRO Mentorship Awardees.

*Please note that these examples are representative of productivity from the ROBIN OligoMET Center members and are not exclusively attributable to the U54 grant.*