PARKER INSTITUTE FOR CANCER IMMUNOTHERAPY

KEY ACCOMPLISHMENTS

We've broken down silos, forged strategic partnerships and fostered collaboration so our researchers can work smarter – and faster. PICI launched in April 2016 and we've accomplished a lot in a short amount of time. *Take a look.*

Research and Projects

- PICI teamed up with JDRF and the Leona M. and Harry B. Helmsley Charitable Trust to co-fund nearly $10 million in research focused on autoimmunity and cancer. Our goal: to understand, predict and prevent insulin-dependent diabetes, similar to type 1 diabetes, which can occur after cancer treatment with checkpoint inhibitors.

- The Parker Scholars, Parker Bridge Scholars and Parker Fellows programs support the most talented and ambitious early career researchers in the field. We've provided more than $10 million in funding for these programs since we launched and currently have 14 early career researchers working on projects that align with our four research focus areas.

- PICI is unpacking the immune system's response to treatments for aggressive metastatic triple negative breast cancer through our TRIBUTE study. Using the PICI BioTrust, we're collecting tumor tissues, blood samples and microbiome samples from patients treated with a combination of chemo and immunotherapy. We aim to discover biomarkers, or biological indicators, that can predict which women will respond to treatment, inform alternative treatments and help us identify the best future treatments for this deadly cancer.

- PICI partnered with the Cancer Research Institute (CRI) to launch the Tumor Neoantigen Selection Alliance (TESLA) to improve personalized cancer vaccines for patients using AI. It's a global partnership with more than 40 leading neoantigen research groups across academia, nonprofit and industry. We began by exploring cancer vaccine targets in melanoma and non-small cell lung cancer with samples from UCLA and Memorial Sloan Kettering Cancer Center, and expanded to include analyses of colorectal, bladder, ovarian and triple negative breast cancers. PICI's informatics team is leading data analysis and epitope prioritization, which included more than 20 participants in the first and second rounds.

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Clinical Trials in Progress

At PICI, we design groundbreaking immunotherapy studies that move forward at the speed of life. Together with leading academic, industry and nonprofit partners, we utilize our secret weapon of in-house trials management and translational medicine experts to push trials from concept to finish line so discoveries can benefit cancer patients faster.

PRINCE | We're tackling pancreatic cancer, the nation's third deadliest. We launched the trial in less than six months and saw groundbreaking results: combining chemotherapy with two immunotherapy agents shrank tumors in a majority of evaluable advanced pancreatic cancer patients. Collaboration is multi-faceted: With PICI at the hub, the University of Pennsylvania, six of PICI's other research institutions, industry partners Bristol-Myers Squibb (BMS) and Apexigen and nonprofit partner the Cancer Research Institute (CRI) are making progress. Fast.

SINATRA | The first clinical trial in the US to apply CRISPR/Cas9 gene-editing to T-cells to outsmart solid tumors in patients. Researchers at the University of Pennsylvania are engineering longer lasting killer T-cells for more effective T-cell therapy. Multiple patients with relapsed cancers – including multiple myeloma and sarcoma – have been treated.

McGRAW | PICI researchers at MD Anderson Cancer Center discovered that melanoma patients with specific types of bacteria and microbial diversity in their gut microbiome responded better to an anti-PD-1 checkpoint inhibitor versus those with less diversity. In collaboration with MD Anderson and industry partner Seres Therapeutics, we launched the first-of-its-kind microbiome-cancer immunotherapy clinical trial for advanced melanoma, which is actively enrolling patients at six research institutions.

AMADEUS | We're creating a "heat map" of cancer, indicating "hot" tumors that will respond to immunotherapy and "cold" tumors that may not. Partnering with BMS and CRI, these conclusions will help doctors create more personalized treatments for patients. The trial is currently enrolling patients at six PICI research institutions.

PORTER | Prostate cancer is the second leading cause of cancer death among men in the U.S. Using a "platform" design, we're testing a variety of immunotherapy treatment combinations to fight a very advanced form of prostate cancer, mCRPC. The flexible framework of this trial gives us the ability to evolve the study design over time, advancing scientific discoveries more quickly and efficiently.

MAHLER | PICI scientists are investigating why checkpoint inhibitors shrink tumors in some patients but not others. We're testing single and combination checkpoint inhibitor treatments in advanced melanoma patients and looking for potential biomarkers to predict how patients may respond. Patient enrollment is closed and our researchers are currently examining data from the trial.

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Workshops

We bring together leaders across academia, industry, nonprofit and government agencies to share knowledge on hot topics in immunotherapy and identify areas of need. Our goal: to make the biggest impact for patients.

Workshop	Outcome
Glioblastoma	Conducting deep data analysis with Rob Prins, PhD, at UCLA
Prostate	Launched a clinical trial using a "platform" design to test several immunotherapy treatment combinations in advanced prostate cancer
Breast Cancer IO Think Tank	Wrote the protocol for the TRIBUTE study (atezolizumab + nab-paclitaxel) that will open for patient enrollment in the coming months.
PD-1 Resistance	Identified areas for collaborative research: harmonize definition of PD1 resistance, enable new modes of data sharing, characterize molecular phenotypes of immune resistance
Window of Opportunity/ Neoadjuvant Think Tank	Collating and reviewing information from previous trials to produce recommendations for broader scientific community and outlining study design