

From a great idea to the real deal

How MD Anderson's Center for Entrepreneurship Advancement is helping innovative employees turn their proposals into products

By Lori Baker and Mary Ann Hellinghausen



MD Anderson is full of idea people. Discovery is one of our core values, so we're focused on it every day.

But Justin Bird, M.D., whose inventions include an app matching patients with providers, products and services, has learned business savvy can be as important as ingenuity if you want to see your ideas turned into realities. And for Priya Bhosale, M.D., and Sujaya Rao, being creative hasn't been enough to take their ideas from a proposal to a product that can reduce preparation time for certain MRI procedures.

So how can our people go from something in their heads to something on the shelf? That's where MD Anderson's Center for Entrepreneurship Advancement (CEA) comes in.

Start here early in the process

"Many of our faculty and staff are wired to be innovators, but their education and training haven't given them the tools to make their ideas reality," says Christopher Taylor, CEA director and program director in Strategic Industry Ventures. "The center is designed to fill the gap through educational offerings and a variety of programs."

Taylor says CEA is intended to be the go-to resource at MD Anderson for entrepreneurs of all kinds. The center offers education and programs and serves as a conduit to other institutional resources, such as the Office of Technology Commercialization.

On the educational front, CEA offers a four-hour workshop on commercialization fundamentals, an Entrepreneurship Academy, and the Innovation Corps (I-Corps) program, the premiere federally funded innovation and commercialization education program in the United States.

Connecting innovators to business mentors is another area of focus. Led by Program Manager Alejandro Tortoriello, Venture Mentoring Service-Houston provides team-based business mentoring for real-world guidance, and Texas Venture Connect is a virtual mentoring network across the UT System. This year, the center is expanding its offerings to include the BIO2Oncology Tech Accelerator and a women-focused community called WIN4Oncology.

Our quest to end cancer requires innovation, and Cancer Medicine Division Head Patrick Hwu, M.D., factors CEA into the equation of our success. "CEA's

support of our entrepreneurs is a critical element in our institution's mission, by allowing our faculty and staff to create impactful solutions to address real-world needs in cancer care," says Hwu.

Taylor says commercialization differs from academic research, and he encourages people to reach out early to accelerate the process and avoid missteps. According to Taylor, many of the resources CEA offers even apply to people who may not have entrepreneurship aspirations.

"It's disappointing when an idea doesn't come to fruition simply because the person followed the path they knew instead of the path needed to commercialize successfully," Taylor says. "We hope many will connect with us early and use the resources available to help bring their ideas to market."

“Leveraging the fantastic resources offered by CEA to understand entrepreneurship and commercialization will allow our innovators to improve the odds of successfully translating their ideas and work to the bedside, where it can make a difference,” says Giulio Draetta, M.D., Ph.D., chief scientific officer *ad interim* and senior vice president for Discovery and Platforms.

Are you an inventor like this surgeon?

Ideas have been percolating in the head of Justin Bird, M.D., assistant professor, Orthopaedic Oncology, since he was a boy growing up in New Jersey.

"I loved to watch 'MacGyver' on TV as a kid," Bird says, referring to the 1980s show featuring a resourceful secret agent who could solve almost any problem with a Swiss Army knife and a roll of duct tape. "I love to innovate and figure it out along the way."

While doing medical mission work in West Africa before coming to Houston as a faculty member in 2012, Bird says he "MacGyvered" devices to help patients, including a wound vac to help speed wound healing. "I used whatever I could find – a scrub sponge, plastic tape, tubing, and a generator and vacuum I found at the local hardware store – to make a wound vac," he says. "It made a huge difference in speeding up the healing time for children in the hospital."

Fast forward to 2019. Ideas continue to spark, including some ideas that Bird hopes can become marketable solutions to help patients and physicians.

"I'm passionate about new technology such as digital health and medical devices that could be used to deliver the best care to our patients," he says.

Some of his brainstorms include:

- An app that aligns patients with the most appropriate providers, products and services using data and algorithms to make the right match
- The use of robotic surgery in orthopedic oncology
- New physical therapy technologies for patients who are bedridden or undergoing chemotherapy



Surgeon Justin Bird found a team to help evaluate his ideas and bring them to market.

Outside of MD Anderson, Bird, his wife and their three kids have worked together on a product – a scarf-like piece of fabric with an absorbent facemask that can be used to cover a cough.

The challenge, Bird says, is turning a good idea into a marketable product.

"In medical school, I didn't learn anything about communication or entrepreneurship. The Center for Entrepreneurship Advancement helps with understanding business and marketing concepts, teaching physicians how to think about things like market share and how to message your idea."

Concepts such as business plans, negotiating, strategy development, finance and marketing just aren't intuitive from a clinician's standpoint, Bird says.

A center resource he's found extremely helpful is the Venture Mentoring Service.

"Mentors help you refine your pitch, to make the message as strong as possible to raise money and build resources," he says. "They help you realize what value you're bringing and how you'll generate revenue."

If you have ideas but aren't sure what to do next, Bird suggests contacting CEA and networking with like-minded innovators.

"I've learned a lot just having coffee with people who are happy to share their experiences and answer simple questions," Bird says. "You'd be surprised how many people have projects going on."

Bridging the entrepreneurial gap

Many people at MD Anderson are wired for innovation, but they don't necessarily have the expertise to bring ideas to market. Bridging that gap is our Center for Entrepreneurship Advancement, led by Christopher Taylor, far right, and supported by Alejandro Tortoriello and Veronica Paniagua.



Are you a problem solver like this team?

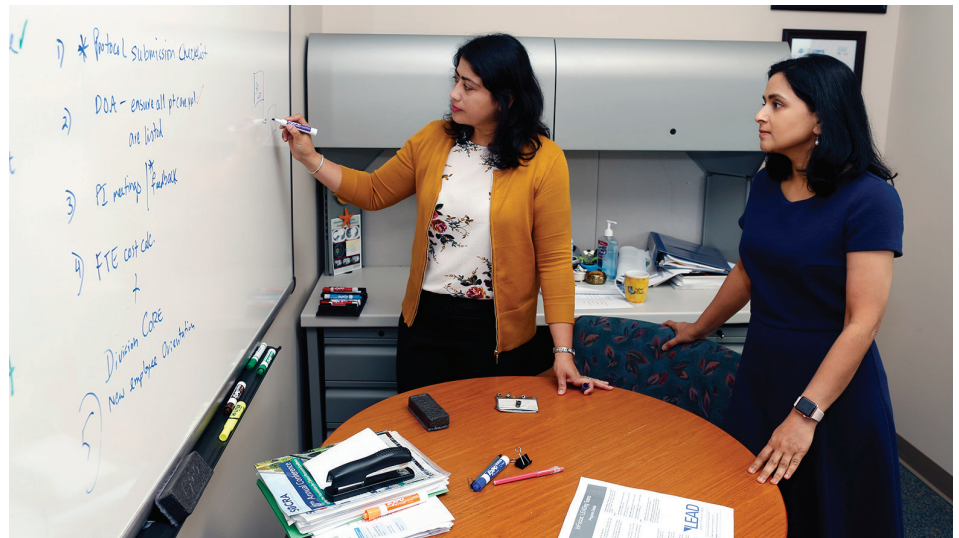
"I don't think of myself as an inventor, but I've always been a problem solver," says Priya Bhosale, M.D., professor of Diagnostic Imaging.

She gives one example from her internship at Lyndon B. Johnson Hospital where she worked long into the night to take care of 70-80 patients. She developed process efficiencies that dramatically reduced the length of time to provide care for these patients, improving their experience as well as hers.

Similarly, Sujaya Rao is energized by finding better ways to get things done. She's director of division research development and co-founder of MD Anderson's Quantitative Imaging Analysis Core, a centralized platform to provide standardized imaging metrics for clinical and research scientists. She also created the Image De-Identification Service Request application here.

Bhosale and Rao have teamed up and are taking advantage of resources in the Center for Entrepreneurship Advancement to further their latest idea, a device they believe will better prepare certain patients for MRI imaging. They're intentionally vague at this point, as one thing they've learned through the center is not to disclose too many details prior to securing a patent.

"We had this idea and heard about the center's resources," Bhosale says. "Both



MRI preparations for certain patients may greatly improve, thanks to the creativity of Sujaya Rao, left, and Priya Bhosale. They credit the business resources available to them as key to moving their idea forward.

Sujaya and I were excited to find help to turn our idea into reality."

They attended a half-day I-Corps workshop and then were accepted to the I-Corps Regional Program and then the I-Corps National Program sponsored by the National Science Foundation.

"We got so much out of these programs," Rao says. "Our original idea focused on improving patient outcomes, and the process helped us discover additional advantages, including revenue generation by shortening the time in the MRI and allowing more patients to be imaged."

Other key benefits include grant funding for efforts such as customer discovery.

"It was an immersive experience where you really felt like you were working

in a start-up company," Rao says of the National I-Corps experience. "Our customer discovery phase was intense. We traveled about 35,000 miles in six weeks talking to people all over the country to evaluate if there was a market for our idea."

Bhosale highlights the access to resources to build the prototype as another key benefit.

Both say the experience has been extremely valuable. And while it is a time commitment, they know they'll be able to transfer what they've learned to other ideas they have.

"I'm excited to get this one finished and focus on some of the other ideas already spinning in my head," Rao says. ■