Interview by Howie Rhee.

Our Conversation with David Mauney

Duke I&E: Tell us about your time at Duke. What did you study and what were you involved in? Did you do anything entrepreneurial while you were here?
DM: I came to Duke in 1986 fresh out of public high school in Asheville, NC. Almost immediately, it was painfully clear to me that I was a very small fish in a very big pond at Duke. I did not have the same academic or intellectual horsepower as many of my new friends, and had never lived away from home or spent much time out of NC.

I was also one of those who did not “know what I wanted to be when I grew up”. This was a new mindset in my very driven and focused family, as my father was a practicing surgeon at the time, my sister (Duke ’84, Fuqua) was working in Washington and my brother (Duke ’87, Duke Med) was on his way to becoming a surgeon. Both of my siblings were very driven, and I was more of the type to take things day by day.

I settled into the liberal arts program, with a major in psychology. I had never heard the word “entrepreneur” before, and frankly, wasn’t really trying to plan for my career during the early college years. I was instead focused on this whole new social opportunity in fraternities, dorm life, and Duke basketball. I got by academically, but did not really “go for it” or search out for anything on my own. If Duke offered it, great, but I wasn’t going to go out and find it myself. Clearly, I had a lot of growing up to do.

It didn’t take long for this to catch up to me, though. My father, who was very disciplined, gave me some tough love. As my grades suffered, he gave me an ultimatum. Either he would take me out of Duke and enroll me at the Citadel, where I would learn better discipline, or I would enroll in summer school, learn to juggle work and academics, and hopefully get better grades. I chose Option 2! I drove a campus bus as my summer job, and worked my tail off in summer school.

That tough lesson worked. I enjoyed my final 2 years at Duke, including a spring semester abroad in Strasbourg, France, but I still had no real plan for what I wanted to do after college.

Duke I&E: You went on to get your MD at The Dartmouth School of Medicine after graduating. Tell us about that experience.
DM: Clearly, my path to medical school was atypical. I graduated from Duke in 1990 with a very tough job market at hand. I had one potential job offer to sell medical supplies in the Florence, South Carolina area, but that did not materialize. So I looked into the next best thing to help me move forward…..more school. I was not particularly interested in law, and I was told that I needed work experience for an MBA, so by the process of elimination and some basic interest in human biology, I decided to focus on
medicine. Unfortunately, I lacked all but one of the basic science requirements to apply. Over the next 18 months, I managed to complete all of the class and lab requirements to apply. I also volunteered for a few months in the research labs at Duke to get some research exposure.

In the spring of 1992, I was accepted to Dartmouth Medical School. I am forever grateful to Dr. Andy Wallace, Dean of the Medical School, for taking the chance on me.

Dartmouth is a fantastic school, and they had just opened the beautiful Mary Hitchcock Medical Center. The class of approximately 95 students was perfect in size. And at this point, we were all in our early 20s and supposedly very focused and directed to becoming a doctor. But again, I stood out. I was one of a few students who was engaged or married, and I was also one of the very few who again “didn’t know what I wanted to be” when I finished. My classmates, who are still some of my good friends today, amazed me by saying they knew they wanted to be a pediatrician, or a urologist, or a neurosurgeon when they had never spent a day in the life at such a practice. I still considered myself a sponge, and felt that whatever I ended up doing would “come to me” and be painfully obvious in the experiences. The first two years of medical school follows a very strict curriculum. The 3rd year is fairly strict as well, but it is the first year in clinical rotations. The fourth year is tailored by the student in clinical electives that would help for residency matching. Staying in true form, I entered my fourth year without a clue as to my direction. And sort of against the flow, I actually felt that while I liked the science of medicine, I did not find myself as interested in daily patient contact. When I mentioned that to an advisor, I thought she was going to fall out of her chair.

I had a different view. At least for me, I found that medicine was teaching a narrow, widely prescribed curriculum, and it was a curriculum that had not varied much over the last 30 years. “Go to medical school, become a practicing physician. Take care of people.” - Very noble and critically important. However, I had an alternate view. The 2 years spent getting into medical school, and the four years immersed in the curriculum offered a unique set of experiences and vocabulary words that could be applied so broadly to affect society, not just direct patient care. Teaching, government, administration, basic science research, discovery, politics, and even that new concept of business or entrepreneurship, were all possibilities with a medical degree.

A life changing series of events occurred for me, starting in 1995. To begin with, my wife, who was pregnant with our first child, experienced pre term labor and was bed rested for 20 weeks. We decided that given my schedule, it would be best for her to stay with her parents in the Stanford area of CA. I was in my fourth year, and decided to do a few clinical rotations out there to be near her.

During my time at Stanford and in Santa Clara, I saw a whole new world. I saw medical students that were writing patents, starting companies, getting funding, attending classes with engineering students, getting an MBA on the side, etc. They were encouraged to
think outside the box as part of their learning. This is not a negative on Dartmouth at all. In fact, it is really just a statement that Stanford was essentially ahead of its time. Only 1-2 medical schools that I was aware of offered up curriculums that involved the MBA in 1995, and certainly it was widely assumed that the purpose of medical school was to become a practicing physician. But the culture at Stanford was unique. And it clicked with me. In the end, I took the unusual step of deferring a match for residency to try and work in the medical industry. This was not a popular decision, but we decided to stay in CA and pursue an alternative path.

Duke I&E: You worked at a few companies like Fox Hollow Technologies, and Heartport, and eventually went on to work at Asset Management Company with Pitch Johnson. Tell us about your experiences, and how they influenced your career path.

DM: In mid-1996, the medtech startup world was red hot in Silicon Valley. I was fortunate to land an entry level job in Product Management at a Kleiner Perkins backed start up called Heartport. The company had filed for an IPO and was in the early phases of the “road show”. While I worked with great people, my job was to work on things like product packaging for surgical instruments, fonts and labels, foreign languages for Instructions For Use, etc. I had no background in marketing, and could tell right away this was not a long term fit for me. I really wanted to be part of more than what I was doing. Fortunately, just after the company went public, my father-in-law approached me about the possibility of helping him start a company. To be clear, nepotism plays an important role here. My father-in-law was a practicing cardiologist (Duke Med grad) who had successfully started several companies in the medtech arena. In this case, he had a new idea, and wanted to reduce it to practice. He needed someone like me to be his “grunt” and incorporate the entity and set it up, help him chase down things like office space, write a draft business plan, acquire seed funding, hire an engineer or two, and maybe even consider some study designs. It started in the garage, was named Fox Hollow Technologies, and by the time I left 2 years later the company had raised about $15 million, hired a CEO, built prototypes, tested it in animal studies, and begun to consider first human clinical use. The experiences at Fox Hollow shaped my career. I essentially got the “poor man’s MBA”, learning many things through experience. One of those was participating in fundraising, which introduced me to venture capitalists. One such introduction was to Franklin “Pitch” Johnson. Pitch is one of the luminaries in venture capital. He set up one of the first VC funds in the valley in the early 60s, and remains today one of the most well-liked, respected, and successful venture investors to date. Some of his successes include Amgen, Biogen, and Tandem, among many others. Long story short, Pitch gave me the opportunity to join him as a partner at his family partnership, Asset Management Company, with a responsibility for seeking, evaluating, and investing in early stage medical technology. In the year-and-a-half I worked with Pitch, we made several investments, and I was fortunate to have some success along the way. It was another career changing event for me, and I will always consider my father-in-law and Pitch Johnson as my two greatest business mentors.


DM: In late 1999, as mentioned above, I was the sole partner investing healthcare dollars
for a small family partnership. It was a fantastic experience, but I was faced with the challenge of how to compete in the “dot com” world of 1999. Almost all mixed funds had abandoned healthcare in favor of dot coms, so it was very difficult to find funding for portfolio companies. In addition, the timelines of 7-8 years for successful exits in healthcare made it hard to compete. Finally, our small fund size did not allow us to “go alone” in times of scarce capital that we were seeing at the time. I was approached by Fred Dotzler and Rich Ferrari, two seasoned medtech execs that I had known for several years. They were interested in creating a new, larger, healthcare specialized venture fund, essentially while no one seemed interested in the industry. It seemed crazy at the time, but it would at least answer the problem of scarcity in capital. I talked to Pitch about it at length, and in the end, with his blessing, we decided (along with my father-in-law as a fourth partner) to put together a fund in early 2000. Pitch wound up being strong supporter and investor in our fund, and to this day we continue to share deals with his group, and vice versa. In the end, we wound up raising our full target of $100 million from like-minded individuals and institutions within about 6 months of inception, and started investing immediately. Our fund invested in 17 companies, and ironically, Fox Hollow wound up being the largest return for the fund. We invested about 3 years after I left the company, after the entire venture community turned it down. The company wound up going public and was acquired a few years ago for over $700 million. The distraction of the dot com boom was obvious!!

Duke I&E: Tell us more about De Novo and where it is today.

DM: Today, over 10 years later, we have added two partners and raised an additional $550 million over 2 more funds. We have raised $650 million total, and invested in over 50 companies. We have experienced the highs and lows of great exits and not so great write downs. We have co-mingled with some of the finest scientists, physicians, engineers, executives, and institutions throughout the world. We have seen patients lives saved. And we have had our failures. So while it is extremely gratifying to know this, at the end of the day, our future success depends on only one thing, our rate of return (ROR). Unfortunately, the venture industry and the most recent data has not been entirely positive for the risks being taken. In medicine, the timelines to development and approval have become much more rigorous, in the US especially. This translates to cost. And the exit environment has softened with the virtual disappearance of the IPO opportunity for most medtech companies. Investors are feeling the pinch because they are forced to ride their investments longer than anticipated, with longer and more substantial risk profiles, and in some cases, without having allocated the appropriate amount of capital. We are seeing the continuation of this environment today, and the raising of new funds has become much more difficult and time consuming given the disappointing rate of returns. We made the decision to forego raising a fourth fund until we have had more positive exits. It was the right decision, and we are now in a much stronger position to hopefully realize these events over the next 12-24 months. We have a number of very sound companies, in some cases in very exciting clinical trials both here and abroad, and in others generating as an example greater than $50 million in annual revenues and approaching profitability. While it is true we are experiencing the great shake out, we also believe that the strong will survive. In fact, we believe the time is right for a whole
new paradigm and structure for investment is emerging, and we hope to use that to our advantage.

**Duke I&E:** As you reflect back on the years since you've started, what are some of the things you've learned that you wished you'd known when you were starting?

**DM:** I have zero regrets about my life’s path, but of course I would have loved to know how to avoid the bumps in the road, if possible. For one, I always felt like an outsider and somewhat of a lost soul growing up. I wish I really knew it was ok to not have your life planned out, and it was ok to ask questions, and be curious, and turn over rocks and not stress when you feel like you are behind your peers. I wish I knew it was ok to be a small fish in a big pond. In fact, being in a big pond (Duke, Dartmouth, Stanford, Silicon Valley, venture capital) is the best way I know to get off one’s traditional box, and if you make the attempt, you will meet some of the most interesting people who could one day shape your life. I wish I knew it was critically important to get out of one’s comfort zone earlier in life. Again, it’s easy to stay down the middle, it’s easy to be vanilla, and it’s easy to do what comes easy. Try to take a risk. Don’t be afraid to fail. Things will always find a way to work out. Don’t take “no” for an answer. Don’t let someone else tell you what you can or should do. I know these are cliché’s, but they are so true. And get out and live in a new area, geographically. Learn about different rules and different cultures. Embrace it.

But if there was truly one thing I would have done differently as part of my career development, I probably should have finished the first year of internship/residency so that I could take the final basic medical boards and become a “real doctor”!

**Duke I&E:** Thinking back to when you were a student, were there things you wished you'd done differently to prepare for being a venture capitalist? And what did you do as a student that you are glad you did?

**DM:** Of course I wish I had studied harder and gotten better grades during the college years. Especially in today’s world, where computers will weed out the pile based on numbers. More importantly, I wish I had taken the time to get involved at Duke. I wish I had sought out the committees, clubs, speeches, and extracurricular activities that would have at least tested my curiosity and my own beliefs. As I mentioned above, though, I was intimidated and doing such a thing would not be easy. Perhaps I could have shaped my life a little sooner without as much blind risk. The greatest thing I did at Duke was study abroad for a semester. It was the first time in my life I was really way out of my comfort zone. I had never been farther away from home, I was hardly able to speak any French, and I lived with a non English speaking family for 5 months. It taught me many things, needless to say, and it gave me the opportunity to see all of Europe and beyond on a students budget!

**Duke I&E:** For students that are thinking of starting a company, but thinking about getting work experience first, how would you help them analyze that decision?

**DM:** There is no right answer here. My gut is to get some real world experience first. If nothing else, it would answer some questions like, “Do I like what I am doing? Are
others doing something I wish I was doing? Do I like living here? Is money important? Am I a small company or big company person? Do I like to wear many hats, or prefer to be responsible for one thing?”

This is not at all required, though.

If there is just a burning desire to start a company before having any work experience at all, my first advice is to get as much “free” work done as possible. Start by finding a good advisor/mentor. It could be a former professor, a business advisor, a family friend, etc. Begin by doing proper patent disclosures to fully protect the idea, if applicable. Through the web, there are several sources to help. Start the process of writing an executive summary, and think about the potential money and time required to fund the project for at least the first year. Think about what sources of capital may be available. Do a full risk analysis to help guide your decisions. Create the appropriate corporate structure with a good lawyer who might be willing to help for free!

In the end, it always comes down to people and passion. You don’t have to have the experience to be successful, but you absolutely must have the burning desire to get there no matter what. If one has that, and some good experienced folks alongside, then there are no limits.

**Duke I&E:** A lot of students (and faculty) get stuck on the idea they need to be heads down on the science, and that once they've created an innovation, then they'll start thinking of starting a company. Do you think they should start earlier than that? And what are some good steps for them to take while they are still finishing the science?

**DM:** Again, no obvious answer here. But we do tend to back VERY passionate scientists, physicians, or entrepreneurs who have spent considerable parts of their career obsessed with their idea(s). We find that the passion behind the science has to be real, and we can help them find people, raise capital, and “start a company”. Many times, especially in the scientific community, they never even considered that the idea could be for-profit, or as part of a company. That is changing, though.

In contrast, where we get more uncomfortable is when we find that someone has gone out looking for a market or gap in clinical care and tries to create an idea from that. It’s more of an incubator approach, and while the model has proven to be successful for many, we simply don’t have that skill set. We are better at finding people with specific ideas than we are at going out and creating ideas of our own.

To repeat, a critical step that can be taken under any scenario is to better educate faculty and students that, in medtech especially, intellectual property ownership is a huge determinant in successful funding and exits. So while it’s ok to be “head down” in the science before starting a company, it’s absolutely critical to keep detailed lab note books and to make patent disclosures (and as many of them as possible) early in the game. We
have seen many potential deals fall apart due to intellectual property (IP) issues on some really great and game changing ideas.

**Duke I&E: Tell us what types of things your role entails. What are you responsible for?**

**DM: I am a co-founder and Managing Director at De Novo Ventures. I have a variety of roles, starting with a part in the administration of our operating company in Menlo Park, CA. This includes things ranging from human resources, weekly partner meetings, limited partner (our investors) reports and meetings, putting together fundraising documents for future De Novo funds, and going out to raise such funds. Typically, a venture group will raise a new fund every 2-4 years.**

My “day to day” activities, though, are more specific to our portfolio of existing investments and the seeking out of new opportunities. Currently, I have responsibility for six of the portfolio companies in De Novo and I have a board member role on each. That activity can range from attending frequent board meetings and calls, to serving on formal board committees (e.g. the Compensation Committee) to just the day-to-day interactions with the management team and the CEOs. I am also responsible for weekly reporting of the progress of my investments to my partners and quarterly to our investors, and am responsible for making “go/no go” decisions on behalf of the company.

When we raise new funds, we spend a significant amount of time seeking new investment opportunities, going to trade shows, hearing presentations, networking all over the US, reading business plans, doing heavy due diligence and structuring financings. Today, we spend a lot of time with our companies to help them develop their own financing plans given the difficult environment. Finally, we help negotiate the terms of each of our deals.

Obviously, this is a small snapshot of what the role really entails.

**Duke I&E: We often hear about Silicon Valley as being a software/web/IT hotbed. But there's also a strong medical device presence. Tell us what it's like to live and work there in your industry. What is the vibe like?**

**DM: Obviously, it is referred to as Silicon Valley for a reason. It’s essentially the home of the semiconductor, and it is a hotbed for all things computer, internet, social networking, etc. However, it is also one of the biggest centers of innovation for healthcare technology. While it is true that Southern California has a large pharma presence, and Minneapolis, Seattle, New England, and the Southeast boast strong development for healthcare, Silicon Valley still remains number 1 in terms of dollars invested.**

Geographically, it can be narrowed down to the area between South San Francisco to San Jose, with some smaller presence across the Bay near Oakland. It’s a fairly small geography frankly. But packed in that area are thousands of start up companies, several billion dollars in venture capital on Sand Hill Road, and many, many, vendors, lawyers, machine shops, and entrepreneurs. The companies that make world news (like Facebook,
Google, Twitter, Apple, on the tech side) all were spawned in that area. In the medtech arena, a seminal event was the formation of ACS, the first commercial balloon angioplasty company in the early 1980s. It was ultimately acquired by Eli Lilly, helped create the field of interventional cardiology, and was the backbone of the formation of Guidant Corporation. ACS bred literally hundreds of entrepreneurs who left and wound up creating their own ideas, and let’s not forget that Stanford University embraces all of this innovation and sits in the center of what we know as Silicon Valley. UCSF, UC Berkeley, and Santa Clara also play a critical role in the area. Being an entrepreneur is simply part of the culture throughout the area. If one fails, one only has to go across the street to find the next opportunity. Finally, it’s a really young, fun, beautiful, and interesting place to live.

The catch? The high cost of living and a bit of a dog-eat-dog mentality: It’s a fast treadmill, and if you aren’t running full speed, you might get run over. But it really gave me the foundation for who I am today, my wife’s family is still there, and we consider it home in many ways.

I live in Charlotte, NC now, and still commute every few weeks so I feel like I never left!