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An Innovative Service Laboratory with Clinical Diagnostic and Genomic Services Divisions, Ambry Genetics Serves the Genetics Industry through Friendly, Knowledgeable Client Services and High Quality R&D in a Cutting-Edge Environment

Healthcare Genetic Services

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Charles L.M. Dunlop
CEO

BIO: Mr. Dunlop founded Ambry Genetics in November 1999. He has extensive experience in establishing and managing laboratories in research, manufacturing and technology transfer environments. Among Mr. Dunlop's various positions in the general scientific industry, he has worked in the molecular biology laboratories of the Scripps Research Institute in La Jolla, California, as well as in research laboratories of diagnostic kit provider Gen-Probe. Mr. Dunlop also managed the molecular biology and pharmacology group of Biophysica, a preclinical pharmaceutical development company. He is a graduate of the University of California, San Diego with concentrations in biology, mathematics, physics, economics and history. Mr. Dunlop has published numerous scientific articles and has guided Ambry Genetics from incep-

tion to a highly reputable and successful enterprise.

About Ambry Genetics

Ambry Genetics is committed to providing friendly knowledgeable client services and high quality research and development in a cutting-edge environment. In 13 short years our test menu has grown to become one of the most comprehensive in the world and our reputation remains impeccable in the genetics industry.

As a company built by scientists, genetic counselors and physicians, we are your partner in clinical genetics and genomic services. We are a trusted resource for clinicians, as we are CAP-accredited, CLIA-licensed and also have our own in-house medical technologist training program.

Ambry Genetics' scope of clients encompasses national and global research projects with some of the world's most respected academic institutions and small to large pharmaceutical companies.

Ambry Genetics also continues to support pulmonary genetics and cystic fibrosis (CF) awareness through community outreach with Maui Ola Foundation (MOF). MOF is a not-for-profit organization that introduces children with CF, autism and other genetic diseases to the benefits of surfing. MOF's signature surf events help reinforce awareness of a healthy lifestyle and benefits of exercise.

Interview conducted by:
Lynn Fosse, Senior Editor

CEOCFO: Mr. Dunlop, would you tell us the vision when you founded Am-

bry Genetics and where are you today?

Mr. Dunlop: Ambry Genetics is really an innovative company with a unique culture. We started Ambry when the stock market was really high and going the tech bubble. It was really the Glass-Steagall Act bubble. I still remember my father's words, "You may not be ready, but the money is inexpensive now. If you are ever going to start a company, now is the moment." I really thought about it and said, "I am on it". What really contributes to Ambry's unique culture is that it was truly funded by friends and family. In the beginning we only raised five hundred thousand dollars to start the company and all of its operations. To this day everyone thinks that it is kind of crazy but there were no venture capital or institutional investors.

CEOCFO: What is the concept at Ambry Genetics?

Mr. Dunlop: Ambry is an innovative service laboratory with clinical diagnostic and genomic (research) services divisions. I started the company 13 years ago with a thought that we are going to do diagnose and focus on CF and neonatal markets. Several years later, it turned into me trying to keep the innovative spirit alive in different divisions and spokes that have grown from that basic idea. The growth I'm referring to is Ambry being first to introduce next-generation sequencing (NGS) technologies and whole-exome sequencing to the clinical diagnostic space. Today, Ambry is known as the leaders in NGS and we take pride in that. I started the company thinking that I am going to have this cool innovative company; it is going to be fun. It's true. Ambry's gen-

eral mission is that we use the highest genetic technologies in the world and apply them to medical problems that are appropriate. The ultimate goal is to find the answer.

CEOCFO: What is an example or two of what you see as innovation that you have achieved at Ambry?

Mr. Dunlop: To me, innovation is the Clinical Diagnostic Exome™ (CDE). That was definitely a big deal. The CDE is the holy grail of genetic technologies and experiments for clinical diagnostics. It was an inspired idea and we were able to do the technology in the lab, very routinely. Analyzing the data was the part that needed focus. CDE was innovative for two reasons: developing the bioinformatics platforms and the algorithm to being the first laboratory to do the sequencing when everyone else was saying it was going to be impossible for another decade. The idea itself was important. Instead of sticking to our “sweet spot” of lab technologies, Ambry realized years ahead of time that computers were important. We then hired a whole a bioinformatics team about two years before it became the industry standard. To this date, Ambry’s CDE detection rate is fifteen percent higher than anyone in the clinical diagnostic market.

For me personally, the innovation was expanding out of the lab’s comfort zone. Still, to this day, Ambry is the only lab reporting novel genes on the CDE. It is pretty cool.

CEOCFO: Does the market recognize that? Do your potential customers recognize that? Is it important for them?

Mr. Dunlop: I think so and I think it is important. However, nothing is more important than performing accurate genetic testing, delivering fast results in an ethical way. It is important to not push these technologies too hard. Ambry has a history around here of being first to develop and launch new innovative services. At the same time, we have a “soft touch” about it and do not push the envelope to its logical economic conclusion. It is the nature of the company and I think it

helps keep our spirits the way they are.

CEOCFO: When you look to add people to the company how do you assess that mindset as well as the science and technology part? How do you assess people that are going to fit in to what you want Ambry Genetics to be?

Mr. Dunlop: The most important thing for me is having people who are fun to work with. You can have the smartest person in the world and if they are not fun to work with then what is that? People are blown away by how laid back and hard working this atmosphere is. That is because anyone who starts to put together an island or their own empire or starts to manipulate for themselves to look better than their peers, I try to weed those people out like there is not tomorrow. I am almost like a little vacuum cleaner. I try not to step all of my managers’ toes too much, but when I

“Been first to launch the last five big innovations in the industry,”

- Charles L.M. Dunlop

see that ability in someone to sort of create an island in that sort of manipulative, political way, then it is not a good day for them! There is also the rule that we would typically do a “ninety day” thing and if someone is not fitting in I usually find it humane to cut ties as quickly as possible for both parties. You can tell fairly quickly, after the honeymoon period, if someone is going to fit or not.

CEOCFO: Are there areas that you would like to have more involvement with scientifically than you are now?

Mr. Dunlop: My role is not really that of an administrator. I am kind of a “funny” CEO. I get involved in projects and not with the day-to-day work. I am always involved with new things and will get in the trenches and work with anybody, does not matter who it is if they have an idea that sounds good. This is my dream job, because I get to run around with my “crazy thinking brain” and focus non-stop on how to make Ambry better. I aim to create a harmonic system from top to bottom. This is probably one of the reasons that we have done this on

so little money.

CEOCFO: Are there areas that you would like to make changes that you are not currently working on or areas of the operation that you are looking at?

Mr. Dunlop: That is an interesting question! There are things that we are working on that are about to be launched that I have always wanted to be involved with. It is dealing with resource allocation. Right now I am primarily focused on two projects. First, are big operational improvements, it is awesome, fun and I cannot believe it is happening. Second, Ambry is always in development and launching new products and services that are innovative. These developments I cannot publicly disclose at this time, but it is going to be breathtaking! I focus on the innovative things happening in Ambry, which is where my sweet spot of psychology is. For me, I am involved in what I want to be involved in and it is fun.

CEOCFO: How do you keep yourself from being involved in too many things?

Mr. Dunlop: I think it is an art form I guess and has not been a problem. In 13 years I have never been called overbearing, a micromanager or stepping on peoples toes. In fact, more often than not, I get people coming to my office trying to suck me into things; not the opposite. When I first started the company my father advised me, “try to work yourself out of a job so that you are not needed”. It was pretty funny. For the first vacation I ever took, about six years into the company, I went to Sumatra and said to myself, “I am really going to get away.” I get out there in the middle Indian Ocean on this stupid, rickety, about to sink, boat and there is no cell phone, no satellite phone; nothing for two weeks. I was freaking out the whole time. It took me about five days to just to say, “Alright, there is nothing that I can do about this, I am just going to let it go.” Then I finally get back to Jakarta and I am so excited that I can finally get on email. I ask “what is going on!” I get these emails back that say, “Oh, nothing.” Just cool and collected. I thought, “Man, I must be

doing a pretty good job if they do not need me!" I think that was the smartest thing that my Dad ever said; to create a harmonic system where you are not needed. I try to instill that in my managers, instead of it being a sign of insecurity where if you do not have to show up for a week then do not. However, it is funny that that is not really possible. There is always something cool to work on.

CEOCFO: Is business good these days?

Mr. Dunlop: Business is pretty good, yes! We have had annual growth rates for the last five years that have been ridiculous! This year it is actually accelerating and I am very happy. I believe we are becoming more mature as a business, too. The senior staff is very much independent. I believe we have a really good chemistry and click right now. I more excited about this year than any year, by far.

CEOCFO: Giving back is clearly important for you. What are some of the areas of focus?

Mr. Dunlop: I am a lifelong surfer; I

was sort of a pro surfer in my childhood. My childhood friends are now the best surfers in the world. The idea that the ocean can have a profound natural healing affect on those with cystic fibrosis (CF) came rather organically. The salt water acts like natural saline solution and flushes out the sinuses and the lungs. We first tested this idea by taking Emily who has CF surfing— After ten minutes in the water she started breathing better and about twenty minutes later I noticed she has not cough for a while. It is then that I realized that I have to take as many kids with CF, surfing as possible.

This idea is what started the Maui Ola Foundation (MOF). It was the best surfers in the world, from A to Z, taking kids with CF surfing. MOF raised money to pay for their surfboards, surf racks and wet suits. MOF provided care packages with surf trunks, bikinis, sun block, sunglasses and the results were cool. MOF was really gaining momentum; in fact, Lady Gaga lent her old tour bus that surfers used to visit Children's Hospi-

tals across the country. Later then MMA Fighters got involved as well as some Major League Baseball players and NFL players. The foundation makes a profound difference the lives of children with CF and we are thankful for it.

CEOCFO: Why should investors and people in the business community pay attention to Ambry Genetics? What makes you an exceptional company?

Mr. Dunlop: Ambry has been first to launch the last five big innovations in the industry, but they do not have to watch us if they do not want to. In fact Ambry has been a pace setter the whole time while underfunded, by they way. Ambry has been first launch *CFTR* full gene sequencing; offer NGS technologies, NGS cancer panels and the Clinical Diagnostic Exome in clinical space. Ambry is an innovative company and that's what we are known for. Actually, in hindsight, maybe they should not watch us!



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