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# **Pressure BioSciences Discusses Partnerships with Leica Microsystems (Cancer Diagnostics) and Ohio State University (Food Industry Consortium) with The Stock Day Podcast**

Phoenix, Arizona--(Newsfile Corp. - March 15, 2021) - The Stock Day Podcast welcomed back Pressure BioSciences, Inc. (OTCQB: PBIO) ("the Company"), a leader in the development and sale of innovative, broadly enabling, pressure-based instruments, consumables, and specialty testing services for the worldwide life sciences and other industries. President and CEO of the Company, Richard T. Schumacher, joined Stock Day host Everett Jolly, and offered a detailed update of measurable progress the Company has recently made in multiple key areas.

Mr. Jolly began the interview: "My first question for you Ric is that we see PBI recently announced a co-marketing agreement with Leica Microsystems, one of the oldest and most respected names in the world of microscopes. Tell us how that came about and what this means for your company."

Mr. Schumacher: "If I may I would like to first give a brief overview of the company, which I think will lead right into answering your question. As you said, we are an OTCQB publicly traded company. We are a manufacturer of instruments, consumables, and special laboratory services to companies all over the world. Our customers are pharmaceutical, biotech, nutraceutical, agriculture, cosmetics, and food and beverage companies. We have 26 issued patents; these patents are related to using high pressure to help scientists achieve better, higher quality results in their laboratory studies. Pressure is an amazing force of nature. Think about a scientist in a lab working with a liquid, trying to control the molecules in that liquid. They can use heat to speed things up, cold to slow things down, and chemicals to further modify things. Pressure can often have the same effect that temperature and chemicals have on a mixture, but the difference is that pressure moves at the speed of sound; it is almost instantaneously on. But then, just as quickly, it can be turned off. Pressure has wonderful, very controllable properties. Unfortunately, scientists really have not had easy access to using pressure safely, especially high pressure, until we came along."

Mr. Schumacher continued: "We are developing three commercial technology platforms based on our 26 patents. The first one is called Pressure Cycling Technology (PCT), the second is called BaroFold, and the third is called Ultra Shear Technology (UST). With PCT, we put the samples to be studied (like bacteria, viruses, cancer cells) in test tubes. We then place the tubes into a pressure chamber of one of our instruments. We need to determine the amount pressure we need to reach, how long it needs to be under that pressure, and

how many times we want to cycle the pressure - that is, turn the pressure on and off - in order to open up the pathogen/cancer cell to release the important proteins and nucleic acids contained within, to be studied. This type of elegant control can't be done nearly as well with heat processing - with heat, you basically get what you get when heating is done. Interestingly, every biological substance in nature has its own unique pressure point, and once you determine that pressure point, you can process that substance (pathogen, cell, enzyme, etc.) right up to the point where it will give you the best results, each and every time. Again, this is very hard to do with temperature and chemicals."

Mr. Schumacher continued: "To your point about Leica, it is a well-respected, one-hundred-year-old microscope company. We recently announced a co-marketing agreement with them. They have a new, very innovative laser microscope where they can actually look at a pathology sample, a biopsy, and hone in on a very distinct part of that biopsy tissue, which they then cut out. What we do is we offer them our PCT processing machine, so that when they cut out the specific piece of tissue with the laser it drops into one of our consumable test tubes, where it subsequently gets moved right into our pressure generating chamber. Pressure then causes the piece of tissue from the biopsy to be meticulously homogenized, or broken up, resulting in the release of all the important proteins and nucleic acids from the sample. When these molecules are released, they move into a third instrument downstream from the PBI pressure instrument called a mass spectrometer, which then analyzes the Leica cut-out, PCT-processed material. For example, it can look for markers that are related to the detection of cancer, or to the progression or non-progression of cancer. In essence, our PCT instrument is in the middle between an amazing laser microscope from Leica and a mass spectrometer. PCT takes what is cut out of the tissue biopsy by the laser microscope, processes it using our patented consumables and instruments, and then sends it to the analytical mass spectrometer. Using this novel system, scientists are able to learn a lot more about cancer and the cancer samples that they are studying."

Mr. Jolly: "If my memory serves me right, PBI purchased the assets of BaroFold Corporation several years ago. It seems the technology that you acquired is starting to get some momentum. What can you tell us about that?"

Mr. Schumacher replied: "This second technology - BaroFold - is protected with eight issued patents. We purchased the BaroFold assets about three years ago, and we started offering services related to this revolutionary platform technology about a year and a half ago., Interestingly, we are currently marketing this specialty testing service by word-of-mouth, yet we are having a hard time keeping up with demand! We now have four different biopharma companies using this service; two of them are multibillion dollar international biopharmaceutical companies, and two of them are startups. They both came to us through word of mouth; can't wait until we start to market this unique service in earnest. So, what is it that this service does for biopharma companies? When you think about drugs and therapeutics 20, 30, even 100 years ago, they were all made of chemicals. Nowadays, about 22% of all therapeutics around the world, about 400 different therapeutics, are made of proteins. Protein-based drugs have many clear advantages over chemical-based drugs, especially in specificity and efficacy. For example, let's look at monoclonal antibodies. These proteins are made in the pharmaceutical company's manufacturing facility in huge vats. Unfortunately, many things can go wrong in the manufacturing process. I have read that as many as 500 different issues could occur. Two of the biggest potential issues are that the proteins could clump together (aggregate), which could make the material not available for

sale, or the protein's structure might be incorrect (called misfolded), which could also make the material not usable for sale. You see, every protein has an exact structure, and this structure determines the protein's function. If the lab-made protein's structure is incorrect (misfolded), then it will most likely be ineffective as a therapeutic. Worse yet, it might do harm to the patient. So, the aggregation or misfolding that sometimes occurs during the manufacture of protein-based drugs needs to be fixed, in order to use the material. Pressure has been shown to have the innate ability to sometimes fix these two big issues. If the proteins are clumped together, pressure can be used to disaggregate them. If the protein is not in the exact, correct structure as designed by Mother Nature, pressure has been shown to unfold then refold the protein into the correct configuration."

Mr. Schumacher continued: "Imagine you're a biopharmaceutical company developing a drug for indications like arthritis, cancer, or heart disease and following the manufacturing step, there are aggregation or misfolding issues. You could have millions of dollars tied up in the product, so you need to find a way to save it from being lost. What PBI is offering is the opportunity to bring our patented BaroFold technology platform into the equation. Under certain conditions using BaroFold processes that are supported by our patents, we can apply pressure on the aggregated/misfolded protein drug being manufactured and fix that problem. Imagine our BaroFold platform getting incorporated into a company's manufacturing process and the resulting drug makes it to the market...but it relies on our process to remain on the market. User/license fees could be very, very exciting. Now imagine that compound becoming a billion-dollar drug...even more exciting!"

Mr. Jolly: "Pressure BioSciences has been in the news a lot recently about the food industry consortium for which you are collaborating with Ohio State University. What is this program going to do for you moving forward?"

Mr. Schumacher explained: "It is so exciting. This focuses on our third technology platform, called Ultra Shear Technology, or UST. Thus far we have one U.S. patent and two Chinese patents issued, and we think more will be awarded soon. In order to talk about UST, I should talk first about a process called high pressure processing, or HPP. This process was developed about 20 years ago for the food industry. Again, pressure can do many things, such as kill or significantly reduce the level of food-borne pathogens. Around the year 2,000, the US Army contracted with Dr. M. Bala of Ohio State University and Dr. E. Ting, who at the time was with a company called Flow Industries in Seattle, Washington. They wanted to determine if pressure alone could help reduce the pathogens in food, to not only make it safer but to increase room temperature stability at the same time - *without the use of chemicals*. They were highly successful: currently, HPP is used routinely with some juices, shellfish, meats, guacamole, and other foods; in just 20 years, it has become a \$15 billion market worldwide."

Mr. Schumacher continued: "Why am I talking about high pressure processing? Because there are some foods, in fact a lot of foods, that will not react to high pressure alone. Our patented Ultra Shear Technology combines high pressure, which we are experts in, with very intense shearing forces, to create an alternative high pressure processing method that has several very critical advantages over HPP alone. We have filed many patents worldwide; one patent has already been issued in the US and two in China. We believe we can bring UST into the food and beverage industry. We teamed up with Dr. Bala Of Ohio State, the same Dr. Bala from 20 years ago, the global expert in the food industry. The other

HPP pioneer - Dr. Edmund Ting - is now PBI's Senior Director of Engineering. Ed has now been with us for a number of years. So, with the support of this high-pressure team, we just announced the formation of a food industry consortium, led by our partner, The Ohio State University. The Consortium is open to all food companies worldwide. Members will pay a fee; this will give them first look rights to all UST upgrades and applications. We will be setting up three UST prototype systems in the world-renown test facility at the College of Food, Agriculture, and Environmental Sciences at Ohio State. Consortium members will be able to use the equipment before it is commercialized, and to license it prior to non-Consortium members worldwide. One of the first objectives of the Ohio State-PBI collaboration, and of the Consortium, is to increase the stability of dairy products (like milk) by using pressure instead of heat, while retaining nutrition, taste, and significantly increasing room temperature shelf-life. Another goal is to reduce or even eliminate unwanted chemicals, thus making juices and other beverages 'clean label'."

Mr. Schumacher shared: "We are very excited about the planned commercial release of UST before the end of 2021. because we feel Ultra Shear Technology has an amazing upside in the food and beverage industry. There is also major potential for UST in the pharmaceutical, nutraceutical, cosmetics, and agriculture industry. However, right now we are focused on the implementation of UST in food and beverage, which is the primary purpose of the food industry consortium. Just imagine if a little food company or a multi-billion-dollar national food company, licenses UST for their juice, milk, mayonnaise, salad dressing, or other products. License fees will come to us and to Ohio State. Very exciting times ahead."

Mr. Jolly asked: "Why should listeners and shareholders take a look at your stock now? And what should they take away from today's interview?"

Mr. Schumacher closed: "What I would like them to take away from this discussion is that we are very aware that it's been a long time coming, we know how patient our investors have been, and we thank them greatly. It's quite clear that we have been critically undercapitalized for years, which has significantly slowed our growth. But we are now picking up speed, we have momentum, and we're getting there. All three of our technology platforms are in or will soon be in prime time. We're very excited; we think the rest of 2021 is going to be terrific for PBI and we're really looking forward to 2022, because we believe that by then, a number of companies will be using and licensing all three of our innovative, patented, pressure-based technologies."

To hear Richard T. Schumacher's entire interview, follow the link to the podcast here: <https://audioboom.com/posts/7822700-pressure-biosciences-discusses-partnerships-with-leica-microsystems-cancer-diagnostics-and-ohio>.

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### **About Pressure BioSciences, Inc.**

Pressure BioSciences, Inc. (OTCQB: PBIO) is a leader in the development and sale of innovative, broadly enabling, pressure-based solutions for the worldwide life sciences and other industries. Our products are based on the unique properties of both constant (i.e., static) and alternating (i.e., pressure cycling technology, or PCT) hydrostatic pressure. PCT is a patented enabling technology platform that uses alternating cycles of hydrostatic

pressure between ambient and ultra-high levels to control bio-molecular interactions safely and reproducibly (e.g., cell lysis, biomolecule extraction). Our primary focus is the development of PCT-based products for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, soil & plant biology, forensics, and counter-bioterror applications. Additionally, major new market opportunities have emerged in the use of our pressure-based technologies in the following areas: (1) the use of our recently acquired, patented technology from BaroFold, Inc. (the "BaroFold" technology) to allow entry into the bio-pharma contract services sector, and (2) the use of our recently-patented, scalable, high-efficiency, pressure-based Ultra Shear Technology ("UST") platform to (i) create stable nanoemulsions of otherwise immiscible fluids (e.g., oils and water) and to (ii) prepare higher quality, homogenized, extended shelf-life or room temperature stable low-acid liquid foods that cannot be effectively preserved using existing non-thermal technologies.

### **Forward-Looking Statements**

This press release contains forward-looking statements. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance or achievements expressed, implied, or inferred by these forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "would," "expects," "plans," "intends," "anticipates," "believes," estimates," "predicts," "projects," "potential" or "continue" or the negative of such terms and other comparable terminology. These statements are only predictions based on our current expectations and projections about future events. You should not place undue reliance on these statements. In evaluating these statements, you should specifically consider various factors. Actual events or results may differ materially. These and other factors may cause our actual results to differ materially from any forward-looking statement. These risks, uncertainties, and other factors include, but are not limited to, the risks and uncertainties discussed under the heading "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, and other reports filed by the Company from time to time with the SEC. The Company undertakes no obligation to update any of the information included in this release, except as otherwise required by law. For more information about PBI and this press release, please click on the following website link: <http://www.pressurebiosciences.com>.

Please visit us on Facebook, LinkedIn, and Twitter.

### **Contacts:**

Richard T. Schumacher  
President & CEO, PBI  
508) 230-1828 (T)

Jeffrey N. Peterson  
Chairman, PBI  
(650) 812-8121 (T)

## **About The "Stock Day" Podcast**

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Stock Day Media  
(602) 821-1102

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