Sixth Wave's Polymer Imprint Detects SARS-CoV-2 During Initial Testing

written by Raj Shah | March 9, 2021

March 9, 2021 (Source) – **Sixth Wave Innovations Inc. (CSE: SIXW) (OTCQB: ATURF) (FSE: AHUH) ("Sixth Wave", "SIXW" or the "Company")** is pleased to announce preliminary results evidencing the binding and detection capabilities of its Accelerated Molecular Imprinted Polymers ("**AMIPs™**") technology for the rapid detection of SARS-CoV-2, the virus that causes COVID-19 (the "**Virus**").

As previously reported, SIXW recently produced a first-generation molecular imprint of the Virus (the "**Imprint**"), thereafter commencing a series of validation tests to quantify the effectiveness of the imprinting process (the "**Validation Testing**"). The initial steps of Validation Testing are to characterize the virus template, the polymer as well as the imprints of the COVID-19 virus in the AMIPs™.

Using this feedback, and adjusting for parameters impacting the accuracy and speed of detection, successive iterations of the Imprint will continue to be derived. The goal of this process is to generate a precise master imprint, capable of identifying the Virus with exceptional accuracy (the "**Definitive Imprint**"). The successful proof-of-concept allows for testing of different parameters and features for product development and prototyping.

Ultimately, the goal will be to have an AMIP™ capable of being deployed in a wide range of applications, including smart-clothing and PPE applications, airborne sensors, breathalyzers, ELISA-based technologies, cartridge/lateral flow designs, and

others. For more information on AMIPs, the Imprint, Validation Testing, patent applications, and the Company's planned path to production, please see SIXW Press Release dated February 9, 2021.

Announcement of Successful Detection of the Virus

The first stage of the now in-progress Validation Testing program comprises analyses to confirm that the Imprint is capable of effectively binding to the target Virus and being detected by a sensor system. To accomplish this, SIXW used a variety of analytical tools typical of validating and quantifying binding and detection of viruses, including Atomic Force Microscopy **("AFM")** and Quartz Crystal Microbalance **("QCM").** The Company continues to benefit from its engagement with the University of Alberta ("**UofA**") researchers and utilizing UofA's advanced laboratory and associated assessment tools.

Sixth Wave is pleased to report that initial detection has now been successfully achieved via AFM / QCM analysis which has provided positive results indicating that the virus is attracted to the AMIPs™ polymer at detectable levels.

"This is a considerable step forward on the path to product validation," said Dr. Jon Gluckman, President and CEO of Sixth Wave. "As we have already demonstrated the ability to produce an Imprint on reasonably short turnaround, this most recent testing establishes that the polymer works – it captures the virus at detectable levels. We're now proceeding to create additional fully functional sensors using Quartz Crystal Microbalances (QCM) to determine the sensitivity, selectivity, capture rates, and speed of detection. These data points will help guide future iterations of the AMIPs™ polymer to meet the performance criteria required by regulatory agencies (such as Health Canada and the

FDA) and to produce innovative and affordable product to address the unmet needs of the market for rapid test products."

"We've created dozens of AMIPs™ prototype sensors to develop our proof-of-concept. Each sensor has led to new insight into the refinement of methods and protocols to continuously advance our sensors." said Dr. Garrett Kraft, Sixth Wave's Senior Scientist for AMIPs development. "Capturing the COVID-19 virus is a major victory in our development path and provides a solid indicator that we are on the right path to bringing the AMIPs™ technology to market."

The Company is not making any express or implied claims that its product has the ability to eliminate, cure, contain, or detect, at a commercial level, COVID-19 (or SARS-2 coronavirus) at this time.

Background & Next Steps

Preliminary results using AFM and QCM at the UofA facility give evidence to the binding of the Virus into the associated imprinted cavities of the polymer. Pre- and post-exposure changes in frequency response of the QCM empirically demonstrate the ability of AMIPs™ to detect the Virus.

Now that initial Imprint and binding analyses have been completed, the Company will pursue remaining Validation Testing in order to optimize the existing AMIPs™ configuration, with a view to establishing the Definitive Imprint. Forthcoming test work, utilizing AFM/QCM and possibly other techniques, will include optimization of the Imprint for sensitivity, selectivity, capture rates and speed of detection. As part of the optimization process, the Company intends to perform additional testing to validate the ability of the AMIPs™ to capture and detect the mutations and variants of the Virus.

Test work at the UofA laboratories is progressing under the direction of Sixth Wave Senior Scientist Dr. Garrett Kraft, in cooperation with Dr. Michael J. Serpe (UofA Department of Chemistry) and Dr. Michael Joyce (UofA Department of Medical Microbiology), to achieve proof-of-concept for the AMIPs™ virus rapid detection platform. The relationship with UofA allows for access to the Virus and other pathogens, as well as access to a variety of advanced analytical equipment needed for this development.

As previously reported, SIXW has filed two patents regarding the AMIPs platform, and has established a collaborative research team including other world-renowned scientist and research centers.

For more information on the AMIPs™ and associated molecular imprinting technology, please visit: https://www.amips.com

About Sixth Wave

Sixth Wave is a nanotechnology company with patented technologies that focus on extraction and detection of target substances at the molecular level using highly specialized Molecularly Imprinted Polymers (MIPs). The Company is in the process of a commercial rollout of its Affinity™ cannabinoid purification system, as well as, IXOS®, a line of extraction polymers for the gold mining industry. The Company is in the development stages of a rapid diagnostic test for viruses under the Accelerated MIPs (AMIPs™) label.

Sixth Wave can design, develop and commercialize MIP solutions across a broad spectrum of industries. The company is focused on nanotechnology architectures that are highly relevant for the detection and separation of viruses, biogenic amines, and other pathogens, for which the Company has products at various stages of development.

For more information about Sixth Wave, please visit our web site at: www.sixthwave.com

ON BEHALF OF THE BOARD OF DIRECTORS

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Cautionary Notes

This press release includes certain statements that may be deemed "forward-looking statements" including statements regarding the planned use of proceeds and performance of the AMIPs™ technologies. All statements in this release, other than statements of historical facts, that address future events or developments that the Company expects, are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance, and actual events or developments may differ materially from those in forward-looking statements. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause the Company's actual performance and financial results in future periods to differ materially from any projections of future performance or results expressed or implied by such forward-looking statements. In particular, successful development and commercialization of the AMIPs™ technology are subject to the risk that the AMIPs™ technology may not prove to be successful in detecting virus targets effectively or at all, the uncertainty of medical product development, the uncertainty of timing or availability of required regulatory approvals, lack of track record of

developing products for medical applications and the need for additional capital to carry out product development activities. The value of any products ultimately developed could be negatively impacted if the patent is not granted. The Company has not yet completed the development of a prototype for the product that is subject of its patent application and has not yet applied for regulatory approval for the use of this product from any regulatory agency.