Bionano Genomics Announces Presentation of OGM Utility Across Key Applications at American Society of Human Genetics (ASHG) Annual Meeting

October 20, 2022

- *Dr. Alka Chaubey, chief medical officer at Bionano, and Dr. Nikhil Sahajpal, fellow at Greenwood Genetic Center, will host a sponsored vendor presentation on a large clinical study utilizing optical genome mapping (OGM) for analysis of postnatal genetic disorders and the complementary use of OGM and next generation sequencing (NGS) to solve undiagnosed cases*
- *A scientific presentation featuring Dr. Tuomo Mantere, University of Oulu, Dr. Laila El-Khattabi, Hôpitaux de Paris – Université de Paris, Dr. Rashmi Kanagal-Shamanna, MD Anderson Cancer Center, and Dr. Adam Smith, University Health Network will cover the use of OGM in molecular cytogenetic research, as well as the utilization and limitations of short- and long-read sequencing to detect SVs*
- *Twenty-two scientific poster presentations will illustrate the application of Bionano's OGM technology in research areas including schizophrenia, ataxia and neurodevelopmental disorders*
- *Bionano and Hamilton will share updated data from studies utilizing their collaborative solution, the Long String VANTAGE, which is the world's first automation solution for ultra high molecular weight (UHMW) DNA extraction used in OGM*
- *Before the conference, Bionano will host customers, key opinion leaders (KOLs), and VIPs from the genomics and cytogenetics communities for education and networking at a "Meet the User" event at the Bionano Laboratories facility*

SAN DIEGO, Oct. 20, 2022 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (Nasdaq: BNGO) today announced its participation in American Society of Human Genetics (ASHG) Annual Meeting 2022. For the first time, ASHG will feature a dedicated scientific session on genome mapping technologies, with researchers highlighting optical genome mapping (OGM) as a technique that has the potential to revolutionize molecular and cytogenetic research. A record twenty-four scientific and poster presentations will cover OGM's utility in genetic disease research and other research areas including schizophrenia, ataxia, constitutional and neurodevelopmental disorders.

ASHG's Annual Meeting brings together industry, medical, and academic professionals to discuss advances in clinical genomics and genetics research. ASHG conference sessions will take place October 25-29, 2022 in Los Angeles, California.

As part of a hosted CoLab session, Bionano's chief medical officer, Alka Chaubey, and Dr. Nikhil Sahajpal, a fellow at Greenwood Genetic Center, will host a discussion titled "Multi-site Clinical Study of Optical Genome Mapping and Comprehensive Genome Analysis of SNVs and SVs Utilizing a Single Software Solution." In the session, Dr. Sahajpal will share insights from a large, multi-site clinical study using OGM for analysis of postnatal genetic disorders, covering OGM's utility for detecting pathogenic SVs. He will also highlight the complementary use of NGS and OGM in helping to solve undiagnosed cases using software that analyzes OGM and NGS data at the same time. The presentation will take place Wednesday, October 26, from 10:00-10:30 AM PDT in the CoLab Theatre 3 room.

A scientific session that was created by conference organizers to highlight the genome mapping method will be moderated by Dr. Anwar Iqbal, University of Rochester Medical Center, and co-moderated by Dr. Sahajpal. Titled "Genome Mapping Technologies- Enabling Next-generation Cytogenetics," the session will feature Dr. Tuomo Mantere, University of Oulu, Dr. Laila El-Khattabi, Hôpitaux de Paris – Université de Paris, Dr. Rashmi Kanagal-Shamanna, MD Anderson Cancer Center, and Dr. Adam Smith, University Health Network, presenting on their experience using OGM in the field of molecular cytogenetics, as well as the utilization and limitations of short- and long-read sequencing to detect SVs. The session will take place Tuesday, October 25, from 4:30-6:00 PM PDT in the Petree D, West Building.

In addition, 22 posters featuring results from OGM applications in cytogenetic research will be presented at the conference. The full content of the posters will be made available on the Bionano Genomics website once presented at the conference.

Scientific presentations and poster sessions from Bionano and collaborators include:

Session	Title	Presenter	Presented
Invited Scientific Session	Genome Mapping Technologies- Enabling Next-generation Cytogenetics	Mantere T., El-Khattabi L., Kanagal-Shamanna R., Smith A.	October 25, 2022 4:30-6:30 PM PDT Petree D, West Building
Hosted CoLab Session	Multi-site Clinical Study of Optical Genome Mapping and Comprehensive Genome Analysis of SNVs and SVs Using a Single Software Solution	Chaubey A., Sahajpal N.	October 26, 2022 10-10:30 AM PDT CoLab Theatre 3

Poster	Title	Lead Author/Affiliation

Number		
	Wednesday, October 26 3:00-4:45 PM PDT	
PB1102	Filling gaps in whole genome analysis in hematology: A chance for optical mapping and long-read NGS	Savara J. Palacky University
PB1169	Next generation SP DNA sample prep and DLS labeling readies optical genome mapping workflows for adoption at scale	Sadowski H. Bionano Genomics
PB2245	A combination of exome sequencing and optical genome mapping unveils a dual molecular diagnosis in a case with an unknown neurodevelopmental disorder	Acharya A. Columbia University
PB2261	B-allele frequency-based approach to detecting absence of heterozygosity using optical genome mapping	Raksi A. Bionano Genomics
PB2270	Clinical utility of parental testing for the reclassification of likely pathogenic and uncertain copy number and sequence variants in a pediatric neurodevelopmental disorders cohort	Bilancia C. Bionano Laboratories
PB2334	Optical genome mapping identified a likely pathogenic *POLR3B* variant in an undiagnosed male with ataxia, hypotonia, and cerebellar atrophy	Ortega A. Bionano Laboratories
PB2336	Optical genome mapping improves clinical interpretation of constitutional copy number gains	Raca G. Children's Hospital, Los Angeles
PB2346	Statistical method for detection of uniparental disomy using SNP microarray or NGS technologies	Roytman M. Bionano Genomics
PB2356	Unmasking of a chromothripsis event using the integrated approach of chromosomal microarray analysis (CMA) and optical genome mapping (OGM)	Loddo S. Bambino Gesù Childrens' Hospital
PB2375	Atypical Prader-Willi and Angelman syndrome deletion: Importance of parent of origin detection	Al-Sweel N. Bionano Genomics
	Thursday, October 27 3:00-4:45 PM PDT	
PB1264	An unprecedented level of complexity in the schizophrenia-associated 3q29 region of the human genome with unique segments that increase the risk for non-allelic homologous recombination	Yilmaz F. The Jackson Laboratory for Genomic Medicine
PB1900	Leveraging orthogonal sequencing and optical mapping technologies for the precision diagnosis of neurodevelopmental disorders in a Middle Eastern family-based cohort	Siddig Z. Sidra Medicine
PB2094	Improving rare conditions diagnostic rates by standardizing practice and offering preclinical testing	Delot E. Children's National/George Washington University
PB2119	Recurrent constitutional chromosome 5 inversion	Doco-Fenz M. Service de génétique, REIMS, France
PB2248	A multiomics approach to resolving small supernumerary marker chromosomes	Grochowski C. Baylor College of Medicine
PB2252	A novel FAME1 repeat configuration in a European family identified using a combined genomics approach	Maroilley T. University of Calgary
PB2333	Optical genome mapping and whole genome sequencing in a case of multiple chromosomal rearrangements	Levy J. AP-HP Paris
PB2335	Optical genome mapping identifies double parental paracentric inversions as risk factor for atypical monocentric recombinant chromosomes in offspring	Kuentz P. CHU Besancon
PB2778	*De novo* assembled and phased human genomes from Persian Arab trios show divergent and novel sequence versus CHM13 and GRCh38, providing valuable population specific reference genomes for Middle Eastern region	Ghorbani M. Weill-Cornell Medicine
PB2932	Cell manufacturing genome integrity analysis by optical genome mapping	Pang A. Bionano Genomics
PB3154	Structural and copy number variant detection, filtering, annotation, and classification by optical genome mapping in constitutional disorders	Clifford B. Bionano Genomics
	Friday, October 28 10:30-12:00 PM PDT	
PB414	The use of optical genome mapping in genetically unsolved neurodevelopmental disorders	Schrauwen I. Columbia University

"We are thrilled to see the scientific and research committees of the ASHG conference recognize the significance of genome mapping techniques, such as OGM, being utilized for the assessment of structural variations. Additionally, we are pleased to see 14 scientific poster presentations from leading research institutions across the globe, demonstrating OGM's potential for cutting-edge research in the human genetics space," commented Erik Holmlin, president and chief executive officer of Bionano. "Bionano will also share new data from our collaboration with Hamilton and the Long String VANTAGE automation system. The data shows this workflow may significantly reduce time-to-results, reduce hands-on-time and improve OGM performance by standardizing the process of UHMW DNA isolation, and we look forward to demonstrations at the conference."

More details on the conference can be found here.

About Bionano Genomics

Bionano Genomics is a provider of genome analysis solutions that can enable researchers and clinicians to reveal answers to challenging questions in biology and medicine. The Company's mission is to transform the way the world sees the genome through OGM solutions, diagnostic services and

software. The Company offers OGM solutions for applications across basic, translational and clinical research. Through its Lineagen, Inc. d/b/a Bionano Laboratories business, the Company also provides diagnostic testing for patients with clinical presentations consistent with autism spectrum disorder and other neurodevelopmental disabilities. Through its BioDiscovery business, the Company also offers an industry-leading, platform-agnostic software solution, which integrates next-generation sequencing and microarray data designed to provide analysis, visualization, interpretation and reporting of copy number variants, single-nucleotide variants and absence of heterozygosity across the genome in one consolidated view. For more information, visit www.bionanogenomics.com, www.bionanolaboratories.com or www.biodiscovery.com

Forward-Looking Statements of Bionano Genomics

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "potential," "will," and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, the ability and utility of OGM to complement next generation sequencing (NGS), OGM's utility in the research of structural variants in genetic diseases and other research areas including schizophrenia, ataxia, and constitutional and neurodevelopmental disorders, and the ability of the Long String VANTAGE system to reliably and consistently isolate high quality and sufficient quantity of UHMW DNA for use with OGM . Each of these forward-looking statements involves risks and uncertainties. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: the impact of the COVID-19 pandemic on our business and the global economy; general market conditions; changes in the competitive landscape and the introduction of competitive technologies or improvements to existing technologies; failure OGM to achieve useful complementarity with NGS; failure of OGM to be adopted for the research of structural variants in genetic diseases and other research areas including schizophrenia, ataxia, and constitutional and neurodevelopmental disorders; the ability of our OGM solutions to offer the anticipated benefits for and contributions to the areas of research reported in the presentations given and posters made available at the ASHG Annual Meeting 2022; future study results contradicting the results reported in the presentations given and posters made available at the ASHG Annual Meeting 2022; the ability of the Long String VANTAGE system to reliably and consistently isolate high quality and sufficient quantity of UHMW DNA for use with OGM; changes in our strategic and commercial plans; our ability to obtain sufficient financing to fund our strategic plans and commercialization efforts; the ability of medical and research institutions to obtain funding to support adoption or continued use of our technologies; and the risks and uncertainties associated with our business and financial condition in general, including the risks and uncertainties described in our filings with the Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2021 and in other filings subsequently made by us with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made and are based on management's assumptions and estimates as of such date. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of the receipt of new information, the occurrence of future events or otherwise.

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