Bionano's Symposium 2023 Featured Record Numbers of Presentations Demonstrating Applications of OGM Across Cell Bioprocessing and Constitutional Genetic Disease and Cancer Research

February 2, 2023

- *Over 3,000 registrants with attendees from 114 countries*
- *Average daily attendance of 750 in 2023 versus 565 in 2022*
- *31 oral presentations delivered across four consecutive days*
- *69 scientific posters featuring optical genome mapping (OGM) on view in the online exhibit hall*
- *On-demand presentations from Symposium available for remainder of 2023*

SAN DIEGO, Feb. 02, 2023 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (BNGO) today announced the conclusion of Bionano's 2023 Symposium, which was held January 23-26, 2023 and featured a record 31 oral presentations and 69 scientific posters from genomic scientists at leading institutions, including Brigham and Women's Hospital, The University of Texas MD Anderson Cancer Center, Columbia University Medical Center and Genentech. Symposium, Bionano's premier scientific event showcasing optical genome mapping (OGM), had over 3,000 registrants from 114 countries and averaged 750 attendees per day, an increase in daily attendance of over 32% compared to 2022. During this four-day online event, presenters reported on their use of OGM for applications in genetic disease, cancer and cell bioprocessing.

"We were impressed by the engagement at our 2023 Symposium and are excited by the accomplishments of the genomic scientists from around the world who presented their data," commented Alka Chaubey, PhD, FACMG, chief medical officer at Bionano. "OGM's ability to identify pathogenic variants was highlighted in several presentations and posters, including a poster from day one, covering a research study that resulted in a patient receiving targeted therapy as part of a clinical trial after OGM successfully detected a relevant fusion missed by conventional cytogenetic methods. Presenters showcased OGM's potential to outperform legacy techniques, resolve decades-long questions in pathogenicity of genetic disease, and complement multiple sequencing-based methods."

Research shared over the four-day online event expanded on several applications of OGM:

OGM can consolidate traditional cytogenetics techniques into a single assay for genetic disease and cancer research applications.

OGM was highlighted by researchers as a high-performance, one-stop platform, potentially eliminating the need for multiple sequential testing.

- **Accurate and higher resolution:** Experts from multiple institutions demonstrated concordance of OGM with standard of care techniques and OGM's ability to identify structural variants (SVs) relevant for sample stratification and disease management. (Day 3)
- **Cost-effective, scalable and fast turnaround times:** Researchers, including Dr. Ravindra Kolhe from the Medical College of Georgia at Augusta University, showed how OGM can provide laboratories with improved turnaround times and more cost-efficient processing of specimens in a more scalable approach than standard of care workflows. (Day 2)
- **Simple and easy to implement workflow:** For oncology studies where karyotyping (KT) and fluorescence in situ hybridization (FISH) are the current standard of care, presenters demonstrated that OGM can offer a simpler workflow than traditional techniques. Presenters noted OGM's low operationalization risk, minimal training barriers, and quick positive impact on their lab. (Days 1 and 2)

OGM can provide answers in many clinical research areas where structural variants have been overlooked or understudied as contributors to genetic diseases and cancer.

Presenters shared examples of OGM significantly increasing the resolution of chromosomal aberrations, better characterizing samples, and even correcting erroneous results when compared to traditional methods or next-generation sequencing (NGS).

- **OGM can identify clinically relevant SVs missed by traditional methods:** Dr. Victoria Marcu, from Sheba Medical Center, Israel, presented data on OGM analytical evaluation across 38 heme samples. Aside from high concordance with classical cytogenetic methods, OGM produced additional relevant findings in 52% of all analyzed samples. (Day 1)
- **High performance and utility make OGM a potential key assay for heme malignancy research:** Dr. Adrian M. Dubuc, from Brigham and Women's Hospital and Harvard Medical School, presented data demonstrating OGM's ability to generate results and characterize samples from disease indications including myeloma and T-Cell lymphoma that are known to be challenging for KT due to low disease presence, poor cell growth in vitro, and other factors. (Day 1)
- **OGM can characterize and stratify Homologous Recombination Deficiency (HRD) in breast tumor samples:** In a research study on triple negative breast cancer (TNBC) presented by Dr. Sandra Vanhuele from Institut Curie, OGM was able to detect translocations that were missed by whole genome sequencing (WGS) and also identified SVs in low tumor

content samples undetected by WGS. (Day 2)

OGM in combination with NGS can provide a comprehensive, cost effective, scalable and accurate genome analysis.

Presenters demonstrated that integrating NGS and OGM can enable analysis of the full spectrum of variants, unveil new pathogenic variants, and lead to detection of compound events.

- **Combination of OGM and NGS can improve upon and potentially replace traditional workflows:** Dr. Kolhe shared a novel workflow for assessing hematological malignancy samples that replaces a targeted NGS panel, karyotyping and FISH, with OGM and a comprehensive NGS gene panel. In this study, the new workflow lead to an increase in pathogenic findings, while also enabling faster turnaround time, higher resolution, better characterization of samples, and cost-efficiencies, as compared to the traditional workflow. (Day 2)
- **Ability to maximize findings and overcome challenges in the field:** The use of OGM in combination with NGS technologies was also discussed as a way to uncover hidden insights, specifically when analyzing *de novo* SVs in trio analysis, and also in providing insights helpful in the investigation of unresolved samples. (Day 3)
- **VIA™ software allows for improved visualization in single platform:** Dr. Kolhe also demonstrated that analyzing OGM and single nucleotide variant (SNV) data in VIA software, which integrates NGS and OGM data, enables the "true visualization and confirmation" of compound events, enabling the detection and mapping of small variants, copy number changes, and SVs in a single visualization platform, and also facilitates the analysis of samples in which different types of variants are affecting the same gene or genomic regions. (Day 2)

OGM has additional potential applications, including cell bioprocessing QC, in academic and commercial laboratory settings.

OGM was presented as a new, and potentially more useful solution compared to traditional methods for proper quality control in cell and gene therapy.

- **OGM can outperform traditional cytogenetic methods to more easily screen cell lines for genomic instability and off-target events:** Presenters from Genentech, Synthego and Sanford Burnham Prebys Institute shared how OGM can be used to assess the targeted integration of foreign DNA in gene therapy, enhance quality control in pluripotent stem cells, and evaluate the integrity of laboratory cell lines. (Day 4)
- **High resolution and sensitivity:** The sensitivity of OGM, including the ability to identify genetic variants at a single cell level previously undetected by traditional methods, can provide an advantage over competitive techniques in quality control of pluripotent stem cells and evaluation of the integrity of laboratory cell lines. (Day 4)

"The scientific quality, global representation, and engagement of researchers at this event was impressive," commented Erik Holmlin, PhD, president and chief executive officer at Bionano. "I would encourage anyone who was unable to attend live to login, view these presentations and see how we are working to change the way the world sees the genome through OGM."

Poster winners:

Award	Title	Author	Institution
Grand prize winner	Optical Genome Mapping: A Potential Tier 1 Test for Prenatal Diagnostic Testing	Dr. Nikhil Sahajpal	Greenwood Genetic Center
Day 1: Hematological Malignancies	Complex Translocation Involving PDGFRA: PRKG2 in MPN with Basophilia: Case Report	Shruthi NR	HCG Oncology
Day 2: Solid Tumors	OGM for Detecting HRD in Human Breast Cancers	Sandra Vanhuele	Institut Curie
Day 3: Constitutional Genetic Disease	Optical Genome Mapping: A Potential Tier 1 Test for Prenatal Diagnostic Testing	Dr. Nikhil Sahajpal	Greenwood Genetic Center

On-demand presentations are available here with free registration.

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

Bionano's products are for research use only. Not for use in diagnostic procedures.

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 "believe," "can," "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, OGM's utility for research in areas including genetic diseases and cancers, OGM's utility in cell bioprocessing QC, the growth and adoption of OGM, the ability of OGM to complement NGS or other genomic analysis tools, and the ability of OGM to replace traditional cytogenetic analysis tools and methods . 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 geopolitical and macroeconomic developments, such as the ongoing Ukraine-Russian conflict, and related sanctions, and the COVID-19 pandemic, on our business and the global economy; the failure of OGM's to provide utility for research in areas including genetic diseases and cancers; the failure of OGM to provide utility in cell bioprocessing QC; the failure of OGM to achieve meaningful growth and adoption; the failure of OGM to complement NGS or other genomic analysis tools; the failure of OGM to replace traditional cytogenetic analysis tools and methods; the failure of our OGM solutions to offer the anticipated benefits for and contributions to the areas reported in the presentations given and the posters made available at our 2023 Symposium; future study results contradicting the results reported in the presentations given and the posters made available at our 2023 Symposium; general market conditions; changes in the competitive landscape and the introduction of competitive technologies or improvements to existing technologies; 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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