Bionano Genomics Hosts Day 1 of 2022 Symposium with Six Presentations Highlighting the Superior Performance of OGM in Variant Detection for Constitutional Genetic Diseases

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SAN DIEGO, Jan. 10, 2022 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (BNGO), pioneer of optical genome mapping (OGM) solutions on the Saphyr® system and provider of N_XClinical™, the leading software solutions for visualization, interpretation and reporting of genomic data, hosted today the first of four days of 2022 Symposium, the Company's premiere event showcasing OGM research applications across key clinical areas of constitutional genetic disease, hematologic malignancies, solid tumors and OGM combined with next-generation sequencing (NGS).

Six presentations from leading researchers across North America and Europe kicked off Symposium. Today's event featured six informative speakers from leading researchers across North America and Europe. These presentations covered a wide range of constitutional genetic diseases in pre- and postnatal genetics and offered insight into potential applications in infertility and reproductive medicine. The presenters supported OGM as an effective alternative to traditional workflows such as karyotype, fluorescent in situ hybridization (FISH), chromosomal microarray (CMA) and Southern blot. Research presentations have demonstrated greater sensitivity, better resolution and faster results from OGM workflows compared to traditional methods.

Performance of OGM evaluated in pre- and postnatal samples. Both Dr. Iqbal from Augusta University and Dr. Shirley Heggarty compared the performance of OGM in the evaluation of pre- and postnatal samples with known chromosomal aberrations. These studies found a high concordance of OGM results compared to traditional methods. In addition, OGM was able to identify both unbalanced structural chromosome abnormalities and balanced structural variants (SVs), like translocations and inversions, that chromosomal microarray (CMA) could not.

Capabilities of OGM to measure repeat expansions were evaluated. Dr. Alexander Hoischen specifically explored the capabilities of OGM to map repeat expansions, which can be particularly challenging types of SVs, in subjects with Canvas syndrome and myotonic dystrophy types 1 and 2. The OGM workflow was able to immediately call very large insertions with greater precision than the standard cytogenetic techniques and with 100% concordance. OGM was shown to allow researchers the ability to see more of the genome, while being less time-consuming and labor-intensive than other molecular methodologies like Southern blotting, as Dr. Nikhil Sahajpal discovered. Results from his validation study were 100% concordant with traditional methods and demonstrated a streamlined laboratory workflow for different sample types.

The role of OGM as a discovery tool in reproductive disorders including infertility. In addition to pre- and postnatal applications, two speakers, Dr. Laila El-Khattabi and Chaim Jalas, shared how the OGM workflow plays a significant role in their research in infertility and reproductive disorders. In her study, Dr. El-Khattabi used OGM to characterize apparently balanced SVs related to male infertility and identify new genes involved in reproductive disorders. Chaim Jalas shared how OGM used in preimplantation genetic diagnosis can identify structural rearrangements, including balanced translocations and inversions, in embryos prior to transfer, which they indicated could improve pregnancy and delivery rates in an IVF setting.

Among 37 posters appearing in the virtual exhibition hall the top poster per application area selected to compete for best poster of Symposium. In addition to the oral presentations, 37 posters were received and selected for presentation in the virtual exhibition hall. These posters, in the virtual exhibition hall, were voted on by attendees of Symposium and a winner was named in each of four key application areas based on total number of votes. Below are the four poster winners:

- Constitutional cytogenomics: Dr. Catherine A. Brownstein, Boston Children's Hospital
- Hematologic malignancies: Dr. Jonathan L. Lühmann, Hannover Medical School
- Solid tumors: Dr. Miriam Bornhorst, Children's National Hospital
- OGM + NGS: Dr. Nikhil Sahajpal, Augusta University

"Sincere congratulations to our poster winners and thanks to all poster authors for sharing emerging research on OGM from their laboratories," remarked Alka Chaubey, PhD, FACMG, chief medical officer of Bionano. "This event is made possible with the enthusiastic participation of the OGM community."

"We are thrilled at this strong kick-off to the 2022 Symposium and we are excited about the data shared today by experts from around the world that continues to demonstrate the utility of OGM workflows in variant detection for constitutional genetic diseases," commented Erik Holmlin, PhD, president and chief executive officer of Bionano. "Congratulations to the poster winners. We are impressed by all the discoveries our customers are making with OGM towards the goal of elevating human health."

Don't miss Symposium, register now! Symposium registration is open to all and there is no charge for attending this event. Register today at https://www.labroots.com/ms/virtual-event/bngo2022

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 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.lineagen.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," "will," "expect," "plan," "anticipate," "estimate," "intend" 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 for additional data to support the strength of OGM workflows as compared to traditional workflows, the ability and utility of OGM to analyze genomes and reveal answers in genetic disease and cancer research in less time-consuming and less-labor intensive manners than traditional workflows, and the potential for OGM to become part of the standard of care. 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, including the introduction of competitive technologies or improvements in existing technologies; failure of future study results to support those demonstrated during the presentations referenced in this press release; 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 OGM or 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, 2020 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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