



## NanoString Showcases Groundbreaking Body of Research at the 2018 Annual Meeting of the American Association for Cancer Research

April 12, 2018

### More than 50 abstracts highlight the diverse capabilities of NanoString's technology from gene expression profiling to Digital Spatial Profiling

SEATTLE, April 12, 2018 (GLOBE NEWSWIRE) -- NanoString Technologies, Inc. (NASDAQ:NSTG), a provider of life science tools for translational research and molecular diagnostic products, today announced a record number of abstracts that will be presented at the American Association of Cancer Research (AACR) conference to be held April 14-18, 2018, in Chicago, Illinois.

"We're proud of the extent to which our technologies are being showcased at AACR this year, and we are excited about the opportunities for growth as we extend our leadership in biomarker development and precision oncology," said Brad Gray, president and CEO of NanoString.

More than 50 abstracts using NanoString's technologies will be presented at AACR, including applications such as gene expression profiling in cancer and immuno-therapy using NanoString Panel products such as the PanCancer line and IO 360, high throughput cell line screening with PlexSet™ reagents and highly multiplexed protein quantification using Digital Spatial Profiling.

In addition, NanoString will be hosting a seminar entitled, "Powering Precision Oncology Research: Developing Gene Expression Signatures and High-Plex Digital Spatial Profiling," on Monday April 16th from 10:00am-11:00am CT in Hall A of McCormick Place South.

Speakers will include:

David Rimm, MD, Ph.D., Yale University School of Medicine

Karen Leroy, MD, Ph.D., Université Paris Descartes

Joseph Beechem Ph.D., NanoString Technologies

Below are a subset of abstracts that best illustrate the unique capabilities of NanoString's technology platform. A complete list of 51 NanoString-enabled abstracts follows.

#### Digital Spatial Profiling

Title: Highly multiplexed analysis of immune cell subsets in non-small cell lung cancer: validation of protein and RNA analysis by the NanoString DSP platform

Date/Time: Monday, April 16 2018, 1pm-5:00pm CT

Author: James Zai, Genentech

Poster #/Location: 2089/Poster Section 4, Board 4

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/1925>

*Digital Spatial Profiling (DSP) shows high section to section reproducibility and correlation with flow cytometry and immunohistochemistry.*

Title: Digital spatial profiling platform allows for spatially-resolved, high-plex quantification of mRNA distribution and abundance on FFPE and fresh frozen tissue sections

Date/Time: Tuesday, April 17 2018, 8am-12:00pm CT

Author: Daniel Zollinger, NanoString

Poster #/Location: 3434/Section 18, Board 16

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/7119>

*Digital Spatial Profiling can be used to obtain high-plex, spatial mRNA expression data (10's to 100's of genes) and protein expression data on FFPE and fresh frozen tissue sections.*

Title: High-plex immune marker spatial profiling quantitation by NanoString® Digital Spatial Profiling technology and quantitative immunofluorescence

Date/Time: Tuesday, April 17, 2018, 8am-12:00pm CT

Author: Maria I. Toki, Yale University Medical Center

Poster #/Location: 3621/Section 25, Board 29

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/2962>

*Digital Spatial Profiling shows promise in a pilot study of 30 spatially resolved protein immune markers for prognostic significance in a EGFR TKI treated NSCLC cohort as well as an ITx treated Melanoma cohort, and high concordance with AQUA. A Quantitative Immunofluorescence Assay (AQUA™) is a method for quantifying proteins through immunofluorescence.*

Title: Validation of Digital Spatial Profiling of Key Immuno-Oncology Targets for Mouse FFPE Preclinical Models

Date/Time: Tuesday, April 17, 8:00am-12:00pm CT

Author: Sarah Warren, Ph.D., NanoString

Poster #/Location: 3858/Section 36, Board 1

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/3493>

*Digital Spatial Profiling allows for the multiplexing of 10s to 100s of proteins, and NanoString has validated an antibody panel designed to characterize key tumor and immunology markers for FFPE samples from mouse preclinical models.*

#### PlexSet Abstracts

Title: Digital Gene Expression of up to 96 Targets in 96 Samples for Cell Line Screening with nCounter® PlexSet

Date/Time: Monday, April 16 2018, 1pm-5:00pm CT

Author: Giang T. Ong, NanoString

Poster #/Location: 2342/Section 16, Board 3

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/7033>

*NanoString demonstrates that the nCounter Analysis System can detect gene expression in 96 genes for 96 samples in parallel from cell lysate using the lyse-and-go protocol and PlexSet panel. The data correlates well with purified total RNA and is an efficient solution for cell line screening studies.*

Title: Cross-Comparison of Targeted Gene Expression Technologies for Patient Stratification

Date/Time: Tuesday, April 17 2018, 8:00am-12:00pm CT

Author: R. Venkatramanan et al, Covance

Poster #/Location: 3418/Section 16, Board 3

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/7089>

*A comparison of PlexSet technology with various qPCR technologies on 96 colorectal FFPE samples. PlexSet, showed high correlation with RNA seq and robust reproducibility.*

#### Gene Expression Profiling

Title: The tumor inflammation signature is predictive of anti-PD1 treatment benefit in the CERTIM pan-cancer cohort

Date/Time: Tuesday, April 17, 2018, 1:00pm-5:00pm CT

Author: D. Damotte, et al, Univ. Paris Descartes APHP and INSERM

Poster #/Location: 4546/Section 25, Board 1

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/7648>

*The tumor inflammation signature (TIS) and other gene expression signatures, simultaneously analyzed using the IO 360 panel, predict clinical benefit of anti-PD1 treatment (nivolumab and pembrolizumab) in 'real life' patients with various cancer types, including NSCLC.*

Title: Infiltrating immune cells in breast cancer subtypes

Date/Time: Tuesday, April 17 2018, 8:00am-12:00pm CT

Author: J.L. Matta et al, Ponce Health Sciences Institute and H. Lee Moffitt Cancer Center

Poster #/Location: 5698/Section 32, Board 4

Hyperlink: <http://www.abstractsonline.com/pp8/#/4562/presentation/7977>

*Demonstrates the value of combining PAM50 subtype distribution with tumor immune profiling to identify biologically distinct patient populations; the combination of these signatures could be applied to the*

development of specific immunotherapeutics.

Title: The immune microenvironment in hormone receptor-positive breast cancer and treatment outcome following preoperative chemotherapy plus bevacizumab

Date/Time: Tuesday, April 17 2018, 1:00pm-5:00pm CT

Author: A. Waks et al, Dana Farber Cancer Institute

Poster #/Location: 4565/Section 26, Board 1

Hyperlink: <http://www.abstractsonline.com/pp8/#!/4562/presentation/7859>

*HR+/HER2- breast tumors with higher levels of tumor immune activity have a more favorable response to chemo plus bevacizumab. Deeper analysis into NanoString signatures show the underlying biological mechanisms of this observation: T-cell and checkpoint-related biomarkers decrease and chemokines and complement pathway genes increase following treatment.*

Title: Prognostic gene signature use in checkpoint inhibitor monotherapy for melanoma

Date/Time: Sunday, April 15, 2018, 1:00pm-5:00pm

Author: M. Capone et al, A. Waks et al, Istituto Nazionale Tumori IRCCS Fondazione

Poster #/Location: 558/Section 25, Board 1

Hyperlink: <http://www.abstractsonline.com/pp8/#!/4562/presentation/2941>

*The NanoString IO 360 Panel is used to characterize tumor and PMBC samples from patients with metastatic melanoma treated with either ipilimumab or pembrolizumab to characterize local and peripheral patterns of gene expression associated with clinical benefit of therapy.*

Title: Pemetrexed enhances anti-tumor efficacy of PD1 pathway blockade by promoting intra tumor immune response via immunogenic tumor cell death and T cell intrinsic mechanisms

Date/Time: Tuesday, April 17, 2018, 1:00pm-5:00pm CT

Author: R. Novosiadly et al, Eli Lilly & Co

Poster #/Location: 4549/Section 25, Board 4

*Pemetrexed promotes intra-tumor T cell-mediated immune response through immunogenic tumor cell death and increased activation and metabolic fitness of T cells, leading to an enhanced anti-tumor efficacy in combination with a PD-L1 antibody as shown by using NanoString for gene expression analysis of syngeneic tumor models.*

Title: Comprehensive immune and molecular analysis of two metastatic melanoma patients treated with a personal neoantigen vaccine, NEO-PV-01, in combination with anti-PD1: A case study

Date/Time: Monday, April 16, 2018, 1:00pm-5:00pm

Author: A. Naing, et al, MD Anderson and Neon Therapeutics

Poster #/Location: LB-147/Section 43, Board 14

*Comprehensive immune profiling of two metastatic melanoma patients treated with a NEO-PC-01 in combination with nivolumab including deep immune profiling using NanoString's Tumor Inflammation Signature and other IO signatures.*

Abstract #	Title	Hyperlink
LB-147	Comprehensive immune and molecular analysis of two metastatic melanoma patients treated with a personal neoantigen vaccine, NEO-PV-01, in combination with anti-PD1: A case study	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/10469">http://www.abstractsonline.com/pp8/#!/4562/presentation/10469</a>
LB-394	Profiling of endogenous circular RNA molecules in formalin-fixed paraffin-embedded tissues from patients with B-cell malignancies using an enzyme-free digital counting method	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/10695">http://www.abstractsonline.com/pp8/#!/4562/presentation/10695</a>
NG06	The clinico-genomics of localized, non-indolent prostate cancer: the CPC-GENE experience	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/10887">http://www.abstractsonline.com/pp8/#!/4562/presentation/10887</a>
558	Prognostic gene signature use in checkpoint inhibitor monotherapy for melanoma	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2941">http://www.abstractsonline.com/pp8/#!/4562/presentation/2941</a>
613	X4P-001, an orally bioavailable CXCR4 antagonist, enhances immune cell infiltration and activation in the tumor microenvironment of melanoma	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/8021">http://www.abstractsonline.com/pp8/#!/4562/presentation/8021</a>
619	ALT-803 enhances antibody-dependent cell-mediated cytotoxicity (ADCC) mediated by NEO-201 against human carcinoma cells	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/8028">http://www.abstractsonline.com/pp8/#!/4562/presentation/8028</a>
634	SOX11 is a potential clinical marker for hormone receptor negative ductal carcinoma in situ	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6349">http://www.abstractsonline.com/pp8/#!/4562/presentation/6349</a>
982	Pharmacological DNA-PK inhibition induces ATM/p53 dependent premature senescence with immunomodulatory phenotype in irradiated cancer cells	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/9520">http://www.abstractsonline.com/pp8/#!/4562/presentation/9520</a>
1020	Characterization of the immune landscape and analysis of tumor response after anti-PD-1 blockade in a 3D ex vivo system of non-small lung cancer	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/1844">http://www.abstractsonline.com/pp8/#!/4562/presentation/1844</a>
1038	Xenograft-associated B cell lymphoproliferative disease as a surrogate model to study Epstein-Barr virus (EBV) driven lymphoma of the elderly	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/4969">http://www.abstractsonline.com/pp8/#!/4562/presentation/4969</a>
1053	Highly characterized patient-derived PDX breast cancer collection for preclinical efficacy studies	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/4984">http://www.abstractsonline.com/pp8/#!/4562/presentation/4984</a>
1361	Micro RNA-200C is one of the important Fanconi Anemia (FA) pathway downstream regulators in lung cancer	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6297">http://www.abstractsonline.com/pp8/#!/4562/presentation/6297</a>
1548	Genetic biomarkers predict clinical response and survival in myelodysplasia	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2737">http://www.abstractsonline.com/pp8/#!/4562/presentation/2737</a>
1584	Comparison of circulating tumor cell (CTC) capture/identification methods and NanoString evaluation of gene expression in CTCs and cell-free circulating tumor mRNA (cctmRNA) in patients with metastatic lung cancer	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2667">http://www.abstractsonline.com/pp8/#!/4562/presentation/2667</a>
1609	Simple and rapid high-plex analysis of RNA and protein from low-frequency sorted T cells	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6417">http://www.abstractsonline.com/pp8/#!/4562/presentation/6417</a>
1684	Selective SIRPa blockade potentiates dendritic cell antigen cross-presentation and triggers memory T-cell antitumor responses	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7704">http://www.abstractsonline.com/pp8/#!/4562/presentation/7704</a>
1767	Synergy between intratumoral immunotoxin and systemic anti-CTLA-4 promotes massive inflammation and leads to complete regression of tumors in mice	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/8453">http://www.abstractsonline.com/pp8/#!/4562/presentation/8453</a>

1981	Pan-cancer pathways gene expression profiling in mantle cell lymphoma reveals upregulation of DNA damage repair genes in ibrutinib-resistant tumor	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/5717">http://www.abstractsonline.com/pp8/#!/4562/presentation/5717</a>
1985	Upregulation of miR-328 contributes to ovarian cancer stem cell maintenance by downregulating DDB2	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6165">http://www.abstractsonline.com/pp8/#!/4562/presentation/6165</a>
2081	Empowering rare disease cohort biomarker discovery via comparative assessments of gene expression analysis platforms for FFPE pediatric brain tumor specimens	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/4193">http://www.abstractsonline.com/pp8/#!/4562/presentation/4193</a>
2089	Highly multiplexed analysis of immune cell subsets in non-small cell lung cancer: validation of protein and RNA analysis by the Nanostring Digital Spatial Profiling (DSP) platform	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/1925">http://www.abstractsonline.com/pp8/#!/4562/presentation/1925</a>
2342	Digital gene expression of up to 96 targets in 96 samples for cell line screening with nCounter® PlexSet™	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7033">http://www.abstractsonline.com/pp8/#!/4562/presentation/7033</a>
2555	Engineering adoptive T cell therapy to co-opt Fas ligand-mediated death signaling in solid tumors	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7454">http://www.abstractsonline.com/pp8/#!/4562/presentation/7454</a>
2982	Somatic TP53 mutations alter the immune microenvironment after chemotherapy in breast cancer	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/4162">http://www.abstractsonline.com/pp8/#!/4562/presentation/4162</a>
3141	Immune gene expression and prognosis in localized clear cell (cc) renal cell carcinoma (RCC)	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/1618">http://www.abstractsonline.com/pp8/#!/4562/presentation/1618</a>
3145	Characterization of novel immune checkpoint receptors within the breast cancer tumor microenvironment	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/1622">http://www.abstractsonline.com/pp8/#!/4562/presentation/1622</a>
3397	Clinical significance of 3q amplification in squamous cell carcinoma of lung	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7067">http://www.abstractsonline.com/pp8/#!/4562/presentation/7067</a>
3418	Cross-Comparison of Targeted Gene Expression Technologies for Patient Stratification	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7089">http://www.abstractsonline.com/pp8/#!/4562/presentation/7089</a>
3425	Exome-sequencing derived mutations of endocrine treated ER-positive early breast cancer	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7110">http://www.abstractsonline.com/pp8/#!/4562/presentation/7110</a>
3434	Digital spatial profiling platform allows for spatially resolved, high-plex quantification of mRNA distribution and abundance on FFPE and fresh frozen tissue sections	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7119">http://www.abstractsonline.com/pp8/#!/4562/presentation/7119</a>
3497	Fibroblast growth factor receptor 3 (FGFR3) aberrations in muscle-invasive urothelial carcinoma	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/8884">http://www.abstractsonline.com/pp8/#!/4562/presentation/8884</a>
3593	Noncoding RNAs in early detection of radiation-induced late pulmonary effects	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2860">http://www.abstractsonline.com/pp8/#!/4562/presentation/2860</a>
3607	Quantitative dimensions of the PAM50 in breast tumors are prognostic and predict paclitaxel response	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2899">http://www.abstractsonline.com/pp8/#!/4562/presentation/2899</a>
3621	High-plex immune marker spatial profiling quantitation by NanoString Digital Spatial Profiling technology and quantitative immunofluorescence	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2962">http://www.abstractsonline.com/pp8/#!/4562/presentation/2962</a>
3682	Expression levels of genes in primary melanoma associated with clinically meaningful characteristics	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6389">http://www.abstractsonline.com/pp8/#!/4562/presentation/6389</a>
3692	PRECISION (Profiling Early Breast Cancer for radiotherapy Omission): An ongoing phase II study of breast-conserving surgery without adjuvant radiotherapy for favorable-risk breast cancer	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6399">http://www.abstractsonline.com/pp8/#!/4562/presentation/6399</a>
3700	A window into human tumor progenitor cell subsets: Functionalizing a novel platform, the micropallet array, for molecular evaluation of single adherent cells with defined cell surface phenotype	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6377">http://www.abstractsonline.com/pp8/#!/4562/presentation/6377</a>
3858	Validation of digital spatial profiling of key immuno-oncology targets for mouse FFPE preclinical models	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/3493">http://www.abstractsonline.com/pp8/#!/4562/presentation/3493</a>
3937	Differential alteration of IL-8 in liver cancer stem cell enrichment in response to PI3K/Akt/mTOR inhibitors and sorafenib	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/6762">http://www.abstractsonline.com/pp8/#!/4562/presentation/6762</a>
3998	Integrative molecular analysis uncovers key molecules and signaling pathways regulated by RKIP in gastrointestinal stromal tumors (GISTs)	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/4543">http://www.abstractsonline.com/pp8/#!/4562/presentation/4543</a>
4213	Molecular biomarker study of programmed death receptor ligand 1 (PD-L1) in Korean patients with lung adenocarcinoma	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/5416">http://www.abstractsonline.com/pp8/#!/4562/presentation/5416</a>
4217	Prognostic gene expression signatures of immune responses in the colon cancer microenvironment	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/5420">http://www.abstractsonline.com/pp8/#!/4562/presentation/5420</a>
4437	Down-modulation of ADAR1-mediated GLI1 editing alters extracellular and immune response genes in multiple myeloma	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2269">http://www.abstractsonline.com/pp8/#!/4562/presentation/2269</a>
4525	Cancer/testis antigens: A biomarker panel for prostate cancer screening	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/2736">http://www.abstractsonline.com/pp8/#!/4562/presentation/2736</a>
4546	The tumor inflammation signature is predictive of anti-PD1 treatment benefit in the CERTIM pan-cancer cohort	<a href="http://www.abstractsonline.com/pp8/#!/4562/presentation/7648">http://www.abstractsonline.com/pp8/#!/4562/presentation/7648</a>

- 4549 Pemetrexed enhances anti-tumor efficacy of PD1 pathway blockade by promoting intra tumor immune response via immunogenic tumor cell death and T cell intrinsic mechanisms <http://www.abstractsonline.com/pp8/#!/4562/presentation/7651>
- 4564 The immune microenvironment in hormone receptor-positive breast cancer and treatment outcome following preoperative chemotherapy plus bevacizumab <http://www.abstractsonline.com/pp8/#!/4562/presentation/7859>
- 4707 Pelareorep promotes the expression of a chemokine signature that predicts response to immunotherapy <http://www.abstractsonline.com/pp8/#!/4562/presentation/8181>
- 4965 Entinostat transforms the suppressive tumor microenvironment of breast cancer and promotes survival and anti-responses when combined with checkpoint inhibition <http://www.abstractsonline.com/pp8/#!/4562/presentation/3695>
- 5402 A panel of miRNAs for diagnosis of wild-type thyroid nodules with pre-surgical indeterminate cytology <http://www.abstractsonline.com/pp8/#!/4562/presentation/5923>
- 5698 Infiltrating immune cells in breast cancer <http://www.abstractsonline.com/pp8/#!/4562/presentation/7977>

#### **About NanoString Technologies, Inc.**

NanoString Technologies provides life science tools for translational research and molecular diagnostic products. The company's nCounter® Analysis System has been employed in life sciences research since it was first introduced in 2008 and has been cited in more than 1,900 peer-reviewed publications. The nCounter Analysis System offers a cost-effective way to easily profile the expression of hundreds of genes, proteins, miRNAs, or copy number variations, simultaneously with high sensitivity and precision, facilitating a wide variety of basic research and translational medicine applications, including biomarker discovery and validation. The company's technology is also being used in diagnostics. The Prosigna® Breast Cancer Prognostic Gene Signature Assay together with the nCounter Dx Analysis System is FDA 510(k) cleared for use as a prognostic indicator for distant recurrence of breast cancer. In addition, the company collaborates with biopharmaceutical companies in the development of companion diagnostic tests for various cancer therapies, helping to realize the promise of precision oncology.

For more information, please visit [www.nanostring.com](http://www.nanostring.com).

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Contact:

**Doug Farrell**

Vice President, Investor Relations & Corporate Communications

[dfarrell@nanostring.com](mailto:dfarrell@nanostring.com)

Phone: 206-602-1768

 [Primary Logo](#)

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