

Sheeno Thyparambil, Ph.D.
Senior Director R&D
mProbe, Rockville, MD 20850

Profile: Award winner, innovative and accomplished leader with extensive background in personalized medicine and molecular diagnostics. Dedicated to proteomic biomarker discovery and validation in clinical setting as evidenced by 28 US issued patents. Developed and implemented high complexity proteomic assays in a clinical lab environment. Experience with regulated environments including GLP, CAP and CLIA. Comprehensive experience authoring, editing, and proofreading scientific research documents and presentation materials. Strong interpersonal and communication skills for bridging between scientific and business concepts, negotiating timelines and facilitating collaboration.

Expertise includes:

- 15+ years of Mass spectrometry experience
- Clinical Validation of biomarkers
- Molecular Oncology
- Molecular Oncology
- Strategic Planning
- Patent

PROFESSIONAL EXPERIENCE

mProbe, Inc, Rockville, MD **2019- Present**
Senior Director (R&D)
Scientific and Strategic leader for organization wide oncology R&D efforts
Lead the business efforts of Oncology diagnostics Product Line
Responsible for integration of proteomics and metabolomics efforts at mProbe.

NantOmics LLC, Rockville MD (formerly OncoPlex Diagnostics, Rockville) **2009 – 2019**
Principal Scientist, Product Development 2015 – 2019
Senior Scientist, Mass Spectrometry 2010 – 2015
Scientist, Mass Spectrometry 2009 – 2010

Founding mass spectrometrists and co-inventor on multiple patents. Key contributor to company buildout on strategy, hiring and logistics. Responsible for providing analytical leadership during the development of proteomic assays. Responsible for pioneer clinical validation study. Support regulatory submissions as a subject matter expert. Collaborative, cross-functional team player including members from proteomic/genomic sciences, pathology and medical affairs. Identify and establish relationships with industry and academic partners.

- Founding mass spectrometrists at OncoplexDx/NantOmics.
- Reduced an innovative technology to clinical practice. Developed the first tissue proteomic clinical assay from FFPE tissue.
- 29 US issued patents.
- Awarded inaugural (2017) NantHealth Presidential Award for Scientific achievement
- Developed and implemented high complexity proteomic assays in a clinical lab environment. Analytically validated three hundred (300+) new assays over 9 years of work.
- Responsible for implementing 30 biomarkers on the clinical report.
- Managed the release of the next 40 biomarkers on the clinical report by interfacing with Molecular Oncology, Mass Spectrometry, Operations and Medical Director.
- Published (joint first author) the first clinical validation paper on mass spec based approach to identify durable responders to trastuzumab from FFPE tissue
- Manage the business development collaboration with external pharma partners

SELECTED PUBLISHED WORKS

Amodio V, Yaeger R, Arcella P, Cancelliere C, Lamba S, Lorenzato A, Arena S, Montone M, Mussolin B, Bian Y, Whaley A, Pinnelli M, Murciano-Goroff YR, Vakiani E, Valeri N, Liao WL, Bhalkikar A, **Thyparambil S**, Zhao HY, de Stanchina E, Marsoni S, Siena S, Bertotti A, Trusolino L, Li BT, Rosen N, Di Nicolantonio F, Bardelli A, Misale S. EGFR blockade reverts resistance to KRAS G12C inhibition in colorectal cancer. *Cancer Discov*. 2020 May 19;CD-20-0187.

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Schaff LR, Yan D, **Thyparambil S**, Tian Y, Cecchi F, Rosenblum M, Reiner AS, Panageas KS, Hembrough T, Lin AL. Characterization of MGMT and EGFR protein expression in glioblastoma and association with survival. *J Neurooncol*. 2020 Jan;146(1):163-170. doi: 10.1007/s11060-019-03358-x. Epub 2019 Dec 10. PMID: 31823165; PMCID: PMC6939885.

Serna G, Ruiz-Pace F, Cecchi F, Fasani R, Jimenez J, **Thyparambil S**, Landolfi S, Elez E, Vivancos A, Hembrough T, Tabernero J, Dienstmann R, Nuciforo P. Targeted multiplex proteomics for molecular prescreening and biomarker discovery in metastatic colorectal cancer. *Sci Rep*. 2019 Sep 19;9(1):13568. doi: 10.1038/s41598-019-49867-7. PMID: 31537838; PMCID: PMC6753065.

An E, Ock CY, Kim TY, Lee KH, Han SW, Im SA, Kim TY, Liao WL, Cecchi F, Blackler A, **Thyparambil S**, Kim WH, Burrows J, Hembrough T, Catenacci D, Oh DY, Bang YJ. Quantitative proteomic analysis of HER2 expression in the selection of gastric cancer patients for trastuzumab treatment. *Ann Oncol*. 2016 Sep 29. pii:mdw442. [Epub ahead of print]

Sellappan S, Blackler A, Liao WL, O'Day E, Xu P, **Thyparambil S**, Cecchi F, Hembrough T, Catenacci DV. Therapeutically Induced Changes in HER2, HER3, and EGFR Protein Expression for Treatment Guidance. *J Natl Compr Canc Netw*. 2016 May;14(5):503-7.

Hembrough T, Liao WL, Hartley CP, Ma PC, Velcheti V, Lanigan C, **Thyparambil S**, An E, Monga M, Krizman D, Burrows J, Tafe LJ. Quantification of Anaplastic Lymphoma Kinase Protein Expression in Non-Small Cell Lung Cancer Tissues from Patients Treated with Crizotinib. *Clin Chem*. 2016 Jan;62(1):252-61.

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Nuciforo P, **Thyparambil S***, Aura C, Garrido-Castro A, Vilaro M, Peg V, Jimenez J, Vicario R, Cecchi F, Hoos W, Burrows J, Hembrough T, Ferreres JC, Perez-Garcia J, Arribas J, Cortes J, Scaltriti M. High HER2 protein levels correlate with increased survival in breast cancer patients treated with anti-HER2 therapy. *Mol Oncol*. 2016 Jan;10(1):138-47.

*Joint first authors

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Hembrough T, **Thyparambil S**, Liao WL, Darfler MM, Abdo J, Bengali KM, Hewitt SM, Bender RA, Krizman DB, Burrows J. Application of selected reaction monitoring for multiplex quantification of clinically validated biomarkers in formalin-fixed, paraffin-embedded tumor tissue. *J Mol Diagn*. 2013 Jul;15(4):454-65.

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Gomes AV, Zong C, Edmondson RD, Li X, Stefani E, Zhang J, Jones RC, **Thyparambil S**, Wang GW, Qiao X, Bardag-Gorce F, Ping P. Mapping the murine cardiac 26S proteasome complexes. *Circ Res*. 2006 Aug 18;99(4):362-71. Epub 2006 Jul 20.

Schnackenberg LK, Jones RC, **Thyparambil S**, Taylor JT, Han T, Tong W, Hansen DK, Fuscoe JC, Edmondson RD, Beger RD, Dragan YP. An integrated study of acute effects of valproic acid in the liver using metabolomics, proteomics, and transcriptomics platforms. *OMICS*. 2006 Spring;10(1):1-14.

Gomes AV, Zong C, Edmondson RD, Berhane BT, Wang GW, Le S, Young G, Zhang J, Vondriska TM, Whitelegge JP, Jones RC, Joshua IG, **Thyparambil S**, Pantaleon D, Qiao J, Loo J, Ping P. The murine cardiac 26S proteasome: an organelle awaiting exploration. *Ann N Y Acad Sci*. 2005 Jun;1047:197-207.

BOOK CHAPTERS

Thyparambil S, Edmondson RD, Dragan YP, Primary Liver Cancer: Chemical Carcinogenesis. *Hepatocellular Carcinoma. Diagnosis and Treatment 2nd Edition Ed Brian Carr 2010: 55-108*

SELECTED PATENTS

Issued (US) : 29

Pending (US): 4

- Krizman DB, Hembrough T, An E, **Thyparambil S**. SRM/MRM assay for mesothelin (MSLN) protein. US Patent 10,078,08. Issued September 18, 2018.
- Krizman DB, Hembrough T, An E, **Thyparambil S**. SRM/MRM assay for the 6-O-methylguanine-DNA methyltransferase (MGMT) protein. US Patent 10,060,927. Issued September 18, 2018.
- Krizman DB, Liao WL, **Thyparambil S**, Hembrough T. SRM/MRM assay for the insulin receptor protein. US Patent 9,255,934. Issued August 7, 2018.
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- Krizman DB, Hembrough T, **Thyparambil S**, Liao WL. SRM assay to indicate cancer therapy. US Patent 9,840,728. Issued December 12, 2017
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- Krizman DB, Hembrough T, **Thyparambil S**, Liao WL. BCL-2-like protein 11 SRM/MRM assay. US patent 9,551,719. Issued Jan 24, 2017
- Krizman DB, Liao WL, **Thyparambil S**, Hembrough T. SRM/MRM assay for the receptor tyrosine-protein kinase erbB-4 protein (HER4). US patent 9,470,696. Issued October 18, 2016
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- Krizman DB, Hembrough T, **Thyparambil S**. Insulin receptor substrate 1 (IRS1) protein SRM/MRM assay. US Patent 9,417,246. Issued August 16, 2016
- Krizman DB, Hembrough T, **Thyparambil S**, Liao WL. cMET protein SRM/MRM assay. US Patent 9,372,195. Issued June 21, 2016
- Krizman DB, Hembrough T, **Thyparambil S**, Liao WL. Multiplex MRM assay for evaluation of cancer. US Patent 9,360,487. Issued June 7, 2016
- Krizman DB, Hembrough T, **Thyparambil S**, Liao WL. SRM/MRM assay for the fatty acid synthase protein. US Patent 9,309,554. Issued April 12, 2016
- Krizman DB, Liao WL, **Thyparambil S**, Hembrough. SRM/MRM assay for subtyping lung histology. US Patent 9,261,506. Issued February 16, 2016
- Krizman; DB, Hembrough T, **Thyparambil S**. Methods for measuring the level of insulin-like growth factor 1 receptor (IGF1R) protein using SRM/MRM assay. U.S. Patent 8,728,753. Issued May 20, 2014.