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Committed to the development of fully comprehensive and accessible clinical molecular diagnostic products and assay platforms which inform the ongoing revolution in personalized care for patients with cancer.

## Leadership Experience

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<b>Vice President, Clinical Product Development &amp; Strategy</b>	<b><i>Foundation Medicine</i></b>	1/17-current
<ul style="list-style-type: none"><li>• Work in partnership with FMI's biopharma and medical collaborators to develop, validate and launch innovative, highly complex NGS-based molecular diagnostic products to help inform targeted, immunotherapy and other treatment decisions for patients with cancer</li><li>• Leading a diverse group of over 15 scientists who work collaboratively in cross-functional multi-disciplinary teams responsible for product development<ul style="list-style-type: none"><li>○ FoundationOne-Heme: first clinical targeted DNA-seq and RNA-seq diagnostic platform for hematologic malignancies</li><li>○ FoundationACT: Ultra-sensitive targeted DNA-seq assay for cell-free DNA present in liquid biopsies to enable targeted therapy selection</li><li>○ Blood Tumor Mutation Burden (bTMB): Ultra-sensitive targeted DNA-seq assay for cell-free DNA present in liquid biopsies to enable Cancer Immunotherapy selection</li><li>○ Biopharma products for research and clinical trials resulting in &gt;\$25M</li></ul></li></ul>		
<b>Sr. Director, Molecular Biology &amp; Sequencing</b>	<b><i>Foundation Medicine</i></b>	3/15-1/17
<b>Director, Molecular Biology &amp; Sequencing</b>	<b><i>Foundation Medicine</i></b>	3/13-3/15
<b>Assoc. Director, Molecular Biology &amp; Sequencing</b>	<b><i>Foundation Medicine</i></b>	6/12-3/13

## Research Experience & Education

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<b>Sr. Scientist, Technology Innovation</b>	<b><i>Foundation Medicine</i></b>	3/11-6/12
Developed a new targeted RNA-seq assay capable of detecting gene fusions and changes in gene expression at nucleotide level resolution from formalin fixed cancer samples.		
<b>Sr. Scientist, Field Applications Support</b>	<b><i>Pacific Biosciences</i></b>	5/10-3/11
Commercialization and initial deployment of the PacBio RS Single-Molecule Real-Time (SMRT™) System		
<b>Sr. Scientist, Single-Molecule Sequencing</b>	<b><i>Pacific Biosciences</i></b>	3/09-5/10
Technical Lead of Strobe Sequencing Project (Commercial Release Q2, 2011)		
<b>Scientist, Single-Molecule Sequencing</b>	<b><i>Pacific Biosciences</i></b>	10/04-3/09
Involved in Key Corporate Single-Molecule Sequencing Milestones including molecular biology methods development and integration of fluorescence-based sequencing reactions with prototype instrumentation		
<b>Postdoctoral Fellow</b>	<b><i>Stanford University</i></b>	6/04-10/04
Single-Molecule studies of the HCV IRES-40S ribosome complex		



- Ph.D.** *Stanford University* 9/97-5/04  
*Dissertation: "The pathway of HCV IRES mediated translation initiation"*  
 Department of Microbiology & Immunology  
 Advisor: Dr. Joseph Puglisi
- B.A.** Cell Biology with distinction. Phi Beta Kappa. *Cornell University* 9/93-9/97  
 Howard Hughes Medical Institute Undergraduate Scholar under Dr. Paul Feeny in the  
 Department of Ecology studying insect-host interactions.

### Select Publications

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1. He J, et al. Integrated genomic DNA/RNA profiling of hematologic malignancies in the clinical setting. *Blood*. 2016 127:3004-3014.
2. Frampton G, et al. Development and validation of a clinical cancer genomic profiling test based on massively parallel DNA sequencing. *Nature Biotech*. 2013 Oct 20; 31:1023-1031.
3. Young G, et al. Clinical next-generation sequencing successfully applied to fine-needle aspirations of pulmonary and pancreatic neoplasms. *Cancer Cytopathology* 2013 121(12): 688-694.
4. Wiesner T, et al. Kinase fusions are frequent in Spitz tumours and spitzoid melanomas. *Nature Comm*. 2013 4116:1-9.
5. Peled N, et al. Next Generation Sequencing Identifies and Immunohistochemistry Confirms a Novel Crizotinib Sensitive ALK Rearrangement in a Patient with Metastatic Non-small Cell Lung Cancer. *J Thoracic Oncology*. 2012 Sep; 7(9):e14-6.
6. Lipson D,\* Capelletti M,\* et al. Identification of new ALK and RET gene fusions from colorectal and lung cancer biopsies. *Nature Medicine*. 2012 Feb 12; 18(3):382-4. \**first co-authors*
7. Eid J,\* Fehr A,\* Gray J,\* Luong K,\* Lyle J,\* Otto G,\* Peluso P,\* Rank D,\* et al. Real-Time DNA Sequencing from Single Polymerase Molecules. *Science*. 2009 Jan; 323:133-138. \**first co-authors*
8. Korfach J, Marks P, Cicero R, Gray J, Murphy D, Roitman D, Pham T, Otto G, Foquet M, Turner S. Selective aluminum passivation for targeted immobilization of single DNA polymerase molecules in zero-mode waveguide nanostructures. *PNAS*. 2008a Jan; 105:1176-1181.
9. Korfach J, Bibillo A, Wegener J, Peluso P, Pham T, Park I, Clark S, Otto G, Turner S. Long, Processive Enzymatic DNA Synthesis Using 100% Dye-Labeled Terminal Phosphate-Linked Nucleotides. *Nucleosides, Nucleotides & Nucleic Acids*. 2008b Sep; 27:1072-1082.
10. Otto G, & Puglisi JD. The pathway of HCV IRES mediated translation initiation. *Cell*. 2004 Oct; 119:369-380.

### Patents

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1. Lipson D, Otto G, Parker A, Stephens P, Downing S, Jarosz M, Shapiro M, Yelensky R. Optimization of multigene analysis of tumor samples. (US 13/339,986)
2. Hanzel D, Otto G, Murphy D, Peluso P, Pham T, Rank D, Mitsis P, Christians F, Bibillo A, Park I, Clark S, Lyle J. Polymerases for nucleotide analogue incorporation. (US 14/538,653)
3. Travers K, Otto G, Turner S, Heiner C, Ma C. Compositions and Methods for Nucleic Acid Sequencing. (US 14/497,067)

4. Travers K, Otto G, Turner S, Heiner C, Ma C. Methods for obtaining a single molecule consensus sequence. (US 15/089,071)
5. Hanzel D, Otto G, Murphy D, Peluso P, Pham T, Rank D, Mitsis P, Christians F, Bibillo A, Park I, Clark S, Lyle J. Polymerases for nucleotide analogue incorporation. (PCT/US2006/049122)
6. Travers K, Otto G, Turner S, Heiner C, Ma C. Compositions and Methods for Nucleic Acid Sequencing. (US 13/866,603)
7. Hanzel D, Korlach J, Peluso P, Otto G, Pham T, Rank D, Turner S. Active surface coupled polymerases. (PCT/US2006/048973)
8. Hanzel D, Korlach J, Peluso P, Otto G, Pham T, Rank D, Turner S. Active surface coupled polymerases. (US 11/645,125)
9. Otto G, Shen G, Kong X, Emig R. Cis Reactive Oxygen quenchers integrated into linkers. (US 13/932,749)
10. Hanzel D, Otto G, Murphy D, Peluso P, Pham T, Rank D, Mitsis P, Christians F, Bibillo A, Park I, Clark S, Lyle J. Polymerases for nucleotide analogue incorporation. (US 11/645,223)
11. Rank D, Wegener J, Korlach J, Roitman D, Xu Y, Lyle J, Turner S, Peluso P, Otto G. Articles having localized molecules disposed thereon and methods of producing same. (US 13/487,978)
12. Rank D, Wegener J, Korlach J, Roitman D, Xu Y, Lyle J, Turner S, Peluso P, Otto G. Articles having localized molecules disposed thereon and methods of producing same. (US 11/731,748)
13. Travers K, Otto G, Turner S, Heiner C, Ma C. Compositions and Methods for Nucleic Acid Sequencing. (US 13/403,789)
14. Otto G, Shen G, Kong X, Emig R. Cis Reactive Oxygen quenchers integrated into linkers. (US 12/367,411)
15. Hanzel D, Korlach J, Peluso P, Otto G, Pham T, Rank D, Turner S. Surface comprising DNA polymerase having mutations bound through an affinity tag. (US 11/978,139) 012
16. Rank D, Wegener J, Korlach J, Roitman D, Xu Y, Lyle J, Turner S, Peluso P, Otto G. Articles having localized molecules disposed thereon and methods of producing same. (US 11/978,171)
17. Travers K, Otto G, Turner S, Heiner C, Ma C. Compositions and Methods for Nucleic Acid Sequencing. (US 12/413,258)
18. Travers K, Otto G, Turner S, Heiner C, Ma C. Diagnostic sequencing with small nucleic acid circles. (US 13/019,220)
19. Eid J, Murphy D, Otto G, Turner S. Mitigation of photodamage in analytical reactions. (US 11/293,040)
20. Eid J, Murphy D, Otto G, Turner S. Mitigation of photodamage in analytical reactions. (US 11/566,153)
21. Eid J, Murphy D, Otto G, Turner S. System for the mitigation of photodamage in analytical reactions. (US 11/981,626)
22. Foquet M, Peluso P, Turner S, Roitman D, Otto G. Methods for monitoring reactions in zero mode waveguides. (US 12/341,556)
23. Foquet M, Peluso P, Turner S, Roitman D, Otto G. Substrates for performing analytical reactions. (US 11/761,251)
24. Otto G, Lyle J. Controllable strand scission of mini circle DNA. (US 12/029,273)

## Presentations & Posters

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1. Otto G, et al., Development and Analytic Validation of a ctDNA Genomic Profiling Assay. Presentation at Precision Medicine World Conference 2017
2. Otto G, et al., Analytic Validation and Clinical Feasibility of Tumor Mutational Burden using a NGS-Based Comprehensive Genomic Profiling Assay to Predict Response to Immunotherapy. Poster at AGBT 2017
3. Otto G, et al., FoundationACT: Clinical Cell-Free Circulating Tumor DNA Assay for Cancer Molecular Profiling. Presented at BloodPAC 2016
4. Otto G, et al., Analytic Validation of a NGS-based Clinical ctDNA Assay. Presentation at Liquid Biopsy Summit 2016
5. Otto G, et al., Development of a Clinical Cell-Free Circulating Tumor DNA Assay for Cancer Molecular Profiling. Presentation at Molecular Tri-Con 2016
6. Otto G, et al., Assessment of the Relative Clinical Utility of ctDNA and Tissue Biopsies for the Detection of Actionable Genomic Alterations in Routine Clinical Oncology Specimens. Presentation at AGBT 2016
7. Otto G, et al., Building an NGS-based Platform for Clinical Cancer Care. Presentation at AMP 2014
8. Otto G, et al., A Clinical NGS-Based Assay Enables Comprehensive Detection of the Genomic Alterations Driving Hematolymphoid Malignancies Through Integration of Targeted DNA-seq and RNA-seq. Poster at AGBT 2014
9. Otto G, et al., Next-generation Sequencing of FFPE Breast Cancer Specimens Demonstrates High Concordance in Calling *HER2* Gene Copy Number Amplification and Gene Expression. Presentation at AMP 2013
10. Otto G, et al., Genomic and cDNA Next Generation Sequencing Identifies a High Frequency of Kinase Gene Fusions in Spitz Tumors. Presentation at AGBT 2013
11. Otto G, He J, Young G, Frampton G, Yelensky R, Lipson D, Ross J, Cronin M, Parker A. Detection of Cancer-associated Mutations, Rearrangements and Gene Expression Changes by Targeted Deep Sequencing of FFPE RNA and DNA. Poster at AGBT 2012
12. Heiner C, Otto G, Yen J, Bashir A, Ashby M, Ma M, Olivares E, Eichler E. Strobe Sequencing Enables Characterization of Complex Genomic Structural Variation. Poster at AGBT 2010
13. Otto G, & Puglisi, JD. Regulation of translation initiation complex assembly and ribosomal subunit joining by the Hepatitis C Virus IRES. Poster at 2003 Nucleic Acids Gordon Conference.
14. Otto G, Lukavsky PJ, & Puglisi JD. Preliminary identification of Hepatitis C Virus IRES contacts to HeLa 40S ribosomal subunits. Poster at 2001 Viruses & Cells Gordon Research Conference.