DAVID E. SOLOW-CORDERO, Ph.D.
Director, High-Throughput Bioscience Center (HTBC)
Department of Chemical & Systems Biology
Stanford University School of Medicine

EDUCATION:
Ph.D., 1995, Department of Molecular and Cellular Biology
University of California at Berkeley
Thesis Title: *In vitro* Analysis of Rifampicin Resistant *Escherichia coli* RNA Polymerases
Michael J. Chamberlin, Professor
University Fellowship, September 1991 to July 1992

BS, 1990, Department of Biology
Massachusetts Institute of Technology
Anthony J. Sinskey, Professor
National Hispanic Scholar, September 1986 to May 1987

EMPLOYMENT HISTORY:
Stanford University School of Medicine
Department of Chemical & Systems Biology
Director, High-Throughput Bioscience Center (HTBC)
September 2003 to Present
Responsibilities include:

- Select, purchase, program, and maintain laboratory robotics and detection systems including a fully automated Caliper Life Sciences (now part of Perkin Elmer) Staccato cell based High-Throughput Screening system (Sciclone ALH3000, Twister II, automated incubator), fully automated systems from Velocity11 (now Agilent); Bravo and VPrep/BenchCel systems used primarily for siRNA HTS, a fully automated High Content Screening system from ThermoFisher (Catalyst Robot) integrated to a Molecular Devices ImageXpress Micro, and the microplate detection systems from Molecular Devices; AnalystGT and Flexstation 384, and Tecan; Infinite M1000 and Infinite M1000 PRO.
- Select and purchase chemical libraries to be used for screening.
- Identify and manage research collaborations with Stanford faculty and students to incorporate high-throughput technologies in their research programs.
- Build, develop and manage the ORACLE based MDL cheminformatics data systems (ChemBioAE, Plate Manager and Assay Explorer).
- Schedule and manage HTBC group including Scientists and Research Associates. Oversee all financial and administrative tasks of the HTBC, a Stanford service center, using iLab Solutions.
- Manage human and mouse whole genome RNA interference screens
- Stanford University representative to the RNAi Global Initiative.

Ceretek, LLC., South San Francisco, CA
Principal Scientist, High Throughput Screening (HTS) and Informatics

June 1999 to September 2003
Responsibilities include:

- Design, develop, scale-up, and validate G-Protein Coupled Receptor assays for HTS
- Select, purchase, program, and maintain laboratory robotics including a Molecular Devices FLIPR384 and a Beckman Multimek.
- Select and purchase chemical libraries to be used for HTS.
- Schedule and manage HTS group including Scientists and Research Associates.
- Manage collaborations with chemists and biologists concerning screening data and lead identification.
- Build, develop and manage MDL cheminformatics data system (ISIS Base/Host and ORACLE).

FibroGen, Inc., South San Francisco, CA
Scientist, Enzymology
July 1995 to June 1999
Responsibilities include:

- Design, develop, and scale-up assays for HTS
  Including, characterization and purification of procollagen/collagen processing enzymes, development of robust scaleable assay to aid in the discovery of novel inhibitors of fibrosis.
- Select, purchase, program, and maintain laboratory robotics.
- Schedule and manage HTS group including Scientists and Research Associates.
- Build, develop and manage MDL cheminformatics data system (ISIS Base/Host and ORACLE).

University of California at Berkeley
Graduate Student
Thesis Advisor: Michael J. Chamberlin, Professor
September 1990 to June 1995

- Research on In vitro analysis of rifampicin resistant E. coli RNA polymerases.

Rotation projects:

- Research on protein membrane translocation in yeast. Randy Schekman, Professor
- Research on enzyme substrate channeling in yeast. Jack Kirsch, Professor

Massachusetts Institute of Technology
Undergraduate Researcher
Advisor: Anthony J. Sinskey, Professor
May 1988 to August 1990

- Research on the allosteric inhibition by threonine on homoserine dehydrogenase in C. glutamicum.

Bayer, Inc., Elkhart, Indiana
Research Assistant
May 1987 to August 1987

- Research on Aspergillus Niger transformation.

Bayer, Inc., Elkhart, Indiana
Laboratory Assistant
May 1986 to August 1986

HONORS AND AWARDS:

1986-1987	National Hispanic Scholar, MIT
1991-1992	University Fellowship, University of California at Berkeley
2005-2007, 2010	Study Section, Solicitation of Assays for High Throughput Screening (HTS) in the Molecular Libraries Screening Centers Network (NIH, MLSCN)
2006-2007	Member, Education Committee, Society of Biomolecular Sciences (SBS)
2009	Study Section, Instrumentation and Systems Development, Bioengineering Sciences & Technologies Integrated Review Group, Temporary Member (NIH, CSR)
2009	Study Section, Assay Development for High-Throughput Molecular Screening (NIH, MLPCN)

PUBLICATIONS AND PATENTS:

Bender KO, Garland M, Ferreyra JA, Hryckowian AJ, Child MA, Puri AW, Solow-Cordero DE, Higginbottom SK, Segal E, Banaei N, Shen A, Sonnenburg JL, Bogyo M. A small-molecule antivirulence agent for treating Clostridium difficile infection. Sci Transl Med. 2015 Sep 23;**7**(306):306ra148. doi: 10.1126/scitranslmed.aac9103. Epub 2015 Sep 23. PubMedID: 26400909

Alli E, Solow-Cordero D, Casey SC, Ford JM. Therapeutic targeting of BRCA1-mutated breast cancers with agents that activate DNA repair. Cancer Res. 2014 Nov 1;**74**(21):6205-15. Epub 2014 Sep 12. PMID: 25217519

Matheny CJ, Wei MC, Bassik MC, Donnelly AJ, Kampmann M, Iwasaki M, Piloto O, Solow-Cordero DE, Bouley DM, Rau R, Brown P, McManus MT, Weissman JS, Cleary ML. Next-Generation NAMPT Inhibitors Identified by Sequential High-Throughput Phenotypic Chemical and Functional Genomic. Chem Biol. 2013 Nov 21;**20**(11):1352-63. Epub 2013 Oct 31. PMID: 24183972

Spiekerkoetter E, Tian X, Cai J, Hopper RK, Sudheendra D, Li CG, El-Bizri N, Sawada H, Haghighat R, Chan R, Haghighat L, de Jesus Perez V, Wang L, Reddy S, Zhao M, Bernstein D, Solow-Cordero DE, Beachy PA, Wandless TJ, Ten Dijke P, Rabinovitch M. FK506 activates BMPR2, rescues endothelial dysfunction, and reverses pulmonary hypertension. J Clin Invest. 2013 Aug;**123**(8):3600-13. doi: 10.1172/JCI65592. Epub 2013 Jul 15. PMID: 23867624

Fan-Minogue H., Bodapati S., Solow-Cordero D.E., Fan A., Paulmurugan R., Massoud T., Felsher D.W., Gambhir S.S. A c-Myc activation sensor-based high throughput drug

screening identifies an anti-neoplastic effect of Nitazoxanide. Mol Cancer Ther. 2013 Sep;**12**(9):1896-905. doi: 10.1158/1535-7163.MCT-12-1243. Epub 2013 Jul 3. PMID: 23825064

Turtle, E., Chow, N., Yang, C., Sosa, S., Bauer, U., Brenner, M., Solow-Cordero, D., Ho, W.B. Design and synthesis of procollagen C-proteinase inhibitors. Bioorg Med Chem Lett. 2012 Dec 15;**22**(24):7397-401. doi: 10.1016/j.bmcl.2012.10.067. Epub 2012 Oct 24. PMID: 23134659

Chan, C.T., Reeves, R.E., Geller, R., Yaghoubi, S.S., Hoehne, A., Solow-Cordero, D.E., Chiosis, G., Massoud, T.F., Paulmurugan, R., Gambhir, S.S. Discovery and validation of small-molecule heat-shock protein 90 inhibitors through multimodality molecular imaging in living subjects. Proc Natl Acad Sci U S A. Sep 11;**109**(37):E2476-85. Epub Aug15 (2012). PMID: 22895790

Chan, D.A., Sutphin, P.D., Nguyen, P., Turcotte, S., Lai, E.W., Banh, A., Reynolds, G.E., Chi, J.T., Wu, J., Solow-Cordero, D.E., Bonnet, M., Flanagan, J.U., Bouley, D.M., Graves, E.E., Denny, W.A., Hay, M.P., Giaccia, A.J. Targeting GLUT1 and the Warburg Effect in Renal Cell Carcinoma by Chemical Synthetic Lethality. Sci Transl Med. Aug 3;**3**(94):94ra70 (2011). PMID: 21813754

Papandreou, I., Denko, N.C., Olson, M., Van Melckebeke, H., Lust, S., Tam, A., Solow-Cordero, D.E., Bouley, D.M., Offner, F., Niwa, M., Koong, A.C. Identification of an Ire1alpha endonuclease specific inhibitor with cytotoxic activity against human multiple myeloma. Blood Jan 27;**117**(4):1311-4 (2011). Epub Nov 16 (2010). PMID: 21081713

Hyman, J., Firestone, A., Heine, V., Zhao, Y., Ocasio, C., Han, K., Sun, M., Rack, P., Sinha, S., Wu, J., Solow-Cordero, D., Jiang, J., Rowitch, D., and Chen, J. Small-molecule inhibitors reveal multiple strategies for Hedgehog pathway blockade. Proc.Natl.Acad.Sci.USA. Aug **18**;106(33):14132-7. Epub Aug 5 (2009). PMID: 19666565

Paulsen, R.D., Soni, D.V., Wollman,R., Hahn, A.T., Yee, M.C., Guan, A., Hesley, J.A., Miller, S.C., Cromwell, E.F., Solow-Cordero, D.E., Meyer, T., Cimprich, K.A. A Genome-wide siRNA Screen Reveals Diverse Cellular Processes and Pathways that Mediate Genome Stability. Mol. Cell 35(2): 228-239 (2009). PMID: 19647519

Chan C.T., Paulmurugan R., Reeves R.E., Solow-Cordero D., Gambhir S.S. Molecular Imaging of Phosphorylation Events for Drug Development. Mol Imaging Biol. May-Jun;**11**(3): 144-58 (2009). Epub Dec 2 (2008). PMID: 19048345

Solow-Cordero, D.E. Academia catching up to industry: How liquid handling is enhancing basic research. G.I.T. Laboratory Journal **3-4**: 64-65 (2007).

Lee, S., Solow-Cordero, D.E., Kessler, E., Takahara, K., and Greenspan, D.S. Transforming growth factor-b regulation of bone morphogenetic protein-1/procollagen C-

proteinase and related proteins in fibrogenic cells and keratinocytes. J. Biol. Chem. **272**: 19059-19066 (1997). PMID: 9228090

Altmann, C.R., Solow-Cordero, D.E., Chamberlin, M.J. RNA cleavage and chain elongation by Escherichia coli DNA-dependent RNA polymerase in a binary enzyme-RNA complex. Proc. Natl. Acad. Sci. USA. **91**: 3784-3788 (1994). PMID: 7513426

Archer, J.A., Solow-Cordero, D.E., Sinskey, A.J. A C-terminal deletion in Corynebacterium glutamicum homoserine dehydrogenase abolishes allosteric inhibition by l-threonine. Gene. **107**: 53-59 (1991). PMID: 1743520

Six filed US patent applications:
G Shankar, D Solow-Cordero, J Spencer, C Gluchowski. Moderation cellular gene expression; antiproliferative agents; anticancer agents. US Patent App. 10/760,061
G Shankar, D Solow-Cordero, J Spencer, C Gluchowski. Edothelial differentiation gene modulation; controlling cell proliferation; anticancer agents. US Patent App. 10/760,063
D Solow-Cordero, G Shankar, J Spencer, C Gluchowski. Controlling cell gene expression; moderate cell proliferation; anticancer agents; antiinflammatory agents; cardiovascular disorders; autoimmune disease. US Patent App. 10/621,966
D Solow-Cordero, G Shankar, J Spencer, C Gluchowski. Contacting a cell expressing the Edg-2 receptor with an amount of an modulator of the Edg-2 receptor sufficient to modulate the Edg-2 receptor mediated biological activity. US Patent App. 10/759,992
C Chan, SS Gambhir, DE Solow-Cordero, A Hoehne, R Paulmurugan. Multi-modality molecular imaging high-throughput assay for identifying heat shock protein 90 (hsp90) inhibitors. US Patent App. 13/898,637
E Spiekerkoetter, M Rabinovitch, PA Beachy, D Solow-Cordero. Use of FK506 for the Treatment of Pulmonary Arterial Hypertension. US Patent App. 14/113,375

One issued US Patent: Solow-Cordero, D. Shankar, G., J.V. Spencer, and C. Gluchowski. Methods of treating conditions associated with an Edg-3 receptor. **7,208,502** April 24, 2007,

Three International patent applications:
Shankar, G., Solow-Cordero, D., J.V. Spencer, and C. Gluchowski. Methods of treating conditions associated with an EDG receptor. WO 2003/062392, July 31, 2003. (EP1513522)
Solow-Cordero, D., Shankar, G., J.V. Spencer, and C. Gluchowski. Methods of treating conditions associated with an EDG-1 receptor. WO 2004/009816, January 29, 2004. (EP1523556)
Spiekerkoetter, E., Rabinovitch, M., Beachy, P.A., and D. Solow-Cordero. Use of FK506 for the treatment of pulmonary arterial hypertension. WO 2012/151153, April 30, 2012.

INVITED LECTURES:

Laboratory Robotics Interest Group (LRIG)-Bay Area Meeting: Current Bottlenecks in Laboratory Automation
15 March 2005, Burlingame, California

Society for Biomedical Screening (SBS) West Coast Regional Meeting: Exploiting the Druggable Genome:
21-22 April 2005, San Mateo, California

Elsevier MDL Biology Data Management Exchange
5-6 May 2005, Scottsdale, Arizona

RNAiGlobal-Dharmacon
25-26 September 2006, Amsterdam, The Netherlands

RNAiGlobal-ThermoFisher
12-13 April 2007, Boulder, Colorado
27-28 September 2007, Barcelona, Spain
2-4 April 2008, Boston, Massachusetts
22-23 September 2009, Dublin, Ireland

TEACHING
University of California at Berkeley
September to December 1994, Instructor for Undergraduate Seminar: Novel Reactions in Transcription Regulation (MCB 119)
January to May 1993, Teaching Assistant for Introduction to Biology (MCB 15)
November 1991 to February 1992, Teaching Assistant for Biochemistry Lab (MCB 110L)

Stanford University
20 April 2005, Guest Lecturer, Drug Discovery (MolPharm 240)

ASSOCIATIONS
Society for Biomolecular Sciences (SBS)
Association of Laboratory Automation (ALA)
Society for Laboratory Automation and Screening (SLAS)
AAAS