SATIRO N. DE OLIVEIRA, M.D.

Curriculum vitae

Business Address:

Mattel Children's Hospital – UCLA David Geffen School of Medicine at UCLA Division of Pediatrics Hematology/Oncology and Stem Cell Transplant Program and Cellular Therapies Program Gwynne Hazen Cherry Memorial Laboratories 10833 Le Conte Avenue, Room A2-410 MDCC Los Angeles, CA 90095-1752 P 310-825-6708, F 310-825-3706, sdeoliveira@mednet.ucla.edu, sndeoliveira@ucla.edu

1. EDUCATION:

1.1. Degrees

02/1990-12/1995 M.D., Faculdade de Medicina de Ribeirao Preto, Universidade de São Paulo, Brazil.

1.2. Postdoctoral Training

02/1997-02/1999 Resident, Pediatrics, Hospital das Clinicas da Faculdade de Medicina de Ribeirao Preto, Universidade de Sao Paulo, Brazil.

03/1999-02/2002 Fellow, Pediatric Hematology/Oncology, Boldrini Children's Center, Sao Paulo, Brazil.

11/2001 Fellow, Special Fellowship in Pediatric Oncology, St.Jude Children's Research Hospital, Memphis, TN.

07/2004-06/2007 Resident, Pediatrics, Woodhull Medical and Mental Health Center, Brooklyn, NY.

10/2005 Resident, Elective Rotation in Pediatric Hematology/Oncology, New York University School of Medicine, New York, NY.

07/2007-06/2010 Fellow, Pediatric Hematology/Oncology, Children's Hospital Los Angeles, University of Southern California, Los Angeles, CA.

09/2009-06/2010 Post-Doctoral Scholar, University of California Los Angeles, UCLA, Los Angeles, CA.

09/2011-04/2012 Trainee, NIHCC Principles of Clinical Pharmacology, National Institutes of Health Clinical Center.

08/2012-07/2014 Trainee, UCLA CTSI Training Program in Translational Science, Track 2, University of California, Los Angeles, UCLA, Los Angeles, CA.

10/2012-03-2013 Trainee, NIHCC Introduction to the Principles and Practice of Clinical Research, National Institutes of Health Clinical Center.

07/2015-07/2015 Trainee, American Association of Immunologists (AAI) Introductory Course in Immunology, Long Beach, CA.

08/2015-08/2015 Trainee, American Association of Immunologists (AAI) Advanced Course in Immunology, Boston, MA.

02/2016 Trainee, Foundation for the Accreditation of Cellular Therapy (FACT) Cellular Therapy Leadership Course 101, workshop, 4 hours, Honolulu, HI.

02/2016 Trainee, Foundation for the Accreditation of Cellular Therapy (FACT) Cellular Therapy Leadership Course 201, workshop, 4 hours, Honolulu, HI.

04/2017 Trainee, Enabling Interdisciplinary and Team Science Workshop, American Institute of Biological Sciences (AIBS), workshop, 16 hours, Los Angeles, CA.

2. LICENSURE:

California, A100262, June 1st, 2007.

3. BOARD CERTIFICATION:

1999 Certification in Pediatrics, Brazilian Society of Pediatrics.

2002 Certification in Cancerology, field of Pediatric Oncology, Brazilian Society of Cancerology.

10/16/2007 General Pediatrics Board Certification, American Board of Pediatrics, Certificate #88673.

03/28/2011 Pediatric Hematology/Oncology Board Certification, American Board of Pediatrics, Certificate #2322.

4. PROFESSIONAL EXPERIENCE:

05/1996-02/1999 Attending physician on Pediatric Clinics, Sao Simao, Sao Paulo, Brazil.

10/1998-06/2004 Attending pediatrician on Neonatology, Osasco, Sao Paulo, Brazil.

03/2002-05/2004 Attending Pediatric Oncologist at Boldrini Children's Center, Sao Paulo, Brazil, covering inpatient and outpatient care of pediatric hematology/oncology patients, including hematopoietic stem cell transplantation patients.

05/2003-05/2004 Attending Pediatrician in Neonatology, Sao Paulo, Brazil.

02/2009-08/2009 Visiting Scholar, Department of Microbiology, Immunology and Molecular Genetics (MIMG), University of California, Los Angeles.

07/2010-06/2013 Clinical Instructor, Department of Pediatrics, Division of Hematology/Oncology, University of California, Los Angeles, covering inpatient and outpatient care of pediatric hematology/oncology patients, including hematopoietic stem cell transplantation and gene therapy patients. Also acting as principal investigator and co-investigator in multiple clinical trials in pediatric oncology, hematopoietic stem cell transplantation and gene therapy at Mattel Children's Hospital at UCLA and the Stem Cell Transplant Program and Cellular Therapies Program.

07/2013- present <u>Assistant Professor in Residence</u>, Department of Pediatrics, Division of Hematology/Oncology, University of California, Los Angeles, covering inpatient and outpatient care of pediatric hematology/oncology patients, including hematopoietic stem cell transplantation and gene therapy patients. Also acting as principal investigator and co-investigator in multiple clinical trials in pediatric oncology, hematopoietic stem cell transplantation and gene therapy patients at UCLA and the Stem Cell Transplant Program and Cellular Therapies Program.

04/2017- present <u>Associate Editor</u>, Immunotherapy Section, Technology in Cancer Research & Treatment Journal, SAGE Publishing.

5. PROFESSIONAL ACTIVITIES:

5.1. Membership of Professional Organizations and Ad Hoc Activities

- 1999- Member, Brazilian Society of Pediatrics (SBP).
- 2002- Member, Brazilian Society of Pediatric Oncology (SOBOPE).
- 2002-2003 Member, Infection Control Committee, Boldrini Children's Center, Brazil.
- 2004- Member, American Academy of Pediatrics (AAP).
- 2005- Member, American Society of Clinical Oncology (ASCO).
- 2008- Member, American Society of Bone Marrow Transplantation (ASBMT).
- 2008- Member, American Society of Hematology (ASH).
- 2008- Member, American Society of Pediatric Hematology/Oncology (ASPHO).
- 2009- Member, American Society of Gene and Cell Therapy (ASGCT).
- 2009- Member, American Association for Cancer Research (AACR).
- 2011- Member of the Clinical and Translational Science Institute, University of California, Los Angeles.
- 2011- Member of the Jonsson Comprehensive Cancer Center, Tumor Immunology Program Area.
- 2011- Member, Children's Oncology Group (COG).
- 2011- Ad Hoc Grant Reviewer for the St. Baldrick's Foundation.
- 2012- Ad Hoc Reviewer for BioMed Central scientific peer-reviewed journals.
- 2013- Junior Faculty Committee Member, Primary Immune Deficiency Treatment Consortium (PIDTC).
- 2013- Member of the UCLA Department of Pediatrics Morbidity and Mortality Committee RRMC.
- 2013- Ad Hoc Reviewer for "Experimental Hematology", scientific peer-reviewed journal.
- 2014- Ad Hoc Reviewer for "Human Gene Therapy", scientific peer-reviewed journal.
- 2014-2017 Member of the Cancer Gene & Cell Therapy Committee of the American Society of Gene & Cell Therapy (ASGCT).
- 2014- Member of the Clinical Competence Committee, Division of Pediatric Hematology/Oncology of the Department of Pediatrics at UCLA.
- 2014- Ad Hoc Grant Reviewer for the Leukaemia & Lymphoma Research (UK).

2015- Member of the UCLA Institutional Biosafety Committee (IBC).

2015- Ad Hoc Reviewer for "Journal of Pediatric Hematology-Oncology", scientific peer-reviewed journal.

- 2015- Ad Hoc Reviewer for "Molecular Therapy", scientific peer-reviewed journal.
- 2015- Member, Society for Immunotherapy of Cancer (SITC).

2015-2018 Member of the UCLA Academic Senate Committee on Faculty Welfare (FWC).

2015- Member of the UCLA Dual Use Review Entity (DURE).

- 2016- Member of the Internal Scientific Peer Review Committee (ISPRC) of the UCLA Jonsson Comprehensive Cancer Center.
- 2016-2016 Co-Chair of the Tumor Immunology 101 (Nurse/Pharmacist Track) session at the Annual Meeting of the Society for Immunotherapy of Cancer (SITC), on 11/12/2016.
- 2016- Member of the Society for Pediatric Research (SPR).
- 2017- Ad Hoc Reviewer for "Frontiers in Psychology" and "Frontiers in Pediatrics", scientific peer-reviewed journals.

2017-2018 Ad Hoc Abstract Reviewer for the Pediatric Academic Societies (PAS) Meeting.

2018- Member of the Psychoneuroimmunology Research Society (PNIRS).

5.2. Clinical Research Leadership Positions

1. Research study of the bacteria carried by patients with SCID-X1 before and after gene transfer. (UCLA IRB#10-000966). Site PI. 09/30/2010 to 08/01/2017.

2. A research study for the treatment of cerebral adrenoleukodystrophy (CALD). (UCLA IRB#13-001325). Site PI. 07/21/2015 to present.

3. Long-term follow-up of boys with cerebral adrenoleukodystrophy treated with Lenti-D. (UCLA IRB#17-000674). Site PI. 06/27/2017 to present.

4. Phase I/II Trial of Lentiviral Gene Transfer for SCID-X1 with Low Dose Targeted Busulfan Conditioning. (UCLA IRB#18-000281). Site PI. 02/20/2018 to present.

5. UCLA Lymphoma Program Tissue Bank and Clinical Database. (UCLA IRB#16-000386). Co-investigator. 02/07/2018 to present.

6. Collection of bone marrow, blood, and tissue from patients receiving CAR-T cell therapy. (UCLA IRB#18-000959). Faculty Sponsor and Co-investigator. 07/19/18 to present.

6. HONORS AND SPECIAL AWARDS:

12/1995 "Comendador Assad Abdalla" Award for distinction in Preventive Medicine (first rank in class).

12/2002 Second place in Onco Prize, VIII Brazilian Congress of Pediatric Oncology, for the poster "WT1 gene expression quantification in myeloid leukemias in pediatric patients and clinical correlation ", Rodrigues PC, Oliveira SN, Pinheiro VRP, et al..

11/2009 Career Development Award Translational Research Training in Hematology by European Hematology Association (EHA) and American Society of Hematology (ASH)

07/2010 St. Baldrick's Foundation Scholar Career Development Award.

09/2011 Hyundai Hope on Wheels Research Grant Award.

07/2012 Career Dev. Award: 21st Annual AACR Aspen Workshop: Molecular Biology in Clinical Oncology

05/2013 First place at the 2013 Today's and Tomorrow's Children Fund Award.

05/2015 Hyundai Hope on Wheels Scholar Hope Grant Award.

07/2015 Variety Club D. Barry Reardon Endowed Chair.

09/2015 Certificate of Congressional Recognition, in recognition of receiving the Pediatric Cancer Research Grant from Hyundai Hope On Wheels.

12/2015 American Society of Hematology (ASH) Scholar Grant 2016 Career Development Award.

09/2016 STOP CANCER Research Career Development Award.

7. RESEARCH GRANTS AND FELLOWSHIPS RECEIVED:

7.1. Past

08/2009 Interdisciplinary Training in Virology and Gene Therapy Training Grant T32 AI060567 (09/01/09-08/31/10), \$47,760.

NIH/Department of Molecular and Medical Pharmacology; Trainee;

The goal of this project was to perform transduction of human CD34+ HSC with CD19-specific CAR and in vitro assessment of specific lysis of CD19+ leukemic cell lines.

03/2010 DR1-01452 (03/01/10-02/28/14), \$31,589

California Institute of Regenerative Medicine; Co-Investigator

Title: Stem Cell Gene Therapy for Sickle Cell Disease.

The goal of this project was to perform pre-clinical research to advance a stem cell gene therapy approach for sickle cell disease to the clinic.

07/2010 St. Baldrick's Foundation Scholar Career Development Award (07/01/10-06/30/15), \$75,000/year St. Baldrick's Foundation; <u>Principal Investigator</u>; Title: Immunotherapy of B-lineage hematological malignancies with progenitor cells.

The goal of this mentored career development award was to provide proof-of-principle of genemodification of hematopoietic stem cells for immunotherapy of pediatric hematological malignancies.

09/2010 1 U01AI087628 (09/01/10-08/31/15), \$9,450

Children's Hospital Boston; Co-Investigator;

Title: Gene Therapy for SCID-X1 Using Self-Inactivity (SIN) Gammaretroviral Vector (De Oliveira SN, Co-Investigator)

The goal of this multi-institutional clinical trial is to use a gammaretroviral vector for gene therapy for X-linked severe combined immunodeficiency.

- 03/2011 NanoPediatrics Program Seed Grant Award (3/1/11-12/31/11), \$20,000 Department of Pediatrics, David Geffen School of Medicine at UCLA; <u>Principal Investigator</u>; Title: Development of an Immunotherapy Protocol for Persistent Anti-Leukemic Activity Through Modification of Hematopoietic Stem/Progenitor Cells with Lentiviral Vectors. Seed grant for experiments with lentiviral transduction of human HSC.
- 09/2011 Hyundai Hope on Wheels Research Grant Award (09/06/11-08/31/13), \$100,000 Hyundai Hope on Wheels; <u>Principal Investigator</u>; Title: Development of an Immunotherapy Protocol with Persistent Anti-Leukemic Activity

The goal of this project was to develop murine models to evaluate the modification of CD34+ HSC with CD19-specific CAR.

- 11/2012 UCLA CTSI Voucher Award (12/01/12-05/31/13), \$4,677
 - UCLA CTSI; Principal Investigator;

Title: Anti-leukemic Immunotherapy Using Modification of Hematopoietic Stem Cells.

The goal of this project was to perform histopathological studies on tumors harvested from humanized NSG engrafted with CD19-specific CAR modified human HSCs.

- 04/2013 UCLA CTSI Scholar Award (07/01/13-06/30/14), \$29,978
 - UCLA CTSI; Principal Investigator;

Title: Anti-leukemic Immunotherapy Using Modification of Hematopoietic Stem Cells.

The goal of this mentored career development award was to evaluate CD19-specific CAR transduction of human and murine HSPCs in murine models, including the suicide gene HSV sr39TK for ablation of modified cells.

- 05/2013 2013 Today's and Tomorrow's Children Fund Research Award, \$100.000 Today's and Tomorrow's Children Fund; <u>Principal Investigator</u>; Title: Focusing on the Target: Gene Therapy for Leukemias and Lymphomas.
- 07/2013 K12 HD034610

K-12 UCLA Child Health Research Center Development Award (07/01/13-11/30/15), \$98,250/year UCLA Pediatrics; <u>Trainee;</u>

Title: Anti-leukemic Immunotherapy Using Modification of Hematopoietic Stem Cells.

The goal of this mentored career development award is to evaluate CD19-specific CAR transduction of human and murine HSCs in murine models, including the suicide gene HSV sr39TK for ablation of modified cells.

07/2013 Broad Stem Cell Research Center (BSCRC) Innovation Award (07/01/13-06/30/14), \$50,000 UCLA Broad Stem Cell Research Center; <u>Co-Investigator;</u>

Title: Stem Cell Programming for Immunotherapy.

The goal of this project was to assess development of in vivo immunological memory from CARmodified HSCs.

01/2015 Catalyst UCLA Clinical and Translational Science Institute (CTSI) award (01/2015-12/2015); \$5,000 UCLA CTSI; Principal Investigator;

Title: Scientific Symposium on Cellular Therapies: Recruiting and Enabling Cells to Fight Infections and Cancer.

The goal of this project is to promote the first UCLA symposium on cellular therapies, bringing nationally recognized speakers for a one-day symposium at UCLA.

- 05/2015 CRB-SSS-S-15-004351 (05/01/15-05/31/16), \$9,064 Social and Scientific Systems, Inc./NIH-NHLBI; <u>Co-Investigator</u> Title: A Phase I/II, NonRandomized, Multicenter, Open-Label Study of G1XCGD (Lentiviral Vector Transduced CD34+ Cells) in Patients with X-linked Chronic Granulomatous Disease The goal of this project is a clinical trial for evaluation of a novel lentiviral vector for gene therapy of Xlinked CGD.
- 05/2015 New Assistant Professor Research Award (07/01/2015-06/30/2016); \$54,774 University of California, Cancer Research Coordinating Committee; <u>Principal Investigator</u> Title: Optimized gene modification of hematopoietic stem cells for lymphoma immunotherapy.

The goal of this project is to evaluate the optimized anti-CD19 CAR (EQ CAR) used for modification of human HSC engrafted into NSG mice. Assessment of engraftment and persistence will be performed (aim #1), ablation of gene-modified cells in vitro and in vivo using targeting of EGFRt using cetuximab (aim #2) and efficacy of EQ CAR-modified HSC for immunotherapy of CD19+ NHL and termination of their function using targeting of EGFRt (aim #3).

05/2015 CRB-SSS-S-15-004351 (05/01/15-05/31/2017); \$9,064

Social and Scientific Systems, Inc./NIH-NHLBI; <u>Co-Investigator</u> Title: A Phase I/II, NonRandomized, Multicenter, Open-Label Study of G1XCGD (Lentiviral Vector Transduced CD34+ Cells) in Patients with X-linked Chronic Granulomatous Disease The goal of this project is to initiate a clinical trial of stem cell gene therapy for XCGD, prior to the activities funded under CTS1-08231.

06/2015 Kure It Rivals United Team Science Award (07/01/2015 – 06/30/2016), \$125,000 Kure It Foundation; <u>Principal Investigator</u>
Title: Treatment of Neuroblastoma with Natural Killer Cells Genetically Engineered to Target Tumor Cells.
This project is a collaboration between UCLA and CHLA to develop gene-modified NK cells from human HSC to target neuroblastoma in a mouse model.

09/2015 Bluebird Bio, Inc. (09/01/15-07/19/2017), \$848,786, <u>Site PI</u> Title: A phase 2/3 study of the efficacy and safety of hematopoietic stem cells transduced with Lenti-D lentiviral vector for the treatment of childhood cerebral adrenoleukodystrophy. Industry-sponsored gene therapy clinical trial.

09/2016: 2016 STOP CANCER Research Career Development Award (9/1/2016-11/30/2017), \$87,500 STOP CANCER Foundation; <u>Principal Investigator</u> Title: Enhancement of Graft-Versus-Cancer Effect by Gene Modification of Hematopoietic Stem Cells. The goal of this research project is to translate the use of gene-modified hematopoietic stem cells to treat hematological malignancies.

7.2. Current

05/2015 Hyundai Hope on Wheels Scholar Hope Grant Award (12/01/2015 - 11/30/2018); \$250,000 Hyundai Hope on Wheels; <u>Principal Investigator</u>

Title: Optimized gene modification of hematopoietic stem cells for immunotherapy of pediatric lymphoma.

The goal of this project is to evaluate a novel CD19-specific CAR construct for modification of HSC in humanized murine model.

- 07/2015 Variety Club-D. Barry Reardon Endowed Chair in Pediatric Hematology/Oncology. (07/01/15-06/30/20), \$100,000.
- 10/2015 UCLA CFAR Basic and Translational Research Seed Grant (11/01/15-10/31/18), \$30,000 UCLA AIDS Institute/Center for AIDS Research (UCLA AI/CFAR); <u>Principal Investigator</u> Title: Engineered Cellular Therapy for AIDS-Associated Non-Hodgkin's Lymphoma. This is a multidisciplinary project to study the application of gene-modified NK cells for immunotherapy of HIV-associated Non-Hodgkin's lymphomas in a relevant animal model.

12/2015 ASH Scholar (07/01/16-12/31/18), \$75,000/year

American Society of Hematology; Principal Investigator

Title: Optimized Gene Modification of Hematopoietic Stem Cells for Immunotherapy of Non-Hodgkin Lymphoma.

The goal of this mentored career development award project is to evaluate gene-modified hematopoietic stem cell for immunotherapy of Non-Hodgkin lymphoma in a humanized mouse model.

07/2016 CIRM TRAN1-08533 (07/01/16-12/31/2018); \$5,288

California Institute of Regenerative Medicine; Co-Investigator

Title: Stem Cell-Based iNKT Cell Therapy for Cancer

The goal of this project is to perform the clinical translation of a protocol of in vivo generation of iNKT cells targeting cancer.

09/2017: 1K23 CA222659-01 (09/01/17 – 02/28/22), \$712,801

NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity <u>Principal Investigator</u>

Title: Engineering Precision Medicine to Enhance Graft-Versus-Lymphoma Effect.

The goal of this research project is to evaluate paired samples from lymphoma patients studied in humanized mouse model, using hematopoietic stem cells and tumor cells.

8. LECTURES AND PRESENTATIONS:

8.1. Local Invited Oral Presentations:

03/2011	"Pediatric Hematology/Oncology." Pediatric Rotation, Mattel Children's Hospital at UCLA
05/2011	"Development of an Immunotherapy Protocol with Persistent Anti-Leukemic Activity." Pediatric Translational Research Group (PTRG), Mattel Children's Hospital at UCLA
06/2011	"Development of an Immunotherapy Protocol with Persistent Anti-Leukemic Activity." Division of Hematology/Oncology, Department of Pediatrics, Mattel Children's Hospital at UCLA
12/2011	"Immunotherapy of B-lineage Hematological Malignancies Using Progenitor Cells." Jonsson Comprehensive Cancer Center, UCLA
10/2012	"Hematopoietic Stem Cell Transplantation, What's on our horizons?" Pediatric Nursing Hematology Oncology Update Lecture, Mattel Children's Hospital at UCLA
12/2013	"Nuts and Bolts of Hematopoietic Stem Cell Transplantation." Allergy, Immunology and Rheumatology Division Conference, at UCLA in Los Angeles, CA
03/2015	"Cancer Immunology and Immunotherapy." Allergy, Immunology and Rheumatology Division Conference, at UCLA in Los Angeles, CA
10/2015	"Introduction to the Cellular Therapies Program at UCLA." Cellular Therapies Symposium: Recruiting and Enabling Cells to Fight Infections and Cancer, at UCLA in Los Angeles, CA (10/15/15)
10/2015	"Graft Versus Host Disease." BMT training lecture series at Division of Hematology/Oncology, at UCLA in Los Angeles, CA

02/2016	"Cellular therapies." Allergy, Immunology and Rheumatology Division Conference, at UCLA in Los Angeles, CA
11/2016	"Engineered cellular therapy for AIDS-associated non-Hodgkin's lymphoma." UCLA CFAR/AIDS Institute Weekly Cross-Disciplinary Conferences, UCLA, Los Angeles, CA
10/2017	"Graft Versus Host Disease." BMT training lecture series at Division of Hematology/Oncology, at UCLA, Los Angeles, CA
02/2018	"Engineering Precision Medicine by Modification of Hematopoietic Stem Cells" UCLA Children's Discovery and Innovation Institute Junior Faculty Research Seminar, at UCLA, Los Angeles, CA
05/2018	"Stem Cell Transplants and Infection", Pediatric Infectious Diseases Tuesday Conference, Core Medical Knowledge, at UCLA, Los Angeles, CA

8.2. Regional, National and International Invited Teaching and Oral Presentations

05/2011 "Gene Transfer to HSPC as a Novel Approach for Immunotherapy Against B-Lineage Malignancies", **Oliveira SN**, Ryan C, Giannoni F, Hardee C, Katebian B, Sahaghian A, Hollis R, and Kohn DB, presented at the 14th Annual Meeting of American Society of Gene & Cell Therapy, Seattle, WA.

11/2011 "Preclinical Studies for Gene Therapy of Sickle Cell Disease using Bone Marrow CD34+ Cells modified with a βAS3-Globin Lentiviral Vector", Geiger S, Urbinati F, Romero-Garcia Z, Ruiz de Assin R, Wherley J, Kuftinec G, Cooper A, Hollis R, **De Oliveira S**, Townes T, Crooks G, Read E, Walters M, Meiselman H, Coates T, Marder V and Kohn DB, presented at the 10th Annual Gene Therapy Symposium for Heart, Lung, and Blood Diseases Focus Topic: Cell Trafficking and the Niche, Sonoma, CA.

05/2012 "Update on the U.S. Clinical Gene Therapy Trial for Adenosine Deaminase Deficient Severe Combined Immune Deficiency (ADA-SCID)". Shaw KL, Sokolic R, Mishra S, Geiger S, Garabedian E, **Oliveira SN**, Carbonaro DA, Muul L, Silvin C, Jagadeesh J, Fu P, Crooks GM, Moore TB, Candotti F, Kohn DB, presented at the 14th Annual Meeting of the American Society of Gene & Cell Therapy, Seattle, WA.

03/2013 "Development of an Immunotherapy Protocol with Persistent Anti-Leukemic Activity", **De Oliveira SN**, presented at the Forman Lab, City of Hope, Duarte, CA.

04/2013 "Gene Therapy for Rare Diseases Using Modification of HSCs ", **De Oliveira SN**, presented at the NIH Workshop Gene Therapy: Charting a Future Course, Bethesda, MD.

05/2013 "Gene Therapy for ADA-Deficient Severe Combined Immune Deficiency." **De Oliveira SN**, Sokolic R, Shaw K, Carbonaro-Sarracino DA, Jin XY, Geiger S, Mishra S, Cooper AR, Candotti F and Kohn DB., presented at the Primary Immune Deficiency Treatment Consortium (PIDTC) Third Annual Scientific Workshop, Houston, TX.

05/2013 "Phase II Clinical Gene Therapy Trial for Adenosine Deaminase-Deficient Severe Combined Immune Deficiency (ADA-SCID)." Shaw KL, Sokolic R, Mishra S, **De Oliveira S**, Silvin C, Geiger S, Brown B, Garabedian E, Smogorzewska M, Carbonaro DA, Fu PY, Davila A, Jagadeesh J, Hershfield M, Wayne A, Kapoor N, Moore TB, Candotti F, Kohn DB, presented at the 15th Annual Meeting of the American Society of Gene & Cell Therapy, Salt Lake City, UT.

06/2013 "What are the benefits of biobank (and related) research?" **De Oliveira SN**, presented at the EngageUC Deliberative Community Engagement in Los Angeles, CA.

09/2013 "Modification of Hematopoietic Stem Cells with CD19-Specific Chimeric Antigen Receptors as a Novel Approach for Cancer Immunotherapy", **De Oliveira SN**, oral presentation at the 2013 Child Health Research Center Annual Retreat (September 19-21, 2013, Denver, CO).

05/2014 "Second-Generation Chimeric Antigen Receptors Successfully Modify Hematopoietic Stem Cells for Immunotherapy of B-Lineage Malignancies", Tyagi T, Larson SM, Tu A, Senadheera S, Hollis RP, Kohn DB and **De Oliveira SN**, oral presentation at the 2014 ImmunologyLA meeting (May 22, 2014, Los Angeles, CA).

^{05/2014} "Anti-CD19 Immunotherapy Using Gene-Modified Hematopoietic Stem Cells", **De Oliveira SN**, oral presentation at the 1st Annual UCLA Children's Discovery and Innovation Institute Symposium: "Catalyzing Interactions in Child Health Research" (May 29, 2014, Los Angeles, CA).

09/2014 "Cancer Immunotherapy with Gene-Modified Hematopoietic Stem Cells", **De Oliveira SN**, oral presentation at the Hematology/Oncology/BMT Grand Rounds at the Children's Hospital Los Angeles (September 17, 2014, Los Angeles, CA).

^{09/2014} "Immunotherapy of B-lineage hematological malignancies with gene-modified progenitor cells", **De Oliveira SN**, oral presentation at the 18th UCLA Human Gene Medicine Program Symposium: Cancer Immunotherapy at UCLA (September 29, 2014, Los Angeles, CA).

12/2014 "Second-Generation Chimeric Antigen Receptors Successfully Modify Hematopoietic Stem Cells for Immunotherapy of B-Lineage Malignancies", Kao RL, Tyagi T, Larson SM, Tu A, Senadheera S, Hollis RP and **De Oliveira SN**. Oral presentation at the 56th ASH Annual Meeting and exposition (Dec 8, 2014, San Francisco, CA).

^{02/2015} "Autologous Transplant/Gene Therapy for Adenosine Deaminase-Deficient Severe Combined Immune Deficiency", Kohn DB, Shaw KL, Sokolic R, Carbonaro DA, Davila A, Barman P, Garabedian E, Silvin C, **De Oliveira SN**, Shah AJ, Moore TB, Hershfield M, Thrasher A, Gaspar RG, Candotti F, oral presentation at the 2015 BMT Tandem Meetings (February 11-15, 2015, San Diego, CA).

04/2015 "Persistent neutropenia in an infant after gene therapy for ADA-SCID", **De Oliveira SN**, oral presentation at the Fifth Annual Scientific Workshop of the Primary Immune Deficiency Treatment Consortium (PIDTC) (Apr 30 to May 2, 2015, Montreal, Canada).

05/2015 "Gene Modification of Hematopoietic Stem Cells for Enhancement of Graft-versus-Lymphoma Effect", **De Oliveira SN**, oral presentation at the 2nd Annual UCLA Children's Discovery and Innovation Institute Symposium: "Catalyzing and Expanding Interdisciplinary Collaboration in Translational Child Health" (May 28, 2015, Los Angeles, CA).

06/2015 "Basic Principles of Tumor Immunotherapy", **De Oliveira SN**, oral presentation at the Advances in Cancer Immunotherapy Symposium by the Society for Immunotherapy of Cancer (SITC) (June 19, 2015, Los Angeles, CA).

10/2015 "Gene Modification of Hematopoietic Stem Cells with Chimeric Antigen Receptors", **De Oliveira SN**, oral presentation at the Engineering Immunity Retreat (October 31-November 1, 2015, Arrowhead, CA).

03/2016 "Gene-modified hematopoietic stem cells for cancer immunotherapy", **De Oliveira SN**, oral presentation at the Children's Discovery and Innovation Institute Scientific Seminar Series (March 17, 2016, Los Angeles, CA).

05/2016 "Transplantation for Autoimmunity/Immune Dysregulation - Case Presentation: 14 yo. girl with IBD and HLA-B27 AS", **De Oliveira SN**, oral presentation at the Sixth Annual Scientific Workshop of the Primary Immune Deficiency Treatment Consortium (PIDTC) (May 18 to 21, 2016, Los Angeles, CA).

"Basic Principles of Tumor Immunotherapy", **De Oliveira SN**, oral presentation at the 31st Annual Meeting & Associated Programs of the Society for Immunotherapy of Cancer (SITC) (November 12, 2016, National Harbor, MD).

^{05/2017} "Gene Modification of Human Hematopoietic Stem Cells with Suicide Genes as a Safety Control System", Truscott LC, Kao R, Chiou TT and **De Oliveira SN**, abstract 2615.2, oral presentation at the 2017 Pediatric Academic Societies (PAS) Annual Meeting (May 07, 2017, San Francisco, CA).

05/2017 "Engineering Precision Medicine to Increase Graft-Versus-Lymphoma Activity: Hematopoietic Stem Cells Modified with Chimeric Antigen Receptors", Truscott LC, Kao R, Chiou TT, Kohn DB and **De Oliveira SN**, abstract 2615.7, oral presentation at the 2017 Pediatric Academic Societies (PAS) Annual Meeting (May 6-9, 2017, San Francisco, CA).

^{05/2017} "Gene Modification of Human Hematopoietic Stem Cells with Suicide Genes as a Safety Control System", Truscott LC, Kao R, Chiou TT and **De Oliveira SN**, oral presentation at the 20th ASGCT Annual Meeting (May 10-13, 2017, Washington, DC).

06/2017 "Principles of Cancer Immunotherapy", **De Oliveira SN**, keynote oral presentation at the Presidential Symposium of the 24th Annual Scientific Meeting of the Psychoneuroimmunology Research Society (June 7-10, 2017, Galveston, TX).

02/2018 "Treatment of Neuroblastoma with Natural Killer Cells Genetically Engineered to Target Tumor Cells", De Oliveira SN, oral presentation at the Kure It Cancer Research Foundation, Rivals United For A Kure Researcher's Forum & Donor Reception 2018 (February 7, 2018, Los Angeles, CA).

02/2018 "Humanized Mouse Models for Hematopoietic Stem Cell Research: Principles and Pitfalls", live webinar presented on 02/28/2018. <u>https://www.stemcell.com/technical-resources/educational-materials/videos-and-webinars/humanized-mouse-models-for-hematopoietic-stem-cell-research-principles-and-pitfalls.html?request_webinar=StemcellWebinar</u>

06/2018 "CAR T-cell Therapy for Pediatric Cancer; the presentation is available on YouTube at https://www.youtube.com/watch?v=hdUpTX89QRc or at https://www.uclahealth.org/uclamdchat# in the Pediatrics section. This presentation is a valuable resource for patients and families regarding the breakthrough cancer therapy available at UCLA.

8.3. Poster Presentations at Scientific Meetings:

1. "WT1 gene expression quantification in myeloid leukemias in pediatric patients and clinical correlation", Rodrigues PC, **Oliveira SN**, Pinheiro VRP, et al.. Poster presentation at VIII Brazilian Congress of Pediatric Oncology (Dec, 2002, Belo Horizonte, Brazil).

2. "False positive MRI findings in follow-up of pediatric patients with tumors of the central nervous system (CNS): the Children's Hospital Los Angeles (CHLA) experience", **Oliveira SN**, Gonzalez-Gomez I, Panigrahy A, Krieger M, Nelson M, McComb, Lavey R, Finlay J, Dhall G., presented at the 2008 International Symposium of Pediatric Neuro-Oncology (June 30-July 2, 2008, Chicago, IL).

3. "Development of soluble CD19 molecule for detection of anti-CD19 Chimeric Antigen Receptors", **Oliveira SN**, Wang J, Hardee CL, Kohn DB, Hollis R., presented at the 2nd International Conference on Immunotherapy in Pediatric Oncology (Oct 11-12, 2010, Houston, TX).

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5. "Gene Transfer to Hematopoietic Stem/Progenitor Cells as a Novel Approach for Immunotherapy Against B-Lineage Malignancies: In Vivo Xenograft Model." **De Oliveira SN**, Giannoni F, Hardee C, Sahaghian A, Cooper LJN, Kohn DB. Abstract # 4168. Poster presentation at the 53rd ASH Annual Meeting and exposition (Dec 10-13, 2011, San Diego, CA).

6. "Preclinical Studies for Sickle Cell Disease Gene Therapy Using Bone Marrow CD34+ Cells Modified with a βAS3-Globin Lentiviral Vector." Urbinati F, Garcia ZR, Geiger S, Assin RR, Kuftinec G, Hollis RP, **De Oliveira SN**, et al. Abstract # 3119. Poster presentation at the 53rd ASH Annual Meeting and exposition (Dec 10-13, 2011, San Diego, CA).

7. "Same Sibling Marrow Following Cord Allogeneic Transplantation as Therapy for Second Relapse APL: A Pediatric Case Report." **De Oliveira SN**, Pham A, Brown B, Smith LT, Kempert P and Moore TB. Abstract # 350. Poster presentation at the 2013 BMT Tandem Meetings (Feb 13-17, 2013, Salt Lake City, UT).

8. "Modification of Hematopoietic Stem Cells with CD19-specific Chimeric Antigen Receptors as a Novel Approach for Cancer Immunotherapy." **De Oliveira SN**, Ryan C, Wherley J, Tu A, Elashoff D, Cooper LJN, Hollis RP, Kohn DB. Abstract# 9. Poster presentation at the ImmunologyLA meeting (May 23, 2013, Los Angeles, CA).

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10. "A Pre-Clinical Model Of Hematopoietic Stem Cell Based Immunotherapy For Cancer Utilizing The NY-ESO-1 T-Cell Receptor and sr39TK PET Reporter / Suicide Gene." Gschweng EH, McCracken MN, Chodon T, Koya RC, Kaufman ML, Ho M, Saini N, Hollis RP, Ribas A, **De Oliveira SN**, Witte ON, and Kohn DB. Poster presentation at the 55th ASH Annual Meeting and exposition (Dec 7-10, 2013, New Orleans, LA).

11. "Anti-CD19 Chimeric Antigen Receptor Controlled By The Suicide Gene HSVsr39TK In Hematopoietic Stem Cells For Immunotherapy Of B-Lineage Malignancies." Larson SM, Tu A, Senadheera S, Ho M, Kohn DB, and **De Oliveira SN**. Abstract #1659. Poster presentation at the 55th ASH Annual Meeting and exposition (Dec 7-10, 2013, New Orleans, LA).

12. "Second-Generation Chimeric Antigen Receptors Successfully Modify Hematopoietic Stem Cells for Immunotherapy of B-Lineage Malignancies", Tyagi T, Larson SM, Tu A, Senadheera S, Hollis RP, Kohn DB and **De Oliveira SN**, poster presentation at the 1st Annual UCLA Children's Discovery and Innovation Institute Symposium: "Catalyzing Interactions in Child Health Research" (May 29, 2014, Los Angeles, CA).

13. "Optimization of Gene Modification of Human Hematopoietic Stem Cells by Pre-Transplant Manipulation", Kao RL, Lerman R, Tu A, Tyagi T and **De Oliveira SN**, poster presentation at the 1st Annual UCLA Children's Discovery and Innovation Institute Symposium: "Catalyzing Interactions in Child Health Research" (May 29, 2014, Los Angeles, CA).

14. "Systematic Comparison of the EF-1 Alpha Short (EFS) and Viral Promoters for Gene Modification of Human Primary Cells for Clinical Applications", Kao RL, Gschweng EH, Lerman AR, Larson SM, Tu A, Tyagi T, Senadheera S, Hollis RP and **De Oliveira SN**. Poster presentation at the 56th ASH Annual Meeting and exposition (Dec 6-9, 2014, San Francisco, CA) – awarded ASH Travel Award to Kao RL.

15. "A Cetuximab-Mediated Suicide System for Hematopoietic Stem Cell Gene Therapy", Kao RL, Tu A, Tyagi T and **De Oliveira SN**. Poster presentation at the 2nd Annual UCLA Children's Discovery and Innovation Institute Symposium: "Catalyzing and Expanding Interdisciplinary Collaboration in Translational Child Health" (May 28, 2015, Los Angeles, CA) – awarded third place for poster presentation by senior pediatric fellow to Kao RL.

16. "Development of optimized protocol for generation of NK cells expressing chimeric antigen receptors from hematopoietic stem cells for cancer immunotherapy." Patel A, Truscott L and **De Oliveira SN**. Poster presentation at the 57th Annual Meeting of the American Society of Hematology (Dec 5-8, 2015, Orlando, FL), poster I, abstract #2044 – awarded ASH Travel Award to Patel A.

17. "Pre-Clinical Development of Gene Modification of Hematopoietic Stem Cells with Chimeric Antigen Receptors for Cancer Immunotherapy." Truscott LC, Larson S, Patel A, Kao R, **De Oliveira SN**. Poster presentation at the 57th Annual Meeting of the American Society of Hematology (Dec 5-8, 2015, Orlando, FL), poster III, abstract #4430 – awarded ASH Travel Award to Truscott L.

18. "Gene modification of human HSC with suicide genes for clinical applications." Rahman N, Dinoso T, Truscott LC, Chiou TT and **De Oliveira SN**. Poster presentation at the 2016 UCLA Research Poster Day (May 24, 2016, Los Angeles, CA).

19. "Gene modification of human hematopoietic stem cells with suicide genes as a safety control." Truscott LC, Rahman N, Kao RL, Chiou TT, **De Oliveira SN**. Poster presentation at the Science Day of the Department of Pediatrics at UCLA (May 26, 2016, Los Angeles, CA).

20. "Development of Optimized Protocol for Generation of NK Cells Expressing Chimeric Antigen Receptors from Hematopoietic Stem Cells for Cancer Immunotherapy." Truscott LC, Chiou TT and **De Oliveira SN**. Poster presentation at the Sixth Annual ImmunologyLA (June 3, 2016, Los Angeles, CA).

21. "AntiCD19 Chimeric Antigen Receptor in Hematopoietic Stem Cells Controlled By the Suicide Gene HSVsr39TK for Immunotherapy of B-Lineage Malignancies". Truscott LC, Chiou TT and **De Oliveira SN**. Poster presentation at the 58th Annual Meeting of the American Society of Hematology (December 3-6, 2016, San Diego, CA).

22. "Evaluation of Engraftment of Gene-modified Human Hematopoietic Stem Cells Using ImmunoPET". Truscott LC, Chiou TT, Wu A and **De Oliveira SN**. Poster presentation at the Fourth Annual UCLA Children's Discovery and Innovation Institute Symposium (May 25, 2017, Los Angeles, CA).

23. "Autologous hematopoietic stem cell gene therapy for cerebral adrenoleukodystrophy – Interim results and initial long-term follow-up of an international clinical study". Florian Eichler, Christine Duncan, Patricia L. Musolino, Paul J. Orchard, **Satiro De Oliveira**, Adrian Thrasher, Myriam Armant, Colleen Dansereau, Troy C. Lund, Weston P. Miller, Gerald V. Raymond, Raman Sankar, Ami J. Shah, Caroline Sevine, H. Bobby Gaspar, Paul Gissen, Hernan Amartino, Drago Bratkovic, Nicholas J.C. Smith, Asif M. Paker, Esther Shamir, Tara O'Meara, David Davidson, Patrick Aubourg, David A. Williams. Poster presentation at the 46th Annual Meeting of the Child Neurology Society (October 4-7, 2017, Kansas City, MO).

24. "Engineering Precision Medicine to Enhance Graft-Versus-Lymphoma Activity: Hematopoietic Stem Cells Modified with Chimeric Antigen Receptors." Kao RL, Truscott LC, Chiou TT and **De Oliveira SN**. Poster presentation at the 59th Annual Meeting of the American Society of Hematology (December 8-12, 2017, Atlanta, GA).

25. "Autologous hematopoietic stem cell gene therapy for cerebral adrenoleukodystrophy – Results of an international Phase 2/3 trial." **Satiro De Oliveira**, Florian Eichler, Christine Duncan, Patricia L. Musolino, Paul J. Orchard, Adrian Thrasher, Myriam Armant, Colleen Dansereau, Troy C. Lund, Weston P. Miller, Gerald V. Raymond, Raman Sankar, Ami J. Shah, Caroline Sevine, H. Bobby Gaspar, Paul Gissen, Hernan Amartino, Drago Bratkovic, Nicholas J.C. Smith, Esther Shamir, Kristen Pappas, Mohammed Asmal, David Davidson,

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26. "Engineered precision medicine with CAR-modified hematopoietic stem cells and cetuximab-mediated suicide system", Kao RL, Truscott LC, Chiou TT and **De Oliveira S**. Poster presentation at the Engineered Immunity and Parker Institute for Cancer Immunotherapy Center at UCLA 2018 Retreat (May 7-8, 2018, Arrowhead, CA).

27. "Engineering Precision Medicine to Increase Graft-Versus-Lymphoma Activity: Hematopoietic Stem Cells Modified with Chimeric Antigen Receptors", Truscott LC, Kao RL, Chiou TT and **De Oliveira S**. Poster presentation at the 2018 Immunology, Inflammation, Infection and Transplantation (I3T) Scientific Retreat (June 12, 2018, Los Angeles, CA).

28. "Engineering Precision Medicine to Increase Graft-Versus-Lymphoma Activity: Hematopoietic Stem Cells Modified with Chimeric Antigen Receptors", Truscott LC, Kao RL, Chiou T, Kohn DB and **De Oliveira SN**. Poster presentation at the 2018 Professional Development and Mock Review Workshop of the Center to Reduce Cancer Health Disparities (CRCHD) at the NCI (June 28 and 29, 2018, NCI Shady Grove, Rockville, MD).

29. "Targeted Gene Insertion for the Treatment of X-Linked Hyper-IgM Syndrome." Kuo CY, Long JD, Campo-Fernandez B, **De Oliveira S**, Cooper AR, Romero Z, Hoban MD, Joglekar AV, Lill GR, Kaufman ML, Fitz-Gibbon S, Wang XY, Hollis RP and Kohn DB. Poster presentation at the 21st Annual Meeting of the American Society of Gene & Cell Therapy (ASGCT) (May 16-19, 2018, Chicago, IL).

9. PUBLICATION/BIBLIOGRAPHY:

9.1. RESEARCH PAPERS

9.1.A. RESEARCH PAPERS – PEER REVIEWED

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9.1.B. RESEARCH PAPERS – PEER REVIEWED (IN PRESS)

None.

9.1.C. RESEARCH PAPERS – PEER REVIEWED (SUBMITTED)

1. Kao RL, Truscott LC, Tu A, Tyagi T and **De Oliveira SN**. A cetuximab-mediated suicide system in CARmodified hematopoietic stem cells for cancer therapy. **Human Gene Therapy**.

9.2. CHAPTERS

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9.3. LETTERS TO THE EDITOR

None.

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9.5. EDITORIALS

None.

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1. Chiou T, Truscott LC, Larson SM, Kao R, Tu A, Senadheera S, Hollis RP and **De Oliveira SN**. Second-Generation Chimeric Antigen Receptors Successfully Modify Hematopoietic Stem Cells for Immunotherapy of B-Lineage Malignancies.

9.7. ABSTRACTS

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10. PAST AND CURRENT MENTEES:

07/2009 – 06/2010: Gabriela Kuftinec, currently a Medical Student at Tufts University School of Medicine.

08/2010 – 07/2011: Behrod Katebian, Senior Undergraduate Student at California State University, Northridge (CSUN), Chemistry and Biochemistry. CSUN-UCLA Bridges to Stem Cell Research Program Trainee. 2012 Glenn Nagel Awardee. Currently a Medical Student at University of Southern California.

06/2010 – 07/2012: Christine Ryan, Senior Undergraduate Student at UCLA Molecular, Cell and Developmental Biology (MCDB). 2011 Amgen Scholar. Currently a Medical Student at Stanford.

06/2011-09/2011: Irena Tremcinska, Medical Student at Charles University, Faculty of Medicine, Prague, Czech Republic.

10/2011 – 06/2013: Sarah Larson, M.D., Hematology/Oncology Fellow at David Geffen School of Medicine at UCLA. Currently a Faculty at Hematology/Oncology UCLA.

07/2012 – 05/2015: Andy Tu, Graduate from Physiological Science at UCLA. Currently a Dentistry Student at the University of Minnesota School of Dentistry.

08/2012 – 05/2013: Anthony Cuccia, Graduate from California State University (CSUN). CSUN-UCLA Bridges to Stem Cell Research Program Trainee.

09/2013 – 07/2014: Rebecca Lerman, Undergraduate Student at UCLA Physiological Science. Currently a Dentistry Student at UCSF.

07/2013 – 07/2015: Roy Kao, M.D., Pediatric Hematology/Oncology Fellow at Mattel Children's Hospital at UCLA. Currently a Faculty at the Muller Children's Hospital of Long Beach.

04/2013 – 10/2016: Therese Dinoso, Undergraduate Student at UCLA Biology.

02/2014 – 10/2016: Nezia Rahman, Undergraduate Student at UCLA MIMG.

03/2015 – 09/2017: Laurel Truscott, M.D., Pediatric Hematology/Oncology Fellow at Mattel Children's Hospital at UCLA.

04/2015 – 12/2015: Dalena Tong, Undergraduate Student at UCLA Biochemistry.

06/2015 – 08/2015: Amie Patel, DO student at Western University.

10/2015 – present: Tzu Ting Chiou, PhD, came to work with me as Research Assistant II.

06/2016 – 04/2017: Martin Mwangi, Medical Student at David Geffen School of Medicine at UCLA (Longitudinal Preceptor).

06/2016 – present: James Ch'ng, M.D., Pediatric Hematology/Oncology Fellow at Mattel Children's Hospital at UCLA (career mentor).

07/2016 – 06/2017: Heather Vickers, M.D., Pediatric Hematology/Oncology Fellow at Mattel Children's Hospital at UCLA (career mentor).

03/2017 - present: Steven Jonas, M.D., Pediatric Hematology/Oncology Fellow at Mattel Children's Hospital at UCLA (research mentor).

01/2018 – present: Calvin Lau, Medical Student MS2 (research mentor)

- 07/2018 present: David DiTullio, Medical Student MS2 (research mentor)
- 08/2018 present: Manuela Guyot, Undergraduate Student at UCLA MIMG (research mentor)