BIOGRAPHICAL SKETCH

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NAME: Olivia Francis-Boyle

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Andrews University, Berrien Springs, MI	BS	06/2005	Biology
Walden University, Minneapolis, MN	MS	02/2011	Education
Loma Linda University, Loma Linda, CA	PhD	05/2015	Anatomy
St. Jude Children's Research Hospital	Post-doctoral Fellowship (Certificate)	05/2017	Myeloid Leukemia (Hem. Onc.)

A. Personal Statement

I'm currently an Assistant Professor (Immunology) in the School of Pharmacy at Loma Linda University. My area of expertise is in normal and malignant hematopoiesis (specifically lymphoid and myeloid leukemogenesis). My area of research interest is Immunological Disorders (primarily Myeloid Leukemia). My long-term goal is to understand the cellular and molecular disease mechanisms involved in the development of immunological diseases and to identify promising therapeutic candidates to treat these diseases. I have more than 10 years of experience in the field and I have published several peer reviewed articles, some of which were paradigm shifting and have provided new knowledge and understanding of normal and malignant hematopoiesis (see peer-review articles listed below). New knowledge included the development of a novel animal model that is supplemented with a cytokine and is currently being used to improve the study of leukemogenesis. More recently, I have been named a co-inventor on a patent that describes the use of a biologic for the treatment of leukemia.

B. Positions and Employment

2019 – present	Assistant Professor, Department of Pharmaceutical & Administrative Sciences, School of Pharmacy, Loma Linda University, Loma Linda, CA
2018-2019	Adjunct Faculty (General Biology and Anatomy & Physiology), San Bernardino Community College District (Crafton Hills College & Valley College), San Bernardino, CA
2018-2019	Adjunct Faculty (General Biology), Chaffey College District, Rancho Cucamonga, CA
2018	Contract Instructor (Immunology), Department of Pharmaceutical & Administrative Sciences, School of Pharmacy, Loma Linda University, Loma Linda, CA
2015-2017	Post-doctoral Research Associate (Fellow), Department of Pathology, St. Jude Children's Research Hospital, Memphis, TN
2011-2014	Contract Instructor (Neuroscience I), Department of Physical Therapy, School of Allied Health Professions, Loma Linda University, CA
2013-2015	Manager, Laboratory Animal Experiments, Department of Pathology & Human Anatomy, Loma Linda University, CA
2007-2015	Graduate Student (PhD Candidate), Department of Pathology & Human Anatomy, Loma Linda University, CA
2006-2007	Principal, Miracle Meadows School, Salem, WV

2005-2007 Teacher (Algebra, Biology, Chemistry), Miracle Meadows School, Salem, WV
1999-2000 Laboratory Technician (Anatomy & Physiology), University of the Southern Caribbean, Trinidad & Tobago, WI
1998-1999 Teacher, Integrated Science, Bladen Hall Multilateral School, Guyana, SA

Other Experience:

2019-present Member, Academic Standing and Professionalism Committee, School of Pharmacy, Loma Linda University
2019-present Member, Students in Research Committee, American Association of Colleges of Pharmacy
2018-present President, Black Alumni of Loma Linda & La Sierra Universities (BALL)
2012- 2015 Student Representative, Research Affairs Committee, Loma Linda University Board of Trustees, Loma Linda University, Loma Linda, CA
2011-2015 Student Dean, Kate Lindsay Hall, Loma Linda University, Loma Linda, CA
2011-2012 Community Service Vice-President, Loma Linda University Student Association
2010-2011 President, Black Health Professional Student Association, Loma Linda University, Loma Linda, CA
2008-2015 Mentor for Basic Science Research Trainees and IMSD Trainees (ABC Apprenticeship-High School students, UTP-Undergraduate students, Prospective Medical School Students and MSTP-Medical School Students)
2008-2010 Secretary, Basic Science Student Council, School of Medicine, Loma Linda University, Loma Linda, CA

Professional Memberships:

2009- 2013 Member, American Association of Anatomists
2009- present Member, American Association of Immunologists
2011- present Member, American Society of Hematology
2013- present Associate Member, American Association for Cancer Research
2019- present Member, American Association of Colleges of Pharmacy

C. Contributions to Science

Patent:

1. O.L. Francis-Boyle, 2018. Biologic For the Treatment of Cancer. US Patent Application PCT/US2018/026087, published on Nov. 10th, 2018.

Peer-reviewed Publications:

1. **O. L. Francis**, K. Chaudhury, T. Lamprecht, JM Klco. Impact of Notch Disruption on Myeloid Development. Blood Cancer Journal 2017 Aug 25;7(8):e598. doi: 10.1038/bcj.2017.73
2. **O. L. Francis**, J.L. Payne, R. Su and K.J. Payne. Regulator of Myeloid Differentiation and Function: The Secret Life of Ikaros. World J Biol Chem, 2(6): 199-125 (2011).
3. A. Benitez, A.J. Weldon, L. Tatosyan, V. Velkuru, S. Lee, T. Milford, **O. L. Francis**, S. Hsu, K. Nazeri, C.M. Casiano, R. Schneider, J. Gonzalez, R. Su, I. Baez, K. Colbourn, I Moldovan and K.J. Payne. Differences in Mouse and Human Non-Memory B-cell Pools. J Immunology 2014 May 15;192(10):4610-9
4. **O. L Francis**, Milford TA, Martinez SR, Baez I, Coats JS, Mayagoitia K, Concepcion KR, Ginelli E, Beldiman C, Benitez A, Weldon AJ, Arogyaswamy K, Shiraz P, Fisher R, Morris CL, Zhang XB, Filippov V, Van Handel B, Ge Z, Song C, Dovat S, Su RJ, Payne KJ. A novel xenograft model to study the role of TSLP-induced CRLF2 signals in normal and malignant human B lymphopoiesis Haematologica. 2016 Apr;101(4):417-26
   ****The manuscript above was selected for editorial spotlight**. The Spotlight article is entitled: "On mice and humans: the role of thymic stromal lymphopoietin in human B-cell development and leukemia"**
5. Wang H, Song C, Ding Y, Pan X, Ge Z, Tan BH, Gowda C, Sachdev M, Muthusami S, Ouyang H, Lai L, **O. L Francis**, Abdel,-Azim H, Dorsam G, Xiang M, Payne KJ, Dovat S. Transcriptional Regulation of

JARID1B/KDM5B Histone Demethylase by Ikaros, Histone Deacetylase 1 (HDAC1), and Casein Kinase 2 (CK2) in B-cell Acute Lymphoblastic Leukemia. J Biol Chem. 2016 Feb 19;291(8):4004-18

6. **O. L. Francis**, Milford TA, Beldiman C, Payne KJ. Fine-tuning patient-derived xenograft models for precision medicine approaches in leukemia. J Investig Med. 2016 Mar;64(3):740-4
7. Milford TA, Su RJ, **O. L. Francis**, Baez I, Martinez SR, Coats JS, Weldon AJ, Calderon MN, Nwosu MC, Botimer AR, Suterwala BT, Zhang XB, Morris CL, Weldon DJ, Dovat S, Payne KJ. TSLP or IL-7 provide an IL-7Ra signal that is critical for human B lymphopoiesis. Eur J Immunol 2016 Sep;46(9):2155-61
8. Coats JS, Baez I, Stoian C, Milford TM, Zhang X, **O. L. Francis,** Su R, Payne KJ. Expression of Exogenous Cytokine in Patient-derived xenografts via injection with a cytokine-transduced stromal cell line. J Vis. Exp. 2017 May 10;(123)

Book Chapter Publication:

1. C. Gowda, **O. L. Francis**, Y. Ding, P. Shiraz, K.J. Payne and S. Dovat (2015). Pediatric High-Risk Leukemia- Molecular, Leukemias- Updates and New Insights, Prof. Margarita Guenova (Ed.), ISBN: 978-953-51-2202-9, InTech, DOI: 10.5772/61247.

Oral Presentations:

1. P. Shiraz, **O. L. Francis**, I. Baez, K. Sacedo-Concepcion, K. Mayagoitia, E. Ginelli, T. Milford, J. Coats, R. Fisher, C.L. Morris, X. Zhang, R. Su, K.J. Payne. A Preclinical Xenograft Model to Identify Disease Mechanisms and Therapies for CRLF2 B-cell Acute Lymphoblastic Leukemia. American Federation for Medical Research 2015 (Western Regional Meeting), Carmel, CA
2. **O. L. Francis**, The Impact of Notch on Normal & Malignant Myelopoiesis. Faculty of Graduate Studies Research Seminar, Loma Linda University, Nov., 2017, Loma Linda, CA
3. **O. L. Francis**, The Impact of Notch on Normal & Malignant Myelopoiesis. Cancer Research In Progress Seminar, Loma Linda University, Mar. 7th, 2018, Loma Linda, CA

Selected Conference Abstracts and Posters:

1. M. Nwosu, **O. L. Francis**, I. Delgado, A. Benitez, T. Milford, G. Ramirez, C. Morris, and K. J. Payne. "The Role of TSLP and its Receptor in Human B-cell Development." 8th Annual Health Disparities Research Symposium, Loma Linda, CA August 2008
2. G. E. Ramirez, **O. L. Francis**, I. Delgado, A. Benitez, T. Milford, M. Nwosu, and K. J. Payne. "Can Human Stromal Cell Lines Replace Bone Marrow Stroma in Supporting Development of Human B-cells?" 8th Annual Health Disparities Research Symposium, Loma Linda, CA August 2008
3. M. Calderon, F. Meza, **O. L. Francis**, I. Delgado, T. Milford, A. Benitez, A. Weldon, and K. J. Payne. "Expression and Function of TSLP in Human B-cells", 9th Annual Health Disparities Research Symposium, Loma Linda, CA August 2009
4. F. Meza, M. Calderon, T. Milford, **O. L. Francis**, A. Benitez, A. Weldon, I. Baez, K. J. Payne. "Unique CD5 Isoforms in Human B Cells", 9th Annual Health Disparities Research Symposium, Loma Linda, CA August 2009
5. Y. Abdi, **O. L. Francis**, J. Payne, A. Benitez, I. Delgado, A. Weldon, T. Milford, and K. J Payne "An Artificial Bone Marrow System for Studies of Human B-cell Development", 10th Annual Health Disparities Research Symposium, Loma Linda, CA August 2010
6. C. A. Swindlehurst, L. F. Kyle, W. H. Chan, S. Ottilie, A. Shahbandi, C. L. Morris, **O. L Francis**, S. Martinez, T. Bennett, and K. J. Payne "Two New Classes of Drugs to Target Chemo-Resistant and High Risk B-ALL", 53rd Annual American Society of Hematology Meeting and Exposition, San Diego, CA 2011
7. K. J. Payne, T. Milford**, O.L. Francis**, I. Baez, S. Dovat, Rui-Jun Su[1]. [1]Loma Linda University, Loma Linda, CA; [2]Pennsylvania State University College of Medicine, Hershey, PA. Role of the CRLF2 ligand TSLP in normal human B-cell development, 102nd Annual American Association for Cancer Research Meeting, Orlando, FL, 2011
8. K. J. Payne, R. Su, **O. L. Francis**, S. Martinez, T. Bennet, K. Arogyaswamy, C.L. Morris and S. Dovat "A Human-Mouse Xenograft Model to Study the Role of TSLP in CRLF2*d* B-ALL, 103rd Annual American Association for Cancer Research Meeting, Chicago, IL April, 2012

9. **O.L. Francis**, S.R. Martinez, T. Bennett, I. Baez, T. Milford, C. L. Morris, R. O. Fisher, X. Zhang, R. Su, S. Dovat and K. J. Payne A Novel Pre-Clinical Model to Identify Therapies for CRLF2 B-ALL and Reduce Childhood Cancer Health Disparities, 5th American Association for Cancer Research Conference on 'The Science of Cancer Health Disparities', San Diego, CA October, 2012
10. T. Milford, R. Su, I. Baez, **O.L. Francis**, A.J. Weldon, X. Zhang and K.J. Payne "Human B cell development in a novel xenograft model that provides selective TSLP and IL-7 stimulation, 100th, Annual American Association of Immunologist meeting, Honolulu, HI May, 2013
11. K. J. Payne, R. Su, **O. L. Francis**, S. Martinez, T. Bennet, K. Arogyaswamy, C.L. Morris and S. Dovat "A Human-Mouse Xenograft Model to Study the Role of TSLP in CRLF2d B-ALL, 103rd Annual American Association for Cancer Research Meeting, Chicago, IL April, 2012
12. **O.L. Francis**, S.R. Martinez, T. Bennett, I. Baez, T. Milford, C. L. Morris, R. O. Fisher, X. Zhang, R. Su, S. Dovat and K. J. Payne "A Novel Pre-Clinical Model to Identify Therapies for CRLF2 B-ALL and Reduce Childhood Cancer Health Disparities", 5th American Association for Cancer Research Conference on 'The Science of Cancer Health Disparities', San Diego, CA October, 2012
13. D. Weldon, S. Martinez, **O.L. Francis**, T. Bennett, I. Baez, and K.J Payne. "A natural product to target high-risk pediatric B-cell leukemia." (GRASP project) 15th Annual Basic Sciences Research Symposium, Loma Linda Univ, CA, October 29, 2012 24898 Sanitarium Dr., Loma Linda, CA 92350•304-266-0384•oribiaf@gmail.com
14. R. Su, **O.L. Francis**, S. Martinez, T. Bennett, I. Baez, T. Milford, R. Fisher, S. Dovat, X. Zhang, K.J. Payne, and C.L. Morris. "TSLP in pediatric B-ALL." (GCAT project) 15th Annual Basic Sciences Research Symposium, Loma Linda Univ, CA, October 2012.
15. K.J. Payne, **O.L. Francis**, T. Milford, S. Martinez, I. Baez, A.J. Weldon, R. Johnson, S. Montgomery, R. Fisher, C.L. Morris, X. Zhang, S. Dovat, and R. Su. "The effect of TSLP on normal B cell progenitors and CRLF2 B-ALL in a human-mouse xenograft model." Annual American Society of Pediatric Hematology/Oncology Meeting, Miami, FL, April 2013.
16. T. Milford, R. Su, I. Baez, **O.L. Francis**, A.J. Weldon, X. Zhang and K.J. Payne "Human B cell development in a novel xenograft model that provides selective TSLP and IL-7 stimulation", 100th, Annual American Association of Immunologist meeting, Honolulu, HI May, 2013
17. K. Mayagoitia, A. Edwards, **O.L. Francis,** S. Martinez, I. Baez, T. Milford and K.J. Payne "TSLP promotes survival of CRLF2 B-ALL by up-regulating an anti-apoptotic protein", 13th Annual Health Disparities Research Symposium, Loma Linda, CA August, 2013
18. A. Edwards, K. Mayagoitia, **O.L. Francis**, S. Martinez, I Baez, T. Milford and K.J. Payne "Identifying Mechanisms of Pediatric Cancer Health Disparities: Effects of IL-7 on CRLF2 B-ALL Cell Lines", 13th Annual Health Disparities Symposium, Loma Linda, CA August, 2013
19. **O.L. Francis**, R. Sun, S. Martinez, I. Baez, T. Milford, R. Fisher, C.L. Morris, X. Zhang, V. Filippov, S. Dovat and K.J. Payne "TSLP up-regulates expression of genes involved in cell survival in a preclinical xenograft model of CRLF2 B-ALL." 105th Annual American Association for Cancer Research Meeting, San Diego, CA April, 2014
20. K.J. Payne, **O.L. Francis,** T. Milford, S. Martinez, I. Baez, R. Fisher, C.L. Morris, X. Zhang, V. Filippov, S. Dovat and R. Su "A Novel Preclinical Xenograft Model to Evaluate the Role of TSLP in Normal and Malignant B Cell Production" Annual Translational Science (sponsored by the Association for Clinical & Translational Science and the American Federation for Medical Research), Washington DC, April 2014

D. Additional Information: Research Support and/or Scholastic Performance

None