

# T R A C I M A R I N , P H . D .

## Curriculum Vitae

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### P R O F E S S O R | R E S E A R C H E R

*Accomplished academic, biomedical researcher, and dedicated university-level teacher with a history of success in leading cutting-edge biomedical research projects to provide valuable information to impact government and healthcare policy.*

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*Natural leader and subject-matter expert adept at overseeing advanced study and practice at a university-level.*

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*Proven ability to secure funding from a range of resources, as well ensure research adheres to the highest clinical and scientific standards while meeting objectives.*

### E D U C A T I O N A N D C R E D E N T I A L S

**Doctor of Philosophy in Biochemistry and Molecular Biology, 2013**

*Dissertation: AMPK regulates an epigenetic metabolome*  
University of California, Riverside, California

**Master of Science in Biochemistry and Molecular Biology, 2010**

University of California, Riverside, California

**Master of Public Health in Epidemiology and Biostatistics, 2003**

*Thesis: Algorithm to predict exercise-induced hypoxemia in chronic obstructive lung disease*  
Loma Linda University, Loma Linda, California

**Bachelor of Science in Emergency Medical Care, 2000**

Loma Linda University, Loma Linda, California

**Associate of Science in Respiratory Therapy, 1992**

Victor Valley College, Victorville, California

— QUALIFICATIONS & LICENSURE —

Registered Respiratory Therapist (RRT) CA RCP license #16687

Registered Polysomnography Technician (RPGST) #12948

Polysomnography Certificate 2008

### P R O F E S S I O N A L E X P E R I E N C E

Victor Valley College, Victorville, California

**RESPIRATORY THERAPY PROGRAM DIRECTOR AND PROFESSOR (2002 to Present)**

Passionate, and research-minded Program Director of the Respiratory Therapy Program; directed administrative and educational aspects including fiscal planning, continuous review and analysis. Innovatively managed planning and development, and worked to build all-round reputation. Taught a range of subjects from biology, chemistry, pharmacology, Yoga, polysomnography, respiratory therapy, to more specialized neonatal and pediatric respiratory care.

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University of California, San Diego, San Diego, California

**INSTITUTE OF ENGINEERING AND MEDICINE VISITING SCHOLAR (2013 to Present)**

Biomedical researcher and professor, specializing in biochemistry, molecular biology, bioinformatics, systems biology, biostatistics, bioengineering, and animal research as they translate to the bedside.

Los Angeles Pacific University

**ADJUNCT PROFESSOR, BIOLOGICAL AND HEALTH SCIENCES (2018 to present )**

Distance education professor teaching anatomy, physiology and genetics.

Loma Linda University, Loma Linda, California

**SCHOOL OF MEDICINE, ASSOCIATE RESEARCH PROFESSOR (2013 to 2018)**

Award-winning biomedical researcher and professor, specializing in biochemistry, molecular biology, bioinformatics, systems biology, biostatistics, bioengineering, and animal research as they translate to the bedside. Ongoing interest in grant-writing, motivating and mentoring students. Strong track record in teaching epigenetics, metabolism, and cardiopulmonary and neuronal function, disease pathophysiology, and therapeutic interventions.

**CARDIOPULMONARY SCIENCES, PROGRAM DIRECTOR (2013 to 2018)**

Spearheads Allied Health, Cardiopulmonary Science Graduate Program for on-campus and remote students. Proactively directs curriculum development, implementation and assessment, as well as administration of budget. Instrumental in leading and advising Dissertation committees and mentoring clinical and academic students, with a strong knowledge of the accreditation process. Oversees cutting-edge health science and biomedical research.

Teaches and oversees over 30 courses related to health and biomedical translational science.

**DEPARTMENT OF CARDIOPULMONARY SCIENCE, ASSISTANT PROFESSOR OF CLINICAL EDUCATION (2002 to 2013)**

Championed all aspects of the clinical experience for undergraduate and graduate students enrolled in the Cardiopulmonary Science disciplines. Highly-efficient and driven, oversaw evolving practice skills, ensured effectiveness of the clinical experience, administration, and continuous review and revision.

## — ADDITIONAL EXPERIENCE —

- Contract (1-Year) **Director of Doctorial Studies, Health Sciences**, Project geared at revising and organizing program to meet WASC accreditation, create a functional Dissertation process, and recruit Dissertation Chairs and members for Doctoral Students. Trident University Cypress, CA. [Jan 2017 to Jan 2018].
- **Education course writer, reviewer and editor for Healthcare professions**, Western Schools, Boston, MA (2014 to Present). Continuing. *List of available authored courses available upon request.*
- Founder and Manager, Tranquility Community Health (2009 to Present) focus on **community health education**.
- Teaching Assistant, General Biology Laboratory Courses, University of California, Riverside, CA (2008 to 2013).
- Shift Supervisor, Department of Cardiopulmonary Services, Community Hospital of San Bernardino, San Bernardino, CA (1997 to 2006).
- Registered Respiratory Therapist, Menifee Valley Medical Center. Sun City, CA (1997 to 2005).
- Registered Respiratory Therapist and Training Center Coordinator, J. L. Pettis VAMC, Loma Linda, CA (1991 to 2005).

## S C H O L A S T I C A C T I V I T I E S

**Third European Workshop on AMPK**, Ile De Porquerolles, France, 2017

**School of Allied Health Professions – Research Symposium** Loma Linda University, 2017

**California Thoracic Society Seminars:** AMPK epigenetically regulates ventilatory pattern in response to oxidative stress. Carmel, Ca. 2017

**Carefusion Clinical Trail**, FDA Level, *confidential*, current.

**Lunch and Learn**, County of San Bernardino - Children and Family Services. San Bernardino, CA. *Lead exercise on how strategic nutrition and quality sleep can keep inflammation and oxidative stress (free-radical cell damage) at bay*, January 2014 to Present, Monthly

**Basic Science Symposium**, Loma Linda University, Loma Linda, CA, 2015

**Epigenetics and Health Conference**, California State University, San Bernardino, CA, 2015

**Inland Empire Dental Conference**, on *Metabolism and Sleep Health*, San Bernardino, CA, 2014

**Epigenetics and Mitochondrial Function**, University of San Diego, San Diego, CA, 2012

**National Institute of Health**, *AMPK and Anti-inflammatory Effects through PARP1 and BCL-6*, Bethesda, MD, 2012

**Aegaen Conference on Pathways, networks, and systems medicine**, *AMPK regulates and Epigenetic Network*, Crete, Greece, 2011.

**Experimental Biology Conference**, *Mass Spectroscopy and AMPK Targets*, Anaheim, CA, 2010

## P U B L I C A T I O N S

1. Zang J, Dong J, Martin M, He M, Gongol B, Marin TL, et al. AMPK Phosphorylation of ACE2 in Endothelium Mitigates Pulmonary Hypertension. *Am J Respir Crit Care Med*. 2018
2. Gongol B, **Marin T\*** et al. Cellular hermetic response to 27-hydroxycholesterol promotes neuroprotection through AICD induction of MAST4 abundance and kinase activity. *Scientific Reports*, 2017  
*\*Co-first author*
3. Gongol B, **Marin T**, et al. Systems Approach to Identifying Kinase Targets. Chapter in AMPK protocols for the 'Methods in Molecular Biology' series. Springer International Publishing. 2018 (Accepted for publication 2017).
4. **Marin TL**, Gongol B, Zhang F, Martin M, Johnson DA, Xiao H, Wang Y, Subramaniam S, Chien S, Shyy J. AMPK Activation Regulates a Metabolic Transcriptome through DNMT1, RBBP7, and HAT1. *Science Signaling*, 2017.
5. Shentu TP, He M, Sun X, Zhang J, Zhang F, Gongol B, **Marin TL**, Zhang J, Wen L, Wang Y, Geary GG, Zhu Y, Johnson DA, Shyy JY. AMP-Activated Protein Kinase and Sirtuin 1 Coregulation of Cortactin Contributes to Endothelial Function. *Arterioscler Thromb Vasc Biol.*, 2016.
6. Gongol BR, Rosete GT, Alyami BH, Singh RK, Galech S, **Marin TL**. Hyperbaric Oxygen Induced Vitamin D Receptor and ROS Responsive Genes: A Bioinformatic Analysis. *JSM Biotechnol Bioeng.*, 2016.
7. Shang F, Zhang J, Li Z, Zhang J, Yin Y, Wang Y, **Marin TL**, Gongol B, Xiao H, Zhang YY, Chen Z, Shyy JY, Lei T. Cardiovascular Protective Effect of Metformin and Telmisartan: Reduction of PARP1 Activity via the AMPK-PARP1 Cascade. *PLoS One*, 2016.
8. **Marin TL**, Gongol B, Martin M, King SJ, Smith L, Johnson JA, Subramaniam S, Chien S, Shyy J. Identification of AMP-activated protein kinase targets by a consensus sequence search of the proteome. *BMC*, 2013.
9. Alanshwan A, Hakamy A, Gongol B, Alismail A, Horn M, **Marin TL**. Exhaled Biomarkers of Oxidative Stress and Inflammation in Hookah Smokers: A Public Health Concern. *Gratis J Cancer Biology and Therapeutics*, 2015.
10. Xiao H, Lu M, Lin TY, Chen Z, Chen G, Wang WC, **Marin T**, Shentu TP, Wen L, Gongol B, Sun W, Liang X, Chen J, Huang HD, Pedra JH, Johnson DA, Shyy JY. SREBP2 Activation of NLRP3 Inflammasome in Endothelium Mediates Hemodynamic-Induced Atherosclerosis Susceptibility. *Circulation*, 2013.
11. **Marin T**, Gongol B, Chen Z, Woo B, Subramaniam S, Chien S, Shyy JY. "Mechanosensitive microRNAs - Role in Endothelial Responses to Shear Stress and Redox State" *FRBM*, 2013.
12. Gongol B, **Marin T\***, Peng IC, Woo B, Martin M, King S, Sun W, Johnson DA, Chien S, Shyy JY. AMPK $\alpha$ 2 exerts its anti-inflammatory effects through PARP-1 and Bcl-6. *PNAS*, 2012.  
*\*Co-first author*
13. Peng IC, Chen Z, Sun W, Li YS, **Marin TL**, Hsu PH, Su MI, Cui X, Pan S, Lytle CY, Johnson DA, Blaeser F, Chatila T, Shyy JY. Glucagon regulates ACC activity in adipocytes through the CaMKK $\beta$ /AMPK pathway. *AJP-Endocrinology and Metabolism*, 2012.
14. **Marin T**, Gongol B, Shyy J. AMPK regulates PGC-1 $\alpha$  through epigenetic mechanisms. Abstract. 9<sup>th</sup> International Conference on Networks, Pathways, and Systems Medicine, 2011.

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15. **Marin T**, Gongol B, Shyy J. AMPK Targets: Predicted by Mass Spectroscopy and Proteomic Sequence Mapping. *FASEB*, 2010.
16. Wilkins, Krider, Sheldon. Chapter 10: Bedside Interpretation of Electrocardiogram. *Clinical Assessment in Respiratory Care* 5<sup>th</sup> ed., 2005.
17. Book Review: *The Respiratory System: Basic Science and Clinical Conditions*. Andrew Davies PhD DSc and Carl Moores BA BSc MB CHB. (Systems of the Body Series) Softcover, illustrated, 197 pages. Edinburgh Uk: Churchill Livingstone/Elsevier Science; 2003. Printed in *Respiratory Care* September 2004, vol. 49, Number 9.
18. Review of EMS scenario outline for book proposal for Prentice Hall/Health Brady Person Education in March 2003.
19. Wilkins, **Marin**, Marshak. Instructor's Curriculum Resource for Egan's Fundamentals 8<sup>th</sup> ed. Mosby. 2003
20. Article Review: Stoller, Orens, Faticia, Weekly vs. daily changes of in-line suction catheter and impact on rates of ventilator-acquired pneumonia and associated cost. *Resp. Care*. May 2003 vol. 48, 2002.
21. Review of Wilderness EMC book outline and power point for Prentice Hall/Health Brady Person Education in September. 2003.

### — PUBLICATIONS UNDER REVIEW AND PREPARATION —

1. Gongol B, Bravo S, Lo T, Soriano S, Shyy J, **Marin TL**. Angiogenenin is a nucleolin adaptor protein eliciting an AMPK mediated molecular switch: pro-angiogenic effects of hyperbaric oxygen therapy.
2. Gongol B, Galech S, Soriano S, Shyy J, **Marin TL**. The AICD, TIP60, FE65 complex association mediates cell migration and invasion by increasing synaptojanin 2 expression.
3. Gongol B, Soriano S, Wilson C, Shyy J, **Marin TL**. AMPK modulates ventilatory pattern through the CYSTLR2-PHOX2b pathway.

## P R O F E S S I O N A L A S S O C I A T I O N S

American Academy of Sleep Medicine  
American Lung Association  
America Association for Respiratory Care

## A W A R D S

Young Investigator Award, Loma Linda University (2016)  
Distinguished Alumni Award, Loma Linda University (2015)  
Magna Cum Laude, University of California Riverside (2013)  
Mary T. Wedding Travel Award, University of California Riverside (2009)  
President's Award, Loma Linda University (2000)

## G R A N T S

1. Project Encompass, an interdisciplinary and transdisciplinary approach to wound care at Loma Linda University: (\$250,000); 2017-2018
2. Loma Linda University GRASP award (intramural), *AMP-activated protein kinase (AMPK) regulates an epigenetic network in respiratory pattern response to inflammation and mitochondrial redox imbalance*. 2015 – 2017
3. Loma Linda University GRASP award (intramural), *Hyperoxia and hypoxia regulated angiogenesis under HBOT*. 2014 – 2016