

Cristina Espinosa-Diez, PhD

(she/her/hers)

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EDUCATION

Doctor of Philosophy in Biochemistry and Molecular Biology

March 2010-February 2015

Graduate with highest honors. Cum Laude.

Universidad Complutense de Madrid, Spain.

Master of Science in Biochemistry and Molecular Biology

September 2009-September 2010

Universidad Complutense de Madrid, Spain.

Bachelor of Science

September 2004-July 2009

Major in Biochemistry. 5-year degree.

Universidad Complutense de Madrid, Spain.

RESEARCH POSITIONS

Assistant Professor

October 2023-

Study the role of long-non-coding-RNAs in pathological vascular remodeling in response to cancer therapies.

Center for Molecular Medicine and Genetics, Depart of Physiology, Wayne State University, Detroit, MI.

Research Assistant Professor, Delphine Gomez lab.

July 2023-October 2023

Study the role of long-non-coding-RNAs in pathological vascular remodeling.

Vascular Medicine Institute (VMI), University of Pittsburgh, Pittsburgh, PA.

Postdoctoral scholar, Delphine Gomez lab.

July 2021-July 2023

Study of epigenetic changes in the vasculature in response to stiffness and aging.

Vascular Medicine Institute (VMI), University of Pittsburgh, Pittsburgh, PA.

Postdoctoral associate, Delphine Gomez lab.

November 2019-June 2021

Study of epigenetic changes in the vasculature in response to stiffness and aging.

Vascular Medicine Institute (VMI), University of Pittsburgh, Pittsburgh, PA.

Postdoctoral researcher, Sudarshan Anand lab.

March 2015-October 2019

Study of stress dependent ncRNAs in tumor angiogenesis and DNA Repair.

Oregon Health and Science University (OHSU), Portland, OR.

PhD student, Santiago Lamas lab.

March 2010-March 2015

Study of glutathione biosynthesis in endothelial dysfunction and organ fibrosis.

Centro de Biología Molecular Severo Ochoa (CBMSO), Madrid. Spain.

Visiting scientist, Terrance J Kavanagh lab.

August 2013-November 2013

microRNA and glutathione synthesis crosstalk in *in vivo* models

University of Washington (UW), Seattle, WA.

Visiting scientist, Carlos Fernandez-Hernandez lab.

July 2012-September 2012

Study of microRNAs targeting glutathione synthesis enzymes

New York University (NYU), New York, NY.

Visiting scientist, Madhu Dikshit lab.

February 2012

Role of S-Glutathionylation in neutrophils from Diabetic type 2 patients

Central Drug Research Institute (CDRI), Lucknow, India.

Master of Sciences, Angeles Navas lab.*January 2009- February 2010*

Study of HNF1a and HNF1b mutations in Monogenic Diabetes of the Young (MODY).
Universidad Complutense de Madrid (UCM), Madrid, Spain.

FELLOWSHIPS, AWARDS and HONORS

AHA Career Development awardee	<i>July 2023</i>
University of Pittsburgh, Pittsburgh, PA.	
VMI/HVI Research Retreat Sharktank competition winner	<i>February 2023</i>
Seven Springs, PA.	
University of Pittsburgh Postdoctoral Data and Dine Symposium 2022 Best Poster Presentation	<i>May 2022</i>
University of Pittsburgh, Pittsburgh, PA.	
NIH T32 Cardiology awardee	<i>July 2021</i>
University of Pittsburgh, Pittsburgh, PA.	
Selected trainee at 2019 NIA Summer Training Course	<i>June 2019</i>
Oklahoma Medical Research Foundation, Oklahoma City, OK.	
Selected trainee at ASBMB's IMAGE grant writing workshop	<i>June 2019</i>
American Society for Biochemistry and Molecular Biology, Washington, D.C.	
Selected Talk in Preconference Vascular Biology 2018	<i>October 2018</i>
North American Vascular Biology Organization (NAVBO)	
EACR Radiation Break-through 2018 Best Poster Presentation	<i>March 2018</i>
European Association for Cancer Research.	
EACR-Worldwide Cancer Research Meeting Bursary Award	<i>March 2018</i>
European Association for Cancer Research.	
Invited Talk	<i>July 2017</i>
International Mentoring Foundation for The Advancement of Higher Education (IMFAHE)-Visibility Program. Universidad de Oviedo, Asturias, Spain.	
Top 3 Postdoc Paper of the Year	<i>September 2017</i>
OHSU School of Medicine.	
Selected Talk in RNA Approaches in Cardiovascular Disease	<i>March 2017</i>
Keystone Symposia.	
Training Predoctoral Fellowship FPI	<i>September 2010-August 2014</i>
Spanish Ministry of Education.	
Training Predoctoral Fellowship	<i>April 2010- August 2010</i>
Fundación Renal Iñigo Álvarez de Toledo.	
Undergraduate Fellowship	<i>January 2009- February 2010</i>
UCM-introduction to research Universidad Complutense de Madrid.	

PUBLICATIONS

*Cited a total of 1615 times, h-index: 15 (Data from Google Scholar as of 04/10/2023)
Publications organized in reverse chronological order.*

- Eugenia Fraile-Bethencourt, Sokchea Khou, Rebecca Ruhl, Adrian Baris, **Cristina Espinosa-Diez***, Sudarshan Anand*. **DNA damage-induced lncRNA MEG9 impacts angiogenesis. BioRxiv 519382;**
doi: <https://doi.org/10.1101/2022.12.07.519382>. (Under revision in *iScience*) *Corresponding authors.

- **Cristina Espinosa-Diez***, Brett Davis, Kimberly Nevenon, Lucia Carbone, Sudarshan Anand*. **Endothelial DNA methylation responses to genotoxic stressors.** (*In preparation*). *Corresponding authors.
- Mingyuan Du, **Cristina Espinosa-Diez**, Mingjun Liu, Sidney Mahan, Delphine Gomez. **miRNA/mRNA co-profiling identifies the miR-200 family as a central regulator of SMC quiescence.** *iScience*. (May 2022)
- Mingjun Liu, **Cristina Espinosa-Diez**, Sidney Mahan, Mingyuan Du, Anh T. Nguyen, Scott Hahn, Raja Chakraborty, Adam C. Straub, Kathleen A. Martin, Gary K. Owens, Delphine Gomez. **H3K4 di-methylation governs smooth muscle lineage identity and promotes vascular homeostasis by restraining plasticity.** *Developmental cell*. (October 2021).
- **Cristina Espinosa-Diez**, Varun Mandi, Mingyuan Du, Mingjun Liu, Delphine Gomez. **Smooth muscle cells in atherosclerosis: clones but not carbon copies.** *JVS-Vascular Science*. (August 2021).
- Taijyu Satoh, Longfei Wang, **Cristina Espinosa-Diez**, Bing Wang, Scott A. Hahn, Kentaro Noda, Elizabeth R. Rochon, Matthew R. Dent, Andrea Levine, Jeffrey J. Baust, Samuel Wyman, Yijen L. Wu, Georgios A. Triantafyllou, Ying Tang, Mike Reynolds, Sruti Shiva, Cynthia St Hilaire, Delphine Gomez, Dmitry A. Goncharov, Elena A. Goncharova, Stephen Y. Chan, Adam C. Straub, Yen-Chun Lai, Charles F. McTiernan, Mark T. Gladwin. **Metabolic syndrome mediates ROS-miR-193b-NFYA-dependent down regulation of sGC activity and contributes to exercise-induced pulmonary hypertension in HFpEF.** *Circulation*. (August 2021)
- Namita Chatterjee, Eugenia Fraile-Bethencourt, Adrian Baris, **Cristina Espinosa-Diez** and Sudarshan Anand. **A miR-494 dependent feedback loop regulates ER stress.** *Frontiers in Cell and Developmental Biology*. (July 2021)
- Verónica Miguel, Santiago Lamas, **Cristina Espinosa-Diez***. **Role of non-coding-RNAs in response to environmental stressors and consequences on human health.** *Redox Biology* (July 2020). *Corresponding author.
- Shushan Rana, **Cristina Espinosa-Diez**, Rebecca Ruhl, Namita Chatterjee, Clayton Hudson, Eugenia Fraile-Bethencourt, Anupriya Agarwal, Sokchea Khou, Charles R. Thomas, Sudarshan Anand. **Differential regulation of microRNA-15a by radiation affects angiogenesis and tumor growth via downregulation of acid sphingomyelinase.** *Scientific Reports* (March 2020).
- **Cristina Espinosa-Diez**, RaeAnna Wilson, Namita Chatterjee, Clayton Hudson, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **MicroRNA regulation of the MRN complex impacts DNA damage, cellular senescence and angiogenic signaling.** *Cell Death and Disease* (June 2018).
- Rebecca Ruhl, Shushan Rana, Katherine Kelley, **Cristina Espinosa-Diez**, Clayton Hudson, Christian Lanciault, Liana V Tsikitis and Sudarshan Anand. **microRNA-451a regulates colorectal cancer proliferation in response to radiation.** *BMC Cancer* (May 2018).
- **Cristina Espinosa-Diez***, Verónica Miguel*, Susana Vallejo, Elena Sandoval-Pinto, Francisco Sánchez-Gómez, Eva M Blanco, Concepción Peiro, Carlos Sanchez-Ferrer and Santiago Lamas. **Specific Endothelial deletion of GCLc in mice cause a redox depend vascular dysfunction.** *Redox Biology* (September 2017) *Equal contribution.
- Katherine A. Kelley, Shushan R. Rana, Rebecca A. Ruhl, Elizabeth Dewey, **Cristina Espinosa-Diez**, Christian P. Lanciault, Charles R. Thomas Jr, Robert G. Martindale, MD, Sudarshan Anand, V. Liana Tsikitis. **Understanding and Resetting Radiation Sensitivity in Rectal Cancer.** *Annals of Surgery* (July 2017).
 - ❖ *Winner, OHSU School of Medicine Resident Paper of the year*
- Verónica Miguel, Julia Yue Cui, Lidia Daimiel, **Cristina Espinosa-Diez**, Carlos Fernández-Hernando, Terrance J. Kavanagh and Santiago Lamas. **The role of microRNAs in environmental risk factors, noise-induced hearing loss and mental stress.** *Antioxidant and Redox signaling* (June 2017).
- Namita Chatterjee, Shushan Rana, **Cristina Espinosa-Diez** and Sudarshan Anand. **MicroRNAs in Cancer: Challenges and Opportunities in Early Detection, Disease Monitoring, and Therapeutic Agents.** *Curr Pathobiol Rep* (January 2017).

- RaeAnna Wilson*, **Cristina Espinosa-Diez***, Nathan Kanner, Namita Chaterjee, Rebeca Ruhl, Christina Hipfinger, Sunil J. Advani, Jie Li, Omar F. Khan, Aleksandra Franovic, Sara M. Weis, Daniel G. Anderson, Clark C Chen, Sushil Kumar, Lisa M. Coussens, David A. Cheresch and Sudarshan Anand. **MicroRNA regulation of endothelial TREX1 reprograms the tumor microenvironment.** Nature Communications (December 2016). *Equal contribution.
 - ❖ *OHSU Paper of the Month in November 2016*
 - ❖ *Finalist (Top 3 among ~1000 publications) for OHSU School of Medicine Postdoc paper of the year*
- Marta Fierro Fernández, Óscar Busnadiago, Pilar Sandoval, **Cristina Espinosa-Diez**, Eva María Blanco, Macarena Rodríguez, Héctor Pian, Ricardo Ramos, Manuel López Cabrera, Maria Laura García Bermejo and Santiago Lamas. **MiR-9-5p suppresses pro-fibrogenic transformation of fibroblasts and prevents organ fibrosis by targeting NOX4 and TGFBR2.** Embo Reports (August 2015).
- **Cristina Espinosa-Diez**, Verónica Miguel, Daniela Mennerich, Thomas Kietzmann, Patricia Sánchez-Pérez, Susana Cadenas, Santiago Lamas. **Antioxidant responses and cellular adjustments to oxidative stress.** Redox Biology (July 2015).
- **Cristina Espinosa-Diez**, Marta Fierro-Fernández, Francisco Sánchez-Gómez, Fernando Rodríguez-Pascual, Matilde Alique, Marta Ruiz-Ortega, Naiara Beraza, Maria L Martinez Chantar, Carlos Fernández-Hernando and Santiago Lamas. **Targeting of gamma-glutamyl-cysteine ligase by miR-433 reduces glutathione biosynthesis and promotes TGF- β -dependent fibrogenesis.** Antioxidant and Redox signaling (November 2014).
- Francisco J. Sánchez-Gómez, **Cristina Espinosa-Diez**, Megha Dubey, Madhu Dikshit and Santiago Lamas. **S-glutathionylation: relevance in diabetes and potential role as a biomarker.** Biological Chemistry (June 2013).

PROFESSIONAL SERVICES

- Ad-hoc reviewer Journals: Redox Biology, Antioxidant and Redox Signaling, Frontiers in Chemistry, IJMS, JVS: Vascular Science, BMC cancer, Molecules, Cancers, Molecular Carcinogenesis, Technology in Cancer Research and Treatment, Cells and Antioxidants.
- JBC early-career reviewer board since June 2020
- Reviewer editor on Frontier in Molecular Bioscience since September 2021

LEADERSHIP EXPERIENCE

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| NAVBO online programming committee member | <i>January 2021-present</i> |
| Coordinate and program NAVBO online symposium and meeting. | |
| Networking chair at University of Pittsburgh Postdoc Association (UPPDA) | <i>August 2020-present</i> |
| Connect Postdoc across campus. | |
| Representative at University of Pittsburgh Senate Benefits and Welfare Committee | <i>January 2021-September 2021</i> |
| Represent postdoc interests regarding benefits and retirement. | |
| European Association for Cancer Research (EACR) US Ambassador | <i>March 2018-November 2019</i> |
| Promote EACR activities, awards, and travel bursaries. | |
| Volunteer Coordinator for International Employee Resource Group at OHSU | <i>October 2017-July 2018</i> |
| Find and schedule volunteering activities for OHSU international community. | |
| Co-chair of Women in Science at Spanish Scientist in the US (ECUSA) | <i>July 2017-June 2019</i> |
| Develop activities, panels and post to highlight and give visibility to Spanish female scientists. | |

Member of the planning team for ASBMB Catalyze your career *November 2017*

Workshop targeted to Oregon postdocs and graduate students with two exploration career panels.

Communication co-officer at OHSU Postdoctoral Association *October 2016-October 2019*

Email communication and OHSU Postdoc Newsletter contribution.

Secretary of International Employee Resource Group at OHSU *September 2016-October 2017*

Organize meeting's agenda and minutes.

Scientific committee member *May 2017*

Entrepreneur Professional Women Panel. II Meeting of Spanish Scientist in US
Organizing, selection of panelists and development of question and discussion.

Director of E-Visibility program at Spanish Scientist in the US (ECUSA) *October 2016-October 2020*

Promote visibility of Early-career Spanish scientists through videos, podcast, news, blogs and press releases. Funded by Spanish Ministry in during 2017.

Mentor at Mind Matters Portland *October 2016-June 2019*

Mentor low-income High School students to prepare successful applications for Summer programs and College.

Mentor at International Mentoring Foundation for The Advancement of Higher Education *October 2015-present*

Mentor and career advice for Spanish undergraduate and graduate students to apply for international short-term fellowships

PROFESSIONAL MEMBERSHIPS

American Society for Investigative Pathology (ASIP) *August 2021-present*

Society for Redox Biology and Medicine (SfRBM) *April 2020-present*

RNA Society *February 2020-present*

North America Vascular Biology Organization (NAVBO) *May 2018-present*

American Society for Biochemistry and Molecular Biology (ASBMB) *May 2017-present*

Spanish Scientist in USA (ECUSA) *October 2016-present*

European Association Cancer Research (EACR) *2016-2019*

American Association for Cancer Research (AACR) *2015-2019*

Women in Cancer Research *2015-2019*

American Heart Association (AHA) *October 2015-present*

ORAL COMMUNICATIONS

Loss of SAS lncRNA triggers VSMC hypertrophy and cell cycle Arrest (Selected talk)

III Encuentro Spanish Scientist in the USA (ECUSA), New York City, NY. **October 2022**

A Long (non-coding) story of two vascular cells (Invited talk)

Wayne State University, **October 2022**

A Long (non-coding) story of two vascular cells (Invited talk)

Cardiovascular Seminar Series University of South Carolina School of Medicine, Columbia, SC. **October 2022**

PISA 2022 Young Investigator Virtual Meeting (Co-moderator)

Cardiovascular and Pulmonary Disease

NAVBO Online Symposium (Chair and Organizer)

Mitochondrial function in cardiovascular disease, **September 2022**

A Lnc(RNA) Between Epigenetics and Vascular Cell Function
ASIP Young Investigator Keynote Seminar Series, **June 2022**

A Long (non-coding) story of two vascular cells (Invited talk)
Albany Medical College, Albany, NY. **June 2022**

NAVBO Online Symposium (Chair and Organizer)
Genetic and Epigenetic control of VSMC phenotype, **April 2022**

Role of long-non-coding-RNAs controlling vascular cell fate in response to genotoxic stress (Invited talk)
Rochester Institute of Technology, **April 2022**

Loss of the smooth-muscle-cell-Angiotensin II-sensitive (SAS) lncRNA triggers VSMC hypertrophy and cell cycle arrest: Application to hypertension and aortic stiffness (Invited talk)
Emerging Topics Symposium at Experimental Biology 2022, **April 2022**

Loss of the smooth-muscle-cell-Angiotensin II-sensitive (SAS) lncRNA triggers VSMC hypertrophy and cell cycle arrest: Application to hypertension and aortic stiffness (Nano talk selected)
Vascular Biology annual meeting, **October 2021**

Loss of the smooth-muscle-cell-Angiotensin II-sensitive (SAS) lncRNA triggers VSMC hypertrophy and cell cycle arrest: Application to hypertension and aortic stiffness (Short talk selected)
PISA Young investigator virtual meeting, **October 2021**

A “lnc” between endothelial cell fate & genotoxic stress (Invited talk)
Rochester Institute of Technology, **September 2021**

Angiotensin-II-sensitive lncrna controls VSMC hypertrophy and cell cycle (Invited talk)
NAVBO Focus session on microRNA on vascular biology, **September 2021**

A “lnc” between endothelial cell fate & genotoxic stress (Invited talk)
University of Rochester Medical Center, **July 2021**

How genotoxic stress influences vascular epigenetic mechanisms (Invited talk)
Cardio-Oncology Signature Program Meeting, Medical College of Wisconsin, **June 2021**

Epigenetics mechanism influencing cardiovascular disease development after cancer treatment (Short talk selected).
NAVBO Summer Camp, NAVBO, online conference, **June 2020**

DNA damage-dependent hypomethylation regulates the pro-angiogenic lncRNA MEG9
Research in Progress Seminar Series (RiPSS), OHSU, **March 2019**.

Epigenetic Regulation of a non-coding RNA cluster during vascular senescence
OHSU Epigenetic consortium Meeting, **October 2018**.

How DNA damage-induced-microRNAs define endothelial cell fate? (Short talk selected).
Vascular Biology 2018, NAVBO, Newport, Rhode Island, US, **October 2018**.

Reprogramming the tumor microenvironment using microRNAs targeting DNA repair (Invited talk).
International Mentoring Foundation for The Advancement of Higher Education (IMFAHE)-Visibility Program, Universidad de Oviedo, Asturias, Spain, **July 2017**.

A microRNA regulated incoherent feed-forward loop drives vascular senescence (Short talk selected).
Keystone Symposia in RNA Approaches in Cardiovascular Disease, Keystone, Colorado, US, **March 2017**.

Why do we suffer before we grow? a DNA repair-angiogenesis story.
OHSU Postdoctoral Association and the Research in Progress Seminar Series, OHSU, Portland, OR, US, **February 2017**

Reprogramming the tumor microenvironment using microRNAs that target DNA repair.
OHSU CDB – CanB Joint Graduate Student Retreat, Portland, OR, US, **September 2016**.

Reprogramming the tumor microenvironment using microRNAs that target DNA repair.
OHSU Research week, OHSU, Portland, OR, US, **May 2016**.

microRNA regulation of MRN complex in tumor microenvironment.

OHSU Postdoctoral Association and the Research in Progress Seminar Series, OHSU, Portland, OR, US, **November 2015.**

miR-433 and GSH: key regulators in endothelial dysfunction and fibrogenesis.

Cellular Biology and immunology department seminars. Centro de Biología Molecular Severo Ochoa. Madrid, Spain, **December 2014.**

Role of miR-433 in redox hormesis and fibrogenesis through downregulation of GSH biosynthesis.

Jornadas Científicas CBMSO Estudiantes y Postdocs. Centro de Biología Molecular Severo Ochoa. Madrid, Spain, **November 2014.**

Redox balance. The case of miR-433. Una mañana entorno a los miRNAs.

Meeting of Instituto Reina Sofía de Investigación. Fundación Renal Iñigo Alvarez de Toledo. Madrid, Spain, **May 2014.**

miR-433 targets γ -glutamyl-cysteine-ligase and regulates endothelial function, redox hormesis and fibrogenesis.

The International Symposium on Redox Signaling and Oxidative Stress in Health and Disease. Valencia, Spain, **July 2014.**

Role of miR-433 in the regulation of both subunits in redox response.

The International Symposium on Redox Signaling and Oxidative Stress in Health and Disease. Valencia, Spain, **July 2013.**

Role and regulation of γ -glutamate-cysteine-ligase in vascular endothelium.

IV Workshop on Reactive Species and Systems – ROSASNET. Sant Feliu de Guixols, Spain, **May 2011.**

POSTER PRESENTATIONS

Cristina Espinosa-Diez, Mingjun Liu, Jianxin Wei, Ibrahim Ahmed, Sidney Mahan, Mingyuan Du, Wenxi An, Scott Hahn, Thiago Bruder-Nascimento, Adam C Straub, Sruti Shiva, Delphine A Gomez. Loss Of the Smooth-Muscle-Cell-Angiotensin II-Sensitive LncRNA leads to SMC Hypertrophic Remodeling Due to an ineffective Cell Cycle. 2023 AHA Fellows Research Day (**February 2022**).

Cristina Espinosa-Diez, Mingjun Liu, Jianxin Wei, Ibrahim Ahmed, Sidney Mahan, Mingyuan Du, Wenxi An, Scott Hahn, Thiago Bruder-Nascimento, Adam C Straub, Sruti Shiva, Delphine A Gomez. Loss of the Smooth-Muscle-Cell-Angiotensin II-Sensitive (SAS) lncRNA leads To VSMC hypertrophic and hypertensive remodeling due to cell cycle dysregulation. Hypertension Scientific Sessions 2022, (**September 2022**).

Cristina Espinosa-Diez, Mingjun Liu, Sidney Mahan, Mingyuan Du, Wenxi An, Scott Hahn, Adam C Straub, Sruti Shiva, Delphine A Gomez. The Smooth-Muscle-Cell-Angiotensin II-Sensitive LncRNA Controls Cell Division Fidelity and Mitochondrial Organization. University of Pittsburgh Postdoctoral Data and Dine Symposium 2022, (**May 2022**).

Cristina Espinosa-Diez, Mingjun Liu, Sidney Mahan, Mingyuan Du, Wenxi An, Scott Hahn, Adam C Straub, Sruti Shiva, Delphine A Gomez. The Smooth-Muscle-Cell-Angiotensin II-Sensitive LncRNA Controls Cell Division Fidelity and Mitochondrial Organization. Vascular Discovery, (**May 2022**).

Loss of the smooth-muscle-cell-Angiotensin II-sensitive (SAS) lncRNA triggers VSMC hypertrophy and cell cycle arrest: Application to hypertension and aortic stiffness. Vascular Biology annual meeting, (**October 2021**).

Cristina Espinosa-Diez, Eugenia Fraile Bethencourt*, Clayton Hudson, Rebecca Ruhl and Sudarshan Anand. A Inc between DNA damage, hematopoiesis and the vasculature. 2021 NHLBI Long Non-coding (lnc) RNAs Virtual Symposium. **March 2021.** *Presenter

Cristina Espinosa-Diez, Eugenia Fraile Bethencourt*, Clayton Hudson, Rebecca Ruhl and Sudarshan Anand. LncRNA MEG9 protects vasculature from DNA damage. AACR Annual Meeting 2020. **June 2020.** *Presenter

Cristina Espinosa-Diez, Eugenia Fraile Bethencourt, Laura Polinkhorn, RaeAnna Wilson, Rishima Mukherjee, Marlee Feltham, Mallorie Mitchem, Clayton Hudson, Rebecca Ruhl, Chen Sun, Zheng Xhía, Lucia Carbone, Delphine Gomez and

Sudarshan Anand. **Epigenetic regulation of LncRNA in vascular fate after genotoxic stress.** 25th Annual Meeting of the RNA Society. **May 2020.**

Cristina Espinosa-Diez, Eugenia Fraile Bethencourt, Laura Polinkhorn, RaeAnna Wilson, Rishima Mukherjee, Marlee Feltham, Mallorie Mitchem, Clayton Hudson, Rebecca Ruhl, Chen Sun, Zheng Xhia, Lucia Carbone, Delphine Gomez and Sudarshan Anand. **Epigenetic Changes Affect Pro-angiogenic Lncrna MEG9 Expression in Endothelium.** 28th Annual Fellows Research Day, Pittsburgh, PA, **January 2020.**

Cristina Espinosa-Diez, RaeAnna Wilson, Rishima Mukherjee, Marlee Feltham, Clayton Hudson, Rebecca Ruhl, Sudarshan Anand. **Radiation therapy induces changes in the endothelial methylome affecting pro-angiogenic lncRNA expression.** Basic Cardiovascular Sciences Scientific Sessions, Boston, **July 2019.**

Cristina Espinosa-Diez, RaeAnna Wilson, Rishima Mukherjee, Marlee Feltham, Clayton Hudson, Rebecca Ruhl, Sudarshan Anand. **DNA damage dependent hypomethylation regulates the pro-angiogenic LncRNA MEG9.** Vascular Discovery: From Genes to Medicine, Boston, **May 2019.**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Clayton Hudson, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **Radiation-induced microRNA targets DNA repair complex and reprograms the tumor microenvironment.** Radiation Break-through from DNA damage responses to precision cancer therapy, Oxford, UK, **March 2018.**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Clayton Hudson, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **Radiation-induced microRNA targets DNA repair complex and reprograms the tumor microenvironment.** Radiation Break-through from DNA damage responses to precision cancer therapy, Oxford, UK, **March 2018. (EACR Best Poster Award)**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Clayton Hudson, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **microRNA dependent crosstalk between DNA Repair, Senescence & Inflammation.** Keystone Symposia in Aging, Inflammation and Immunity. Austin, TX, US, **February 2018.**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Clayton Hudson, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **Stress dependent microRNAs mediate Crosstalk Between DNA Repair, Senescence & Angiogenic Signaling.** BCVS Meeting, Portland, Or, US, **July 2017.**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Clayton Hudson, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **A microRNA regulated incoherent feed-forward loop drives vascular senescence.** 11th Annual Salk Institute and IPSEN Foundation. Science Symposium on RNA Biology. San Diego, CA, US, **January 2017.**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **Reprogramming the breast cancer microenvironment using microRNAs that target DNA repair.** AACR Annual Meeting, New Orleans, LA, US, **April 2016.**

Cristina Espinosa-Diez, RaeAnna Wilson, Namita Chatterjee, Rebecca Ruhl, Christina Hipfinger, Erin Helms, Omar F Khan, Daniel G Anderson, Sudarshan Anand. **miR-494 acts as a tumor suppressor microRNA in the breast cancer microenvironment.** Susan G Komen Regional Conference, Portland, Or, US, **March 2016.**

Cristina Espinosa-Diez, RaeAnna Wilson, Sudarshan Anand. **MicroRNA regulation of the MRN-DNA repair complex induces endothelial senescence in response to DNA damage.** Oregon Bioscience Association Conference, Portland, Or, US, **September 2015.**

Cristina Espinosa-Diez, RaeAnna Wilson, Sudarshan Anand. **MicroRNA regulation of the MRN complex induces endothelial telomerase-dependent senescence in response to DNA damage.** CDCB OCSSB Joint Retreat at Skamania Lodge, WA, US, **August 2015.**

Cristina Espinosa-Diez, Marta Fierro-Fernández, Francisco Sánchez-Gómez, Fernando Rodríguez-Pascual and Santiago Lamas. **mir-433 regulates glutathione biosynthesis by targeting γ -Glutamyl-Cysteine-Ligase Subunits in vascular endothelial cells.** First Symposium on Biomedical Research. Advances and Perspectives in Cardiovascular Biomedicine. Madrid, Spain. **March 2014.**

Cristina Espinosa-Diez, Marta Fierro-Fernández, Francisco Sánchez-Gómez, Fernando Rodríguez-Pascual and Santiago Lamas. **Role of mir-433 in the Regulation of γ -Glutamate-Cysteine-Ligase Subunits in vascular endothelial cells.** Keystone symposia in gene silencing by small RNAs. Seattle, WA, US, **February 2014.**

Cristina Espinosa-Diez, Marta Fierro-Fernández, Francisco Sánchez-Gómez, Fernando Rodríguez-Pascual and Santiago Lamas. **MicroRNAs implicated in antioxidant response. Role of miR- 433 in glutathione synthesis.** The International Symposium on Redox Signaling and Oxidative Stress in Health and Disease. Spanish and Portuguese free radicals' groups. Valencia, Spain, **July 2012.**

Cristina Espinosa-Diez, Marta Fierro-Fernández, Francisco Sánchez-Gómez, Fernando Rodríguez-Pascual and Santiago Lamas. **Role of microRNAs in the regulation of γ - glutamatecysteinylase in the vascular endothelium.** Molecular and cellular bases of redox signaling and oxidative stress: Implications in biomedicine. Baeza, Spain, **September 2011.**

ONGOING AND PENDING RESEARCH SUPPORT

NIH T32 HL 129964-6 A1

Training Program in Imaging Sciences in Translational Cardiovascular Research
Role: Appointee (PI: Flordeliza Villanueva)

July 2021-June 2023

AHA 23CDA1044815

Non-coding RNA role in microvascular dysfunction in kidney damage.
Role: PI

July 2023-June 2026

TEACHING EXPERIENCE

Cell, Development & Cancer Biology Summer Internship Program

January-August 2019

Co-coordinator and teaching assistant

Selection of candidates (20/500 applicants), program organizing, class leader and discussion moderator.

Essentials of Molecular and Medical Genetics (MGEN610)

February 2019

Teaching Assistant

Taught 120 min of Developmental genetics and birth defects,, and Genetics of Common Disorders with complex inheritance to the pre-med student's class.

Where are my microRNAs and how to find them? microRNA role in tumor angiogenesis

October 2018

Lecturer. Biology Seminar Series. Lewis & Clark College.

Gave 60 min overview of microRNA biosynthesis and research tools to study non-coding RNAs. In the last part of the talk, I introduced the role of microRNAs in tumor angiogenesis after radiation therapy. The students were from first and second year of their Biology Major. They appreciate the clarity and organization of the background. The role of these different microRNAs in tumor angiogenesis generated a vivid discussion about the different pathways to modulate the tumor microenvironment.

The secret life of non-coding RNAs

August 2018

Instructor, Nanocourse. Cell Biology Graduate Program. Oregon Health and Science University.

Taught 90 min lecture on non-coding-RNAs in development and cardiovascular disease, highlighting different methods for analyzing microRNA expression. The lecture was well received and generate discussion among the students. They appreciated the overview of technologies and advantages of each method.

Charlas "11 de Febrero"

February 2018

Skype talk with High School IES Antonio Gala (Spain). One-hour lecture to 30 High School students focusing on science and biomedicine, highlighting women contributions to science.

Non-coding RNAs in vascular disease

November 2017

Lecturer. University of Oregon Honors College.

Gave 60 min lecture on becoming a scientist in the non-coding RNA field, including different career stages and their benefits. Additionally, I gave an overview of microRNA biology in cardiovascular disease and future therapeutic strategies. The students in the Oregon Honors College have different backgrounds. Students appreciated the career advice and were curious about transitioning to grad school and international programs.

MENTORING EXPERIENCE

- Taylor Fletcher** 2022
Spelman College, GA. PURDIP mentoring program.
Taylor is a junior undergraduate summer student participating in the PURDIP mentoring program. Taylor is focusing on lncRNA control of cell cycle dynamics in vascular smooth muscle cells.
- Parisa Zia Sarabi** 2022
Universidad de Sevilla, Spain. IMFAHE mentoring program.
Parisa was a 2nd year graduate student working with me on her career development and future postdoc applications.
- Sonali Dixit** 2022
University of Pittsburgh, US. Undergraduate volunteer.
Sonali is a sophomore student focus on understanding the connection between mechanotransduction and epigenetics on vascular smooth muscle cells.
- Mariana Silva** 2021
Universidad de Valladolid, Spain. IMFAHE mentoring program.
Mariana was a 1st year graduate student working with me on her IMFAHE fellowship application and future international internships perspectives. She was awarded with the competitive IMFAHE fellowship due to her outstanding merits.
- Antonio Queiro Palau** 2019-present
Karolinska Institute, Sweden. V.A. Curie Program.
Antonio is a first year Marie Curie PhD student currently working on hemorrhagic telangiectasia. He was a previous mentee as an undergrad during my PhD in Spain. As part of the Marie Curie Program, Antonio contacted me to be his informal mentor to advise him in the progress of his dissertation. We meet recurrently every semester.
- Patrycja Michalska Dziama** 2019
Universidad Autonoma de Madrid, Spain. IMFAHE mentoring program.
Patrycja was a 5th year graduate student working with me on her IMFAHE fellowship application and future postdocs perspectives. She has been awarded with the competitive IMFAHE fellowship due to her outstanding merits and she has been accepted for a short internship at the Scripps Research Institute, San Diego, CA.
- Ines Valencia**
Universidad Autonoma de Madrid, Spain. IMFAHE mentoring program.
Ines is 2nd year graduate student working with me on her career goals through the IMFAHE program. She has been awarded as third finalist at the IMFAHE Sharktank program with her science-trading project UBUME.
- Eugenia Fraile** 2018
Universidad de Valladolid, Spain. IMFAHE Fellowship.
Eugenia is a Spanish PhD candidate working with me in the bioengineering project designing radiation-sensitive promoters to activate CD8 cells. She is also working to define the phenotype of the lncRNA MEG9 in the endothelium.
- Laura Polkinghorn** 2018
Willamette University, OR. Murdock Summer Research Fellowship.
Laura worked with me as a summer intern on a bioengineering project designing synthetic 3'-UTRs to control gene expression in CD8 cells.
- Marlee Feltham and Rishima Mukherjee** 2017-2018
West Linn High School, OR. Volunteer High School Students.
Marlee and Rishima have been working with me identifying prediction markers in colorectal carcinoma patients. Their poster presentation won regional Science Fair and was selected for the INTEL International Science Fair in Spring.
- Ana Monfort** 2018
Universidad de Valencia, Spain. IMFAHE mentoring program.
Ana was an undergraduate student working with me on her grad school applications. She has been accepted in a competitive program in Biomolecules and Cell Dynamics at Universidad Autonoma de Madrid, Spain.
- Latroy Robinson** 2017
Lewis & Clark College, OR. Murdock Summer Research Fellowship.
Latroy was a summer intern under my supervision identifying microRNA binding sites with bioinformatic platforms and designing cloning strategies for luciferase vectors.

Fatima Mesa-Herrera*2017*

Universidad de la Laguna, Spain. IMFAHE mentoring program

Fatima was a third-year graduate student whom I help with short-term fellowship applications. She received a competitive fellowship from Universidad de la Laguna to go as visiting scholar in Strasburg University.

Heidi Grompe*2015-2016*

University of Portland, Portland, OR. CDCB Summer Internship.

Heidi was a summer intern who work with me in identifying targets of radiation response microRNAs in endothelial cells. She has recently started Medical School at OHSU.

Erin Helms*2015-2016*

Pacific University, OR. Murdock Summer Research Fellowship.

Erin was a summer student in the Anand lab, working with me to identify different microRNA targets in primary versus tumor cells. Her contributions have been part of my recent publications and she started graduate school in the PBMC program at OHSU on fall 2017.

Christina Hipfinger*2015-2016*

University of Krems, Austria. Marshall Fellowship scholar.

Christina's goal in the lab was to discern the mechanisms of why microRNAs respond differently to DNA damage in primary endothelial cells and mammary carcinoma cells. Christina's contributions are present in the Anand lab past publications. She got accepted in a Bioengineering program at University of Applied Sciences in Austria.