

CURRICULUM VITAE
CHRIS SOREL MANTSOUNGA

Ocean State Research Institute, Inc (OSRI)
The Warren Alpert Medical School of Brown University
Vascular Research Laboratory
Providence VA Medical Center
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Research (151)
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EDUCATION

Undergraduate

2007 University Marien Ngouabi, Republic of Congo (Brazzaville)
(Physiology, Cellular and Molecular Biology)

Graduate

2011-2015: University Paris V Descartes/ Sorbonne Paris Cité, France
Ph.D. Suma Cum Laude, Cardiovascular Pathology specialty

2010-2011 University Paris VII Diderot, France
Master of Sciences, specialty Blood Vessels and Hemostasis specialty

2009-2010 University Evry Val d'Essonne, France
Master's degree: Genomes and Biology

2007-2009 University of Science and Technology of Lille (Lille 1), France
Master's degree: Cell Biology

Others Graduate Certificates: University of Sciences and Technology of Lille (Lille 1), France

- Molecular genetics in Prokaryotes
- Genetics in Superior Eukaryotes

HONORS AND AWARDS

2023-2026: American Heart Association Career Development Award
2016-2021: Postdoctoral Fellowship: Rhode Island Hospital- Lifespan
2014-2015: French Foundation for Research Award
2011-2014: Doctoral fellowship from the French government Award (MENRT)
2004-2007: Outstanding Graduate Award, Marien Nguabi University, Republic of Congo

MILITARY SERVICE

N.A.

ACADEMIC APPOINTMENTS

07/01/2023- Present: Assistant Professor (Research)
Department of Medicine
Warren Alpert Medical School at Brown University

12/01/2021-06/30/2023: Instructor (Research)
Department of Medicine
Warren Alpert Medical School at Brown University

MEMBERSHIP IN SOCIETIES

American Diabetes Association (member since 08/2019)
North American Vascular Biology Organization (NAVBO) (member since 10/2017)
American Heart Association (member since 11/2017)

PROFESSIONAL ACTIVITIES

2023: Reviewer Journal of American Heart Association
2022: Reviewer CPVB COBRE committee for Pilot Research Projects, VA Providence Medical Center

PUBLICATIONS LIST

ORIGINAL PUBLICATIONS IN PEER-REVIEWED JOURNALS *first author/co-first-author

- 1- **Mantsounga* CS**, Lee C, Neverson J, Sharma S, Healy A, Berus JM, Parry C, Ceneri NM, López-Giráldez F, Chun HJ, Lu Q, Sellke F, Choudhary G, Morrison AR. “Macrophage IL-1 β Promotes Angiogenesis by Autocrine NF- κ B and STAT3-mediated Transcript of VEGF-A.” Cell Rep. 2022 Feb 1;38(5):110309.

- 2- **Mantsounga* CS**, Morrison AR. Empagliflozin and Protecting Microvascular Support of Heart Mechanics SGLT2 Inhibition or More? JACC: Basic to Translational Science. 2019 September; 4(5):592.
- 3- Tatyana Merkulova-Rainon, **Chris S Mantsounga***, Dong Broquères-You , Cristina Pinto , José Vilar, Diana Cifuentes , Philippe Bonnin, Nathalie Kubis, Daniel Henrion , Jean-Sébastien Silvestre, Bernard I Lévy. Peripheral post-ischemic vascular repair is impaired in a murine model of Alzheimer's disease. Angiogenesis. 2018 Aug;21(3):557-569
- 4- Pierre Lozeron*, **Chris S Mantsounga***, Dong Broqueres-You , Anthony Dohan , Marc Polivka, Nicolas Deroide, Jean-Sébastien Silvestre , Nathalie Kubis , Bernard I Lévy. Characterization of nerve and microvessel damage and recovery in type 1 diabetic mice after permanent femoral artery ligation. J Neurosci Res. 2015 Sep;93(9):1451-61.

OTHER PEER-REVIEWED PUBLICATIONS *first/co-first author

- 1- Sheila Sharma*, Olivya Caballero, Julia Pierce, Celia Butler, **Chris Mantsounga** and Alan R. Morrison. Modeling Angiogenesis Modeling Blood Flow Recovery and Angiogenesis in Response to Hind Limb Ischemia. *Submitted for publication in Star Protocol/Cell Press* (2023).
- 2- White* A, Wang Z, Wang X, King M, Guo C, **Mantsounga C**, Ayala A, Morrison AR, Choudhary G, Sellke F, Chambers E, Ware LB, Rounds S, Lu Q. NLRP3 inflammasome activation in cigarette smoke priming for Pseudomonas aeruginosa-induced acute lung injury. Redox Biol. 2022 Nov; 57:102467
- 3- Healy* A, Berus* JM, Christensen JL, Lee C, **Mantsounga C**, Dong W, Watts JP Jr, Assali M, Ceneri N§, Nilson R, Neverson J, Wu WC, Choudhary G, **Morrison AR**. Statins Disrupt Macrophage Rac1 Regulation Leading to Increased Atherosclerotic Plaque Calcification. Arterioscler Thromb Vasc Biol. 2020 Mar;40(3):714-732
- 4- Dong Broquères-You* , Carole Leré-Déan*, Tatiana Merkulova-Rainon, **Chris S Mantsounga**, David Allanic, Patricia Hainaud, Jean-Olivier Contrères, Yu Wang, José Vilar, Marie Virally, Jean-Jacques Mourad, Pierre-Jean Guillausseau, Jean-Sébastien Silvestre, Bernard I Lévy Ephrin-B2-activated peripheral blood mononuclear cells from diabetic patients restore diabetes-induced impairment of post ischemic neovascularization. Diabetes. 2012 Oct;61(10):2621-32

BOOKS AND BOOK CHAPTERS

N.A

OTHER NON-PEER REVIEWED PUBLICATIONS

N.A.

CORPORATE AUTHORSHIP OR MULTICENTER TRIALS

N.A.

PUBLICATIONS SUBMITTED OR IN PREPARATION

- 1- Lee C*; Berus* J.M., **Mantsounga C.S**; Sheila Sharma; Rachel Carley; Neverson J; Healy, A; Sellke F; Choudhary G., Morrison A.R. “Nuclear localization of NF- κ B by Rac1 determines IL-1 β Signaling-dependent Atherosclerotic Calcification.” *In Preparation* 2023.
- 2- **Mantsounga*CS**, Lee C, Sharma S, Neverson J, A. Healy, Sellke F, Choudhary G, Morrison AR, “Disrupted microRNA Regulation of Proangiogenic VEGF-A as a Mechanism of Age-Related Defects in Inflammatory Arteriogenesis.” *In Preparation for* 2023.
- 3- **C.S. Mantsounga***, J. Neverson, A. S. Sharma, C. Lee, C. Yerxa, G. Choudhary, A.R. Morrison, “VEGF signaling for macrophages phenotype and angiogenesis.” *In Preparation for* 2023

ABSTRACTS *Presenter

- 1- **Chris S Mantsounga***, Sheila Sharma, Cadence Lee, Jade Neverson, Rachel Carley, Julia Pierce; Elizabeth Amelotte; Edy Pineda; Roberto Mendez; Elizabeth Harrington; Gaurav Choudhary and Alan R Morrison. “Impaired inflammatory angiogenesis in the context of aging is the result of the uncoupling of macrophage IL-1 β -VEGF-A expression and the switch of VEGF-A isoforms”. May 10-13, 2023. Boston, Massachusetts. Poster#265.
- 2- **Chris S Mantsounga***, Sheila Sharma, Cadence Lee, Jade Neverson, Rachel Carley, Gaurav Choudhary and Alan R Morrison. “Age-related Changes in Posttranscriptional Regulation of Macrophage VEGF As A Mechanism Of Impaired Inflammatory Arteriogenesis”. July-August 2022. Chicago, Illinois, Poster #P2066
- 3- **Chris Mantsounga***; Sheila Sharma, Cadence Lee, Rachel Carley, Gaurav Choudhary, Alan Morrison. Uncoupling of IL-1 β and VEGF-A Signaling Axis Contributes to Impaired Arteriogenesis in the context of Aging Diabetes Mellitus. 82nd Scientific Sessions. New Orleans, Louisiana Poster #484-P.
- 4- Sheila Sharma*, **Chris Mantsounga**, Cadence Lee, Jade Neverson, Rachel Carley, Gaurav Choudhary, Alan Morrison. Macrophage IL-1 β Dependent Angiogenesis during Wound Healing. Vascular Discovery: From Genes to Medicine. May 2022. Seattle, WA. Poster #335
- 5- C. Lee*, R. Carley, **C. Mantsounga**, S. Sharma, J. Neverson, C. Butler, G. Choudhary, A.R. Morrison. “Macrophage Rac1-IL-1 β Signaling Axis Promotes Atherosclerotic Calcification.” AHA Vascular Discovery: From Genes to Medicine 2022 Scientific Sessions, May 12-14, 2022. Control#: 22-A-427-AHA-VD, Poster #205 (Lee, Emerging Scientist Award for Women)

- 6- **C. Mantsounga**, S. Sharma*, C. Lee, R. Carley, G. Choudhary, A. Morrison. "Macrophage IL-1 β -IL-1R Signaling Axis in Wound Healing." NAVBO Vascular Biology, October 26, 2021. Abstract #636. Virtual.
- 7- **Mantsounga* C.S.**, Neverson J., Berus J.M., Lee C., Bozadjan R., Choudhary G., Morrison A.R. "Reprogramming Macrophages to Improve Wound Healing in Diabetes." ADA Scientific Sessions; June 12-16, 2020. Abstract # 2020-A-5089-Diabetes. Presentation: 591-P. –*Oral presentation ADA 2020*
- 8- Abigail L Healy*, Joshua M Berus, Jared L. Christensen, Cadence Lee, **Chris Sorel Mantsounga**, Willie Dong, Jerome P. Watts Jr, Maen Assali, Nicolle Ceneri, Rachael Nilson, Jade Neverson, Wen-chih Hank Wu, Gaurav Choudhary, Alan R Morrison. "Statins Disrupt Macrophage Rac1 Regulation Leading to Increased Atherosclerotic Plaque Calcification." AHA Vascular Discovery: From Genes to Medicine 2020 Scientific Sessions, Boston, MA; May 5-7 2020. Abstract # 290. *Oral presentation AHA Vascular Discovery 2020*
- 9- **Mantsounga* C.S.**, Neverson J., Berus J.M., Lee C., Healy A., Ceneri N., Choudhary G. and Morrison A.R. "Dicer Modulation as a Mechanism of Age-related Dysfunction in Arteriogenesis." AHA Vascular Discovery: From Genes to Medicine 2020 Scientific Sessions, Boston, MA; May 5-7 2020. Abstract #409. *Oral presentation AHA Vascular Discovery 2020*
- 10- A. Healy*, J. Watts, J. Berus, **C. Mantsounga**, and A.R. Morrison, "Macrophage Non-Muscle Myosin IIA (NMMIIA) is required for Atherosclerotic Calcification." NAVBO 2018, Newport, Rhode Island; October 2018.
- 11- A. Healy*, **C. Mantsounga**, J. Berus, J. Christensen, J. Watts, N. Ceneri, R. Nilso^s, J. Neverson, G. Choudhary, A.R. Morrison, "Statins Disrupt Rac1 Regulation Leading to Increased Atherosclerotic Calcification." NAVBO Vascular Biology 2018, Newport, Rhode Island; October 2018. – *Oral presentation and Best Poster Award NAVBO Vascular Biology 2018*
- 12- **C.S. Mantsounga***, A. Healy, J. Berus, J. Watts, H. Chun, G. Choudhary and A.R. Morrison, "A Novel Mechanism of Age-Related Decline in Inflammatory Arteriogenesis." NAVBO 2018, Newport, Rhode Island; October 2018
- 13- **Chris S. Mantsounga***, Joshua Berus, Jerome Watts, Abigail Healy, Nicole Ceneri, Hyung Chun, Gaurav Choudhary, Alan R. Morrison. "Disruption of HuR-mediated VEGF-A mRNA stabilization as a Mechanism of Age-related Defects in Arteriogenesis." NIH Rhode Island Symposium, Providence, RI; June 2018. Abstract.
- 14- J. Berus*, J. Watts, **C. Mantsounga**, A. Healy, G. Choudhary, A.R. Morrison. "Macrophage Rac1 is critical for Calcific Aortic Valve Stenosis Progression." National VA Research Week Symposium, VAPMC, Providence, RI; May 2018.

- 15- **Chris S. Mantsounga***, Joshua Berus, Jerome Watts, Abigail Healy, Nicole Ceneri, Hyung Chun, Gaurav Choudhary, Alan R. Morrison. Disruption of HuR-mediated VEGF-A mRNA stabilization as a Mechanism of Age-related Defects in Arteriogenesis. National VA Research Week Symposium VAPMC, Providence, May 2018.
- 16- **C.S. Mantsounga***, A. Healy, J. Berus, J. Watts, H. Chun, G Choudhary, A. R. Morrison. “Disruption of HuR-mediated VEGF-A mRNA stabilization as a Mechanism of Age-related Defects in Arteriogenesis.”. Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease Scientific Sessions, San Francisco, California; May 2018. Abstract #489.
- 17- A. Healy*, J. Berus, J. Watts, **C. Mantsounga**, J. Neverson, R. Nilson, G. Choudhary, A. R. Morrison, “Statins alter Rac-dependent IL-1 β expression and subsequent Plaque Calcification,” Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease Scientific Sessions, San Francisco, California; May 2018. Abstract #439.
- 18- **Chris Mantsounga***, Abigail Healy, Nicolle Ceneri, Alan R. Morrison. “Macrophage Dicer Expression is Required for VEGF-A-induced Arteriogenesis”. Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease Scientific Sessions, Minneapolis, Minnesota; May 2017.
- 19- Abigail Healy*, Nicolle Ceneri, **Chris Mantsounga**, Alan R. Morrison. “Rac-signaling as a Critical Determinant of IL-1 β -dependent Atherosclerotic Calcification”. Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease Scientific Sessions, Minneapolis, Minnesota; May 2017.
- 20- Abigail Healy*, Nicolle Ceneri, **Chris Mantsounga**, Alan R. Morrison. “IL-1 β -driven Atherosclerotic Calcification is mediated by Macrophage Rac1”. Rhode Island NIH IDeA Symposium, Providence, RI; March 2017.
- 21- **Chris Mantsounga***, Abigail Healy, Nicolle Ceneri, Alan R. Morrison. “Macrophage Dicer Expression is Required for VEGF-A-induced Arteriogenesis”. Rhode Island NIH IDeA Symposium, Providence, RI; March 2017.

INVITED PRESENTATIONS

- 1- CPVP COBRE, “Impaired inflammatory angiogenesis/arteriogenesis in the context of Aging is the result of uncoupling of IL-1 β and VEGF-A and the VEGF-A isoforms switch”. Invited, 05/2023, regional.
- 2- CPVP COBRE EAC Annual Symposium, “Opposing VEGF-A isoforms cross communicate through VEGF-R1/2 to influence macrophage phenotype in inflammatory Arteriogenesis”. Invited, 12/2022, regional.

- 3- Vascular Research Laboratory, “Macrophage VEGF-A Splice Variant Regulation During Inflammatory Angiogenesis/Arteriogenesis in the Context of Aging. NISBRE, COBRE Flash Talk, Invited, 12/2022; National
- 4- Vascular Research Laboratory, “Macrophage VEGF-A Splice Variant Regulation During Inflammatory Angiogenesis/Arteriogenesis in the Context of Aging. VA Medical Center, Invited, 11/2022; regional
- 5- Vascular Research Laboratory, “VEGF signaling for Macrophages phenotype and angiogenesis”.VA Medical Center, Invited, 10/2022; regional
- 6- COBRE Multi Seminar Series “Macrophage VEGF-A Dependent IL-1 β during Inflammatory Angiogenesis/Arteriogenesis”. Invited, 09/2022, national

GRANTS/RESEARCH SUPPORT

Current Research Support:

- 1- AHA CDA 23CDA1056587 (Project PI Chris Mantsounga)
Title: Opposing VEGF-A isoforms cross communicate through VEGFR1/2 to alter inflammatory angiogenesis in the context of aging.
Role: Project PI
Percent: 40 %
Total Project Cost: \$ 230,933
Project Period: 04/01/2023-03/31/2026
- 2- NIH NIGMS P20GM103652 (Choudhary and Harrington, Project PI Mantsounga) 12/1/2021-05/31/2024 Title: Uncoupling of IL-1beta and VEGF-A Crosstalk Contributes to Impaired Arteriogenesis Response to Ischemia in Chronic Diabetes Mellitus
Role: Project PI
Percent Effort: 40%
Total Projected Cost: \$ 690,000
Project Period: 12/1/2021- 5/31/2024
- 3- Agency: 1I01CX002231-01A1 (Score 2.2%)
VA CSR&D Merit Review
Title: Reprogramming Macrophages to Improve Wound Healing in Diabetes
P.I. Alan R. Morrison
Role: Investigator
Percent effort: 20%
Total projected costs: \$ 1,200,000
Project Period: 4/01/2021-3/31/2025

Completed Research Support

- 1- Agency: France Medical Foundation, Paris, France
Title: Diabetic angiopathy and Neuropathy- Role of Axon Guidance Molecules:
(Semaphorin-3A and Netrin)
Project P.I. Chris S. Mantsounga
Total effort: 100%
Total Cost (Salary): \$32,784.112
Project Period: 11/2014-02/2015

- 2- Agency: France Research Ministry, Paris, France
Title: Diabetic angiopathy and Neuropathy- Role of Axon Guidance Molecules:
Semaphorin-3a and Receptors
Project P.I. Chris S. Mantsounga
Total effort: 100%
Total Cost (Salary): \$7377.40
Project Period: 10/2011-09/2014

UNIVERSITY TEACHING, ADVISING and MENTORING ROLES

- 2023-Present: Crystal Perry (BS):

- 2023-Present: Olivya Caballero (MSc):

- 2022- Present: Roberto Mendez (PhD, PostDoc fellow)

- 2020-Present: Rachel Carley (PharmD, PhD Candidate)

- 2020-2023: Sheila Sharma (MSc)

- 2019-2022: Jade Neverson (BS)

- 2018-2021: Cadence Lee (MSc)