**Curriculum Vitae**

Stephen Colin Rogers, PhD., MSc., BSc.

Assistant Professor, Department of Pediatrics

Center for Blood Oxygen Transport and Hemostasis

University of Maryland School of Medicine

**Date** September 6 2019

**Contact Information**

Business Address: SOM, Department of Pediatrics

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**Education**

1996 - 1999 BSc. (1st Class) Exercise & Health Science, University of Exeter, England

2001 - 2003 MSc. Exercise Physiology, Liverpool John Moores University, England

2003 - 2007 PhD. University of Cardiff, Wales. “The significance of a nitric oxide

reserve and its utilization in the human circulation”. Thesis Advisor –

Philip Eurig James

**Post Graduate Training**

2007 Post-Doctoral Research Associate, University of Cardiff, Wales

2007 - 2012 Post-Doctoral Research Scholar/Associate, Washington University St. Louis,

MO, USA

**Employment History**

2012 - 2017 Staff Scientist (Doctor Lab), Washington University St. Louis, MO, USA

2017 - 2019 Senior Scientist (Doctor Lab), Washington University St. Louis, MO, USA

2019 - Assistant Professor, University of Maryland SOM, Baltimore, MD, USA

**Professional Societies and Organizations**

2008 - 2011 Society of Free Radical Biology and Medicine

2014 American Association of Blood Banks (AABB)

**Honors and Awards**

1999 Dean’s Commendation, Undergraduate Academic Performance

2003 - 2006 British Heart Foundation Scholarship/Studentship

2009 Honorable Mention, Washington University Postdoctroal Research Day

2009 - 2011 Children’s Discovery Institute Scholar

**Teaching Service**

Washington University in St Louis, College of Arts and Sciences

CHEM 200/400 Research Mentor (1-2 students/academic yr; 3-6hr/week/student)

BIOL 200/400 Research Mentor (1-2 students/academic yr; 3-6hr/week/student)

**Grant Support**

**Active Grants:**

06/01/2015 - 01/31/2020(Named Scientist: 55% effort)

Sepsis-induced Red Cell Dysfunction (SiRD)

NIH/NIGMS/NHLBI 1R01GM113838 (BVSS Program)

Total Direct Costs: $3,166,040

*Scientist performing experimental work on the grant*

05/11/2017 - 05/10/2020 (Named Scientist: 25% effort)

ErythroMer: Nanoscale Bio-Synthetic Red Cell Substitute

NIH/NHLBI 1R42HL135965-01A1 (STTR Fast Track))

Total Direct Costs: $2,019,829

*Scientist performing experimental work on the grant*

09/30/2017 - 09/29/2020 Named scientist (10% effort)

Novel Artificial Erythrocyte for In-Field Resuscitation of

Hemorrhagic Shock

DoD GRANT12234110 (FOA W81XWH-16-DMRDP-CCCRP-

PFCRA)

Total Direct Costs: $3,000,000

*Scientist performing experimental work on the grant*

**Completed Grants:**

2009 - 2011 (PI, 100%; postdoctoral award)

Regulation of antioxidant defense in red blood cells by oxygen and

nitric oxide

PD-F-2009-203 Children’s Discovery Institute

Total Direct Costs: $60,000

**Publications**

**Peer-reviewed journal articles**

1. **Rogers S.C.**, Khalatbari A., Gapper P.W., Frenneaux M.P., James P.E. Detection of human red blood cell-bound nitric oxide. J. Biol. Chem. (2005) Jul 22; 280 (29): 26720-8.
2. **Rogers S.C.**, Khalatbari A., Datta B.N., Ellery S., Paul V., Frenneaux M.P., James P.E. NO metabolite flux across the human coronary circulation. Cardiovas. Res. (2007). Jul 15; 75(2):434-41.
3. **Rogers S.C.**, Said A., Corcuera D., McLaughlin D., Kell P., Doctor A. Hypoxia limits antioxidant capacity in red blood cells by altering glycolytic pathway dominance. FASEB J. (2009). Sept; 23 (9): 3159-70.
4. Bundhoo S., Anderson R.A., Sagan E., Hassan N., Pinder A.G., **Rogers S.C.**, Morris K., James P.E. Direct formation of thienopyridine-derived nitrosothiols--just add nitrite! Eur. J. Pharmacol. (2011). Nov 30;670(2-3):534-540.
5. **Rogers S.C.**, Ross J.G., d’Avignon A., Gibbons L.B., Gazit V., Hassan M.N., McLaughlin D., Griffin S., Neumayr T., DeBaun M., DeBaun M.R., Doctor A. Sickle hemoglobin disturbs normal coupling among erythrocyte O2 content, glycolysis, and antioxidant capacity. Blood.(2013) Feb 28; 121(9): 1651-62.
6. Keller T.C., Butcher J.T., Broseghini-Filho G.B., Marziano C., DeLalio L.J., **Rogers S.**, Ning B., Martin J.N., Chechova S., Cabot M., Shu X., Best A.K., Good M.E., Simao Padilha A., Purdy M., Yeager M., Peirce S.M., Hu S., Doctor A., Barrett E., Le T.H., Columbus L., Isakson B.E. Modulating vascular hemodynamics with an alpha globin mimetic peptide (Hb∝X). Hypertension. (2016). Dec; 68 (6): 1494-1503.
7. Kei T., Mistry N., Tsui A.K.Y., Liu E., **Rogers S.**, Doctor A., Wilson D.F., Desjardins J.F., Connelly K., Mazer D.C., Hare G.M.T. Experimental assessment of oxygen homeostasis during acute hemodilution: the integrated role of hemoglobin concentration and blood pressure**.** Intensive Care Med Exp. (2017). Dec; 5(1):12.
8. Nemkov T., Sun K., Reisz J.A., Song A., Yoshida T., Dunham A., Wither M.J., Francis R.O., Roach R.C., Dzieciatkowska M., **Rogers S.C.**, Doctor A., Kriebardis A., Antonelou M., Papassideri I., Young C., Thomas T., Hansen K.C., Spitalnik S.L., Xia Y., Zimring J.C., Hod E.A., D’Alessandro A. Hypoxia modulates the purine salvage pathway and decreases red blood cell and supernatant levels of hypoxanthine during refrigerated storage. Haematologica. (2018). Feb; 103(2):361-372.
9. **Rogers S.C.**, Dosier L.B., McMahon T.J., Zhu H., Timm D., Zhang H., Herbert J., Atallah J., Palmer G.M., Cook A., Ernst M., Prakash J., Terng M., Towfighi P., Doctor R., Said A., Joens M.S., Fitzpatrick J.A.J., Hanna G., Lin X., Reisz J.A., Nemkov T., D’Alessandro A., Doctor A. Red blood cell phenotype fidelity following glycerol cryopreservation optimized for research purposes. PLoS ONE. (2018). Dec 21; 13(12):e0209201.
10. **Rogers S.C.**, Moynihan IV F.T., McDonough R., Timm D.D., Hovmand-Warner E., Frazier E., Thomas K.A., Spinella P.C., Doctor A. Effect of plasma processing and storage on microparticle abundance, nitric oxide scavenging and vasoactivity. Transfusion. (2019). Apr; 59(S2):1568-1577.
11. Tonelli A.R., Aulak K.S., Ahmed M.K., Hausladen A., Abuhalimeh B., Casa C.J., **Rogers S.C.**, Timm D., Doctor A., Gaston B., Dweik R.A. A pilot study on the kinetics of metabolites and microvascular cutaneous effects of nitric oxide inhalation in healthy volunteers. PLoS ONE. (2019). Aug 30; 14(8):e0221777.

**Non-peer reviewed journal articles**

1. Jackson S.K., Thomas M.P., Smith S., Madhani M., **Rogers S.C.**, James P.E. In vivo EPR spectroscopy: biomedical and potential diagnostic applications. Faraday Discuss. (2004) 126: 103-17.
2. Pinder A.G., **Rogers S.C.**, Morris K., James P.E. Haemoglobin oxygen saturation controls the red blood cell mediated hypoxic vasorelaxation. Adv Exp Med Biol. (2009) 645: 13-20.
3. Ingram T.E., Pinder A.G., Milsom A.B., **Rogers S.C.**, Thomas D.E., James P.E. Blood vessel specific vaso-activity to nitrite under normoxic and hypoxic conditions. Adv Exp Med Biol. (2009) 645: 21-25.
4. **Rogers S.C.**, Gibbons L.B., Griffin S., Doctor A. Analysis of s-nitrosothiols via copper cysteine (2C) and copper cysteine-carbon monoxide (3C) methods. Methods. (2013). Aug 1;62(2):123-129.
5. Said A.S., **Rogers S.C.**, Doctor A. Physiologic Impact of Circulating RBC Microparticles upon Blood-Vascular Interactions. Front. Physiol. (2018). Jan 12; 8: 1120.

**Book Chapters**

1. Pinder A.G., **Rogers S.C.**, Khalatbari A., Ingram T.E., James P.E. The measurement of nitric oxide and its metabolites in biological samples by ozone-based chemiluminescence. Meth Mol Biol. (2008) 476:11-28.
2. **Rogers S.C.**, Milsom A.B. The biological chemistry of nitric oxide in the vascular system. In Perspectives on NO in Physiology and Pathophysiology. Richardson V.A. & Wallace A.V. (Eds.). Research Signpost. T.C. 37/661(2), Fort Post Office, Trivandrum 695023, Kerala, India, (2009) 25-50.
3. **Rogers S.C.**, Doctor A. Vasoregulation by Red Blood Cells. In Current Concepts in Pediatric Critical Care 2011. Spinella P.C. & Nakagawa T.A (Eds.). Society of Critical Care Medicine (2011) 21-40.
4. **Rogers S.C.**, Silva M., Doctor A. Chapter 21: Hematologic Disorders. In: Oxidative Stress in Applied Basic Research and Clinical Practice: Studies on Pediatric Disorders. Editors: Hirokazu Tsukahara, Kazunari Kaneko, and Robin H. Steinhorn. Springer Verlag, GDR (2014) 349-369.
5. Said A., **Rogers S.C.**,Doctor A. Red Cell Physiology and Signaling Relevant to the Critical Care Setting. In: Current Opinion in Pediatrics. (2015) June 27(3): 267-276.
6. Said A., **Rogers S.C.**, Doctor A. Chapter 89: Erythron in Critical Illness. In Fuhrman & Zimmerman’s Pediatric Critical Care 5th Edition. Editors: Bradley P. Fuhrman, and Jerry J. Zimmerman. Elsevier (2016) 1234-1245.

**Stephen Rogers**

**Explanation of Time Gaps on CV**

1999-2001 Employed as a Fitness Instructor (The Vale of Glamorgan Hotel & Country Club),

Wales, UK

2002-2003 Employed as Financial Analyst, Wales, UK