

Cameron L. R. Rink, Ph.D.

Davis Heart and Lung Research Institute
473 W. 12th Ave – Room 505
Columbus, OH 43210

614.366.3806 | cameron.rink@osumc.edu

Education:

<u>Institution</u>	<u>Degree</u>	<u>Years</u>	<u>Fields of Study</u>
The Ohio State University	MBA candidate	2014-present	Strategy, Leadership
The Ohio State University	Post-doc	2008-2009	Neuroscience, Molecular Biology
The Ohio State University	Ph.D.	2004-2008	Human Nutrition, Neuroscience
Hillsdale College	B.S.	1996-2000	Finance, Biology

Professional Positions:

7/2015 – present	Associate Professor , Department of Surgery, Division of Vascular Diseases and Surgery, The Ohio State University Wexner Medical Center
7/2009 – 6/2015	Assistant Professor , Department of Surgery, Division of Vascular Diseases and Surgery, The Ohio State University Wexner Medical Center
10/2010 – present	CEO, Founding Member , NutrimiR LLC – miRNA targeted nutraceuticals, an Ohio State University Technology Commercialization Company (UTCC)
2012 – 2014	Entrepreneurial Scholar , Technology and Commercialization Office, The Ohio State University
6/2008 – 6/2009	Post-doctoral Researcher , Laboratory of Dr. Sashwati Roy, Department of Surgery, The Ohio State University
2006-2008	Graduate Fellow , Department of Surgery, The Ohio State University
2005-2006	Graduate Research Assistant , Laboratory of Molecular Medicine, The Ohio State University
2004-2005	Graduate Fellow , Human Nutrition, The Ohio State University
2002-2004	Research Assistant , Laboratory of Molecular Medicine, The Ohio State University

Professional Memberships:

2011 – present	Stroke Council Member , American Heart Association, Dallas, TX, USA
2010 – present	Member , Oxygen Club of California, Davis, CA, USA
2009 – present	Associate Member , The Dorothy M. Davis Heart and Lung Research Institute, Columbus, OH, USA
2005 – present	Member , Society for Neuroscience, Washington D.C., USA

Professional Activities:

Ad Hoc Peer Reviewer

2016	Neurological Research
2013 – Present	Frontiers in Physiology

2013 – Present Neurotherapeutics
2012 - Present The Journal of Neuroscience
2011 - Present The International Journal of Biochemistry and Cell Biology
2011 - Present Journal of Neuroimmunology
2010 - Present Journal of Physiological Genomics
2009 - Present Antioxidants & Redox Signaling

Editorial Board

2016 - Present JSM Brain Science
2014 – Present International Journal of Surgery Research and Practice
2010 - Present Advances in Wound Care
2010 - Present Frontiers in Oxidant Physiology

Education

2015 **Instructor**, Surgery 8880: Signature Program Translational Science – Regenerative Medicine & Wound Healing
2015 **Instructor**, Humntr 8802: Advanced Micronutrient Metabolism
2015 **Instructor**, Molecular and Cellular Biochemistry 6785: DNA Microarray Technology
2014 **Instructor**, Surgery 8880: Signature Program Translational Science – Regenerative Medicine & Wound Healing
2013 **Instructor**, Humntr 8802: Advanced Micronutrient Metabolism
2013 **Instructor**, Surgery 8501: Career Development for Surgeons
2013 **Instructor**, Molecular and Cellular Biochemistry 6785: DNA Microarray Technology
2011 – present **Graduate Studies Committee Member**, Department of Surgery representative for The Ohio State University Integrated Biomedical Science Graduate Program (IBGP)
2010 – present **Graduate Studies Committee Member**, College of Medicine representative for The Ohio State University Interdisciplinary Doctoral Program in Human Nutrition (OSUN)

Grant Review

2016 **Grant Reviewer**, OSU College of Medicine Medical Student Research Scholarship Competition, Columbus, OH
2015 **Grant Reviewer**, Pelotonia Research Awards Program, OSU Comprehensive Cancer Center (OSUCCC) Intramural Research Program, Columbus, OH
2014 **Grant Reviewer**, Pelotonia Research Awards Program, OSU Comprehensive Cancer Center (OSUCCC) Intramural Research Program, Columbus, OH
2014 **Grant Reviewer**, Lockwood Early Career Award, Department of Surgery, The Ohio State University Wexner Medical Center, Columbus, OH
2013 **Grant Reviewer**, The Ohio State University College of Medicine, Davis Bremer Award, The Ohio State University Wexner Medical Center, Columbus, OH
2011 **Grant Reviewer**, Center for Clinical and Translational Science, Pilot Award Program, The Ohio State University Medical Center, Columbus, OH

- 2010 **Grant Reviewer**, Center for Clinical and Translational Science, Novel Clinical and Translational Methodologies Pilot Program, The Ohio State University Medical Center, Columbus, OH
- 2006 **Grant Reviewer**, OARDC SEEDS Research Enhancement Competitive Grants Program, The Ohio State University

Judging

- 2016 **Judge**, 13th Annual Russell Klein Nutrition Research Symposium, The Ohio State University
- 2014 **Judge**, 9th Annual Davis Heart and Lung Research Day, The Ohio State University Medical Center
- 2014 **Judge**, 18th Annual Denman Undergraduate Research Forum, The Ohio State University
- 2013 **Judge**, 10th Annual Russell Klein Nutrition Research Symposium, The Ohio State University
- 2013 **Judge**, 17th Annual Denman Undergraduate Research Forum, The Ohio State University
- 2012 **Judge**, 9th Annual Russell Klein Nutrition Research Symposium, The Ohio State University
- 2012 **Judge**, 16th Annual Denman Undergraduate Research Forum, The Ohio State University
- 2012 **Judge**, 11th Annual OSUMC Trainee Research Day, The Ohio State University Medical Center
- 2011 **Judge**, 6th Annual Davis Heart and Lung Research Day, The Ohio State University Medical Center
- 2011 **Judge**, 10th Annual OSUMC Trainee Research Day, The Ohio State University Medical Center
- 2011 **Judge**, 4th Annual Translational to Clinical (T2C) Wound Care Conference, The Ohio State University Medical Center
- 2010 **Judge**, 9th Annual OSUMC Trainee Research Day, The Ohio State University Medical Center
- 2010 **Judge**, 15th Annual Denman Undergraduate Research Forum, The Ohio State University
- 2009 **Judge**, 8th Annual OSUMC Trainee Research Day, The Ohio State University Medical Center
- 2009 **Judge**, 4th Annual Davis Heart and Lung Research Day, The Ohio State University Medical Center

Mentorship

- 2015 – present **Maria Balch, MS.** Maria is a graduate student in the School of Health and Rehabilitation Sciences Division of Anatomy where I serve as her PhD advisor. Maria won 1st place for graduate student presentations at the 2016 T2C Conference (Center for Regenerative Medicine, The Ohio State University).
- 2015 – present **Dr. Taehwan Yoo, MD.** Dr. Yoo is a Masters of Medical Science (MMS) student who will spend two years in my lab starting in Fall 2015. Under my

mentorship, Dr. Yoo recently competed for and was successfully awarded a T32-training grant to support his first year in the MMS program.

- 2012 – 2015 **Seth Teplitzky, BS.** Seth completed his Undergraduate Honors Thesis under my mentorship in 2014. During his time in my lab, he was awarded 3rd place for his poster presentation at the Denman Undergraduate Research Forum. After graduating with Honors, he continued to work in my laboratory for 1 year while applying to medical school. Seth was accepted to multiple programs, and ultimately elected to attend SUNY Upstate Medical School in Fall 2015.
- 2011 – 2012 **Dr. Chanchal Singh, MD.** Chanchal volunteered for one year in my lab while studying for USMLE 1 and 2. During this time I trained him in immunohistochemistry and sensorimotor testing.
- 2011 – 2012 **David Szames, BS.** David volunteered for 18 months in my lab to gain research experience while studying for the MCAT and preparing to apply for medical school. David was trained in HPLC, protein isolation, real-time PCR and rodent behavioral testing.
- 2010 – 2012 **Dr. Laura Peterson, MD, MS.** Served as advisor for Dr. Peterson for her Masters of Medical Science (MMS) degree. While in my lab, Dr. Peterson contributed to research on cerebrovascular collateral circulation during ischemic stroke. She was trained in immunohistochemistry, laser microdissection catapult, real-time PCR, Western blot, and gelatin zymography. Additional training included grant and manuscript writing. Dr. Peterson's work contributed to two peer-reviewed manuscripts (Rink et. al, JCBFM 2011, and Rink et. al, ARS 2011).
- 2010 – 2012 **Harshesh Amin.** Harshesh was a pre-med student at Capital University. While in the lab, Harshesh was trained in small animal behavioral testing and sensorimotor functional analysis following ischemic stroke.
- 2009 – 2011 **Dr. Zubin Shah, MD, MPH.** Dr. Shah received laboratory training while studying for USMLE STEP1. Dr. Shah was training in immunohistochemistry, cryosectioning, and high performance liquid chromatography.
- 2009 – 2010 **Suchin Khanna, BS.** Suchin is currently a 4th year medical school student at The University of Cincinnati. While in the lab, Suchin was trained in laser capture microdissection and real-time PCR. His efforts contributed to a manuscript (Rink et. al, JCBFM 2011).
- 2008 – 2009 **Yojan Patel, BS.** Yojan was mentored in the lab for one year prior to entering medical school at Wright State University. Yojan was trained in cryosectioning, immunohistochemistry, laser capture microdissection, and real-time PCR while in the laboratory. His efforts contributed to a manuscript (Rink et. al, JCBFM 2011).

2008 – 2009 **Pavan Kumar Ananth, BS.** Pavan was an undergraduate student whom I mentored in the laboratory for one year prior to his entering medical school at Tulane University. During this time he was trained in immunohistochemistry and contributed to a manuscript (Rink et al., JCBFM 2010).

Service

2016 **Conference Session Chair,** T2C Conference Session on Next Generation Prosthetics, The Ohio State University

2015 **Conference Organizer and Session Chair,** H3C Health Sciences Innovation Conference, Mumbai, India

2015 – present **Chair,** DHLRI Shared Equipment Committee

2011 – present **Committee Member,** Biomedical Sciences Graduate Studies Committee

2011 – present **Committee Member,** Interdisciplinary Doctoral Program in Nutrition (OSUN) Graduate Studies Committee

Involvement in Graduate/Professional Exams, Theses, and Undergraduate Research

Maria Balch, MS Faculty advisor for Maria's Doctorate in Anatomy

Dr. Taehwan Yoo, MD Faculty advisor for Tae's Masters of Medical Science degree

Dr. Laura Peterson, MD Faculty advisor for Laura's Masters of Medical Science degree

Dr. Fabiola Gutierrez, PhD OSUN (Interdisciplinary Ph.D. Program in Human Nutrition) student, invited faculty member for candidacy and dissertation defense committees

Dr. Brian Green, PhD Mechanical Engineering doctoral student, appointed as Graduate School Faculty Representative Committee Member for Brian's doctoral defense

Seth Teplitsky, BS Faculty advisor for Undergraduate Honors Thesis

Amitava Das, MS OSUN doctoral student, invited faculty member for candidacy and dissertation defense committees

Yi-Hsuan Liu, BS OSUN doctoral student, invited faculty member for candidacy and dissertation defense committees

Awards and Honors:

- 2013 **First Place Young Scientist Award** – 6th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference
- 2012 **OSU Technology and Commercialization Office (TCO) Entrepreneurial Scholar**
- 2011 **Professor T.K. Hunt Award** for Outstanding Early Stage Investigator – 4th Annual Translational to Clinical (T2C) Wound Care Conference
- 2008 **First place** oral presentation - DHLRI 3rd Annual Research Retreat
- 2008 **First place** oral presentation - 13th Annual Resident Research Conference, OSU Department of Surgery
- 2007 **Battelle Award Recipient** - 6th Annual OSUMC Graduate & Postgraduate Research Day
- 2007 **Platinum Award** for oral presentation - Columbus Surgical Society
- 2007 **First place** oral presentation - 12th Annual Resident Research Conference, OSU Department of Surgery
- 2006 **First place** oral presentation - 11th Annual Resident Research Conference, OSU Department of Surgery
- 2006 **First place** poster – 4th Annual Department of Human Nutrition Research Day

Research Support:

AWARDED (ACTIVE)

R01NS085272 – iGOT Neuroprotection

Sponsor: National Institutes of Health

Role: Principal Investigator

Amount: \$1,924,275

Date: 9/1/2013 – 5/31/18

Objective: This proposal identifies therapeutic strategies to induce expression of an enzyme, Glutamate Oxaloacetate Transaminase (GOT), that can metabolize otherwise harmful glutamate at the site of ischemic brain injury. We hypothesize that GOT metabolism of glutamate protects neural cells from brain injury by (1) reducing excitotoxic levels of extracellular glutamate caused by ischemic injury, and (2) enabling anaplerotic refilling of TCA cycle intermediates in ischemic brain tissue challenged by hypoglycemia.

12SDG11780023 – Cerebrovascular collaterals in acute ischemic stroke

Sponsor: American Heart Association Scientist Development Grant

Role: Principal Investigator

Amount: \$231,000

Date: 7/1/12 – 6/30/16

Objective: Identify therapeutic strategies and molecular mechanisms that improve collateral circulation during stroke

Characterization of Collateral Remodeling in the Stroke-Affected Brain

Sponsor: OSU Discovery Themes Initiative - Chronic Brain Injuries Pilot Award

Role: Principal Investigator

Amount: \$30,000

Date: 3/1/16 – 6/30/17

Objective: Collaboration with College of Engineering to develop novel scanning electron microscopy approach to visualize brain collaterals during ischemic stroke

Randomized Pilot Study Using Stimulen Gel and Standard of Care on Amputees

Sponsor: Southwest Technologies Inc.

Date: 2/5/16 – 2/5/18

Role: Principal Investigator

Amount: \$10,000

Objective: Test a topical collagen gel to improve skin barrier function of residual limb on transtibial and transfemoral amputees.

NUTRITION Clinical Trial

Sponsor: Malaysian Palm Oil Board

Date: 7/1/11 – 12/31/16

Role: Co-Principal Investigator

Amount: \$1,750,0000

Objective: Safety and platelet function in healthy subjects and stroke survivors in response to daily oral natural vitamin E supplementation. Now the largest secondary stroke prevention trial in OSU history.

OR150169 – Development of Adaptive Vacuum Suspension to Improve Prosthetic Fit and Residual Limb Health

Sponsor: Department of Defense

Role: Co-Principal Investigator

Amount: \$1,977,768

Date: 10/1/16 – 9/30/19

Objective: In collaboration with Ohio Willow Wood and Walter Reed Army Medical Center, this proposal seeks to develop a next generation lower limb prosthesis that prospectively adapts vacuum suspension to ensure optimal fit and performance.

Tocotrienol Against the Progression of End Stage Liver Disease (ESLD)

Sponsor: Malaysian Palm Oil Board

Date: 10/1/15 – 9/30/18

Role: Co-Principal Investigator

Amount: \$1,300,000

Objective: Seeking FDA IND status to test tocotrienol vitamin E in Hep C and NASH patients

miR-92a Sensitizes the Brain to Ischemia After Subarachnoid Hemorrhage by Down-Regulating Kruppel-like Factor 2

Sponsor: American Association of Neurological Surgeons

Amount: \$40,000

Date: 6/26/14 – 6/30/16

Role: Co-Principal Investigator

Objective: Query the miRNA transcriptome in CSF of hemorrhagic stroke survivors to identify novel targets (*i.e.* miR-92a) that increase risk of vasospasm.

Pro-angiogenic cell therapies for stroke recovery: Nanoengineering blood vessels through direct reprogramming

Sponsor: OSU Discovery Themes Initiative - Chronic Brain Injuries Pilot Award

Role: Co-Principal Investigator

Amount: \$30,000

Date: 3/1/16 – 6/30/17

Objective: Collaboration with College of Engineering to reprogram fibroblasts into endothelial cells to spur angiogenesis in stroke-affected brain.

COMPLETE

VA118-11-RP-0168 – Synergistic Improvements for Transfemoral Prosthetic Sockets

Sponsor: Department of Veterans Affairs

Role: Co-Principal Investigator

Amount: \$2,100,000 over 2 years

Objective: First-time objective measures of in- and out-of-socket residual limb health in transfemoral and transtibial amputees.

UL1RR025755 – Targeting arteriogenesis in ischemic stroke

CCTS “Welcome Back” Pilot Award

Role: Principal Investigator

Amount: \$25,000

Date: 12/1/2012 – 11/30/2013

Objective: Support generation of preliminary data for NIH R01 application on the significance of arteriogenesis in improving brain collateral blood flow during stroke

UL1RR025755 – Cerebrovascular recruitment and remodeling in acute ischemic stroke

CCTS Pilot Award

Role: Principal Investigator

Amount: \$25,000

Date: 12/1/2010 – 11/30/2011

Objective: Generation of preliminary data to support AHA SDG application (now funded).

UL1RR025755 - Pial collateral recruitment and remodeling in acute ischemic stroke

CCTS Novel Clinical and Translational Methodologies Program

Role: Principal Investigator

Amount: \$5,000

Date: 5/1/2010 – 6/1/2010

Objective: To develop a technique to selectively isolate and capture cerebrovascular collaterals from stroke-affected brain using the Laser Capture Microdissection platform

AHA 0615240B - The significance of vitamin E in stroke and 12-lipoxygenase

American Heart Association Pre-doctoral Fellowship

Role: Principal Investigator

Amount: \$51,900

Date: 7/01/2006 – 6/08/2008

Description: To assess the therapeutic efficacy of natural vitamin E (α -tocopherol and α -tocotrienol) in acute ischemic stroke and their relevance toward 12-lipoxygenase mediated neurodegeneration

Peer-Reviewed Publications (chronological):

1. Sen CK, Khanna S, Harris H, Stewart R, Balch M, Heigel M, Teplitsky S, Gnyawali S, **Rink C**. “Robot-assisted mechanical therapy attenuates stroke-induced limb skeletal muscle injury”. *FASEB*. Accepted for publication on November 14th, 2016.
2. **Rink C**, Wernke M, Powell H, Gnyawail S, Schroeder R, Kim J, Denune J, Gordillo G, Colvin J, Sen CK. “Elevated vacuum suspension preserves residual limb skin health in lower limb amputees: randomized clinical trial”. *Journal of Rehabilitation Research & Development*. Accepted for publication on April 13th, 2016.

3. Powers CJ, Dickerson R, Zhang S, **Rink C**, Roy S, Sen CK. "Human cerebrospinal fluid microRNA: temporal changes following subarachnoid hemorrhage". *Physiol Genomics*. Accepted for publication on March 3rd, 2016.
4. Gallego-Perez D, Otero JJ, Czeisler C, Ma J, Ortiz C, Gygli P, Catacutan FP, Gokozaan HN, Cowgill A, Sherwood T, Ghatak S, Malkoc V, Zhao X, Liao WC, Gnyawali S, Wang X, Adler AF, Leong K, Wulff B, Wilgus TA, Askwith C, Khanna S, **Rink C**, Sen CK, Lee LJ. "Deterministic transfection drives efficient nonviral reprogramming and uncovers reprogramming barriers". *Nanomedicine*. 2015 Dec 19. [Epub ahead of print] PMID: 26711960
5. Khanna S, Das A, Spieldenner J, **Rink C**, Roy S. "Supplementation of a Standardized Extract from *Phyllanthus emblica* Improves Cardiovascular Risk Factors and Platelet Aggregation in Overweight/Class-1 Obese Adults". *J Med Food*. 2015 Apr;18(4):415-20. PMID: 25756303
6. Khanna S, Heigel M, Weist J, Gnyawali S, Teplitsky S, Roy S, Sen CK, **Rink C**. "Excessive α -Tocopherol Exacerbates Microglial Activation and Brain Injury Caused By Acute Ischemic Stroke". *The Journal of the Federation of American Societies for Experimental Biology, FASEB*. 2015 Mar;29(3):828-36. PMID: 25411436
7. Khanna S, Briggs Z, **Rink C**. "Inducible Glutamate Oxaloacetate Transaminase as a Therapeutic Target Against Acute Ischemic Stroke". *Antioxid Redox Signal*. 2015 Jan 10;22(2):175-86. PMID: 25343301
8. Khanna S, **Rink C**, Ghoorkhanian R, Gnyawali S, Heigel M, Wijesinghe DS, Chalfant CE, Chan YC, Banerjee J, Huang Y, Roy S, Sen CK. Loss of miR-29b following acute ischemic stroke contributes to neural cell death and infarct size. *J Cereb Blood Flow Metab*. 2013 May. PMID: 23632968
9. **Rink C**, Patel V, Gordillo GM, Khanna S, Gnyawali U, Roy S, Shneker B, Ganesh K, Phillips G, More JL, Sarkar A, Kirkpatrick R, Elkhannas EA, Klatte E, Miller M, Firstenberg MS, Chiocca EA, Nesaretnam K, Sen CK. Oral tocotrienols are transported to human tissue and delay the progression of the model for end-stage liver disease score in patients. *J Nutrition*. 2012 Mar;142(3):513-9. PMID: 22298568
10. Patel V, **Rink C**, Khanna S, Sen CK. Tocotrienols: the lesser known form of natural vitamin E. *Indian J Exp Biol*. 2011 Oct;49(10):732-8. PMID: 22013739
11. **Rink C**, Christoforids G, Khanna S, Peterson L, Patel Y, Khanna S, Abduljalil A, Irfanoglu O, Machiraju R, Bergdall VK, Sen CK. Tocotrienol vitamin E protects against preclinical canine ischemic stroke by inducing arteriogenesis. *J Cereb Blood Flow Metab*. 2011 Nov;31(11):2218-30. PMID: 21673716
12. **Rink C**, Gnyawali S, Peterson L, Khanna S. Oxygen-inducible glutamate oxaloacetate transaminase as protective switch transforming neurotoxic glutamate to metabolic fuel during acute ischemic stroke. *Antioxid Redox Signal*. 2011 May 15;14(10):1777-85. PMID: 21361730
13. **Rink C**, Khanna S. Significance of brain tissue oxygenation and the arachidonic acid cascade in stroke. *Antioxid Redox Signal*. 2011 May 15;14(10):1889-903. PMID: 20673202
14. **Rink C**, Khanna S. MicroRNA in ischemic stroke etiology and pathology. *Physiol Genomics*. 2011, May 1;43(10):521-8. PMID: 20841499
15. **Rink C**, Christoforidis GA, Kontzialis MS, Mohammad Y, Koch RM, Abduljalil AM, Bergdall VK, Roy S, Khanna S, Slivka AP, Knopp MV, Sen CK. An endovascular canine middle cerebral artery

occlusion model for the study of leptomeningeal collateral recruitment. *Invest Radiol*. 2011 Jan;46(1):34-40. PMID: 20856126

16. Sen CK, **Rink C**, Khanna S. Palm oil-derived natural vitamin E alpha-tocotrienol in brain health and disease. *J Am Coll Nutr*. 2010 Jun;29(3 Suppl):314S-323S. PMID: 20823491

17. **Rink C**, Roy S, Khan M, Ananth P, Kuppusamy P, Sen CK, and Khanna S. Oxygen-sensitive outcomes and gene expression in acute ischemic stroke. *J Cereb Blood Flow Metab*. 30 (7): 1275-1287, 2010. PMID: 20145654

18. Khanna S, Parinandi NL, Kotha SR, Roy S, **Rink C**, Bibus D, and Sen CK. Nanomolar vitamin E alpha-tocotrienol inhibits glutamate-induced activation of phospholipase A2 and causes neuroprotection. *J Neurochem* 112: 1249-1260, 2010. PMID: 20028458

19. Park HA, Khanna S, **Rink C**, Gnyawali S, Roy S, and Sen CK. Glutathione disulfide induces neural cell death via a 12-lipoxygenase pathway. *Cell Death Differ* 16: 1167-1179, 2009. PMID: 19373248

20. Selvendiran K, Kuppusamy ML, Bratasz A, Tong L, Rivera BK, **Rink C**, Sen CK, Kalai T, Hideg K, and Kuppusamy P. Inhibition of vascular smooth-muscle cell proliferation and arterial restenosis by HO-3867, a novel synthetic curcuminoid, through up-regulation of PTEN expression. *J Pharmacol Exp Ther* 329: 959-966, 2009. PMID: 19276401

21. Roy S, Khanna S, Hussain SR, Biswas S, Azad A, **Rink C**, Gnyawali S, Shilo S, Nuovo GJ, and Sen CK. MicroRNA expression in response to murine myocardial infarction: miR-21 regulates fibroblast metalloprotease-2 via phosphatase and tensin homologue. *Cardiovasc Res* 82: 21-29, 2009. PMID: 19147652

22. **Rink C**, Christoforidis G, Abduljalil A, Kontzialis M, Bergdall V, Roy S, Khanna S, Slivka A, Knopp M, and Sen CK. Minimally invasive neuroradiologic model of preclinical transient middle cerebral artery occlusion in canines. *Proc Natl Acad Sci U S A* 105: 14100-14105, 2008. PMID: 18779582

23. Roy S, Khanna S, **Rink C**, Biswas S, and Sen CK. Characterization of the acute temporal changes in excisional murine cutaneous wound inflammation by screening of the wound-edge transcriptome. *Physiol Genomics* 34: 162-184, 2008. PMID: 18460641

24. Ratan RR, Siddiq A, Aminova L, Langley B, McConoughey S, Karpisheva K, Lee HH, Carmichael T, Kornblum H, Coppola G, Geschwind DH, Hoke A, Smirnova N, **Rink C**, Roy S, Sen C, Beattie MS, Hart RP, Grumet M, Sun D, Freeman RS, Semenza GL, and Gazaryan I. Small molecule activation of adaptive gene expression: tilorone or its analogs are novel potent activators of hypoxia inducible factor-1 that provide prophylaxis against stroke and spinal cord injury. *Ann N Y Acad Sci* 1147: 383-394, 2008. PMID: 19076458

25. Nazarewicz RR, Zenebe WJ, Parihar A, Parihar MS, Vaccaro M, **Rink C**, Sen CK, and Ghafourifar P. 12(S)-hydroperoxyeicosatetraenoic acid (12-HETE) increases mitochondrial nitric oxide by increasing intramitochondrial calcium. *Arch Biochem Biophys* 468: 114-120, 2007. PMID: 17963719

26. Roy S, Shah H, **Rink C**, Khanna S, Bagchi D, Bagchi M, and Sen CK. Transcriptome of primary adipocytes from obese women in response to a novel hydroxycitric acid-based dietary supplement. *DNA Cell Biol* 26: 627-639, 2007. PMID: 17708719

27. **Rink C**, Roy S, Khanna S, Rink T, Bagchi D, and Sen CK. Transcriptome of the subcutaneous adipose tissue in response to oral supplementation of type 2 Leprdb obese diabetic mice with niacin-bound chromium. *Physiol Genomics* 27: 370-379, 2006. PMID: 16940432
28. Roy S, Khanna S, Kuhn DE, **Rink C**, Williams WT, Zweier JL, and Sen CK. Transcriptome analysis of the ischemia-reperfused remodeling myocardium: temporal changes in inflammation and extracellular matrix. *Physiol Genomics* 25: 364-374, 2006. PMID: 16554547
29. Khanna S, Patel V, **Rink C**, Roy S, and Sen CK. Delivery of orally supplemented alpha-tocotrienol to vital organs of rats and tocopherol-transport protein deficient mice. *Free Radic Biol Med* 39: 1310-1319, 2005. PMID: 16257640
30. Khanna S, Roy S, Slivka A, Craft TK, Chaki S, **Rink C**, Notestine MA, DeVries AC, Parinandi NL, and Sen CK. Neuroprotective properties of the natural vitamin E alpha-tocotrienol. *Stroke* 36: 2258-2264, 2005. PMID: 16166580
31. Roy S, Khanna S, Yeh PE, **Rink C**, Malarkey WB, Kiecolt-Glaser J, Laskowski B, Glaser R, and Sen CK. Wound site neutrophil transcriptome in response to psychological stress in young men. *Gene Expr* 12: 273-287, 2005. PMID: 16358416
32. Roy S, Khanna S, Shah H, **Rink C**, Phillips C, Preuss H, Subbaraju GV, Trimurtulu G, Krishnaraju AV, Bagchi M, Bagchi D, and Sen CK. Human genome screen to identify the genetic basis of the anti-inflammatory effects of Boswellia in microvascular endothelial cells. *DNA Cell Biol* 24: 244-255, 2005. PMID: 15812241
33. Roy S, Khanna S, Wallace WA, Lappalainen J, **Rink C**, Cardounel AJ, Zweier JL, and Sen CK. Characterization of perceived hyperoxia in isolated primary cardiac fibroblasts and in the reoxygenated heart. *J Biol Chem* 278: 47129-47135, 2003. PMID: 12952964
34. Roy S, **Rink C**, Khanna S, Phillips C, Bagchi D, Bagchi M, and Sen CK. Body weight and abdominal fat gene expression profile in response to a novel hydroxycitric acid-based dietary supplement. *Gene Expr* 11: 251-262, 2004. PMID: 15200237
35. Muscarella P, Boros LG, Fisher WE, **Rink C**, and Melvin WS. Oral dehydroepiandrosterone inhibits the growth of human pancreatic cancer in nude mice. *J Surg Res* 79: 154-157, 1998. PMID: 9758731

Book Chapters:

1. **Rink C**, Khanna S. Natural Vitamin E Tocotrienol against Neuroinflammation and Oxidative Stress. *Chronic Inflammation*. CRC Press, 2012. pp. 199 – 207. ISBN 978-1439872116
2. **Rink C**, Khanna S, Sen CK. Arachidonic acid metabolism and lipid peroxidation in stroke: alpha-tocotrienol as a unique therapeutic agent. *Studies on Experimental Models: Oxidative Stress in Applied Basic Research and Clinical Practice*. Humana Press, 2011. Volume 1: pp. 63 – 90. ISBN 978-1-60761-955-0
3. Sen CK, Khanna S, **Rink C**, and Roy S. Tocotrienols: the emerging face of natural vitamin E. *Vitamins & Hormones: Vitamin E*. Elsevier Publishing, 2007. Volume 76: pp. 203-261. ISBN: 978-0-12-373592-8

Research Presentations:

INVITED LECTURES:

INTERNATIONAL

Socket Fit Measurement to Improve Patient Outcomes and Promote Residual Limb Health. *American Orthotic and Prosthetic Association World Congress*. October 10th, 2015. San Antonio, Texas, United States.

Targeting Glutamate Metabolism by Glutamate Oxaloacetate Transaminase in Ischemic Penumbra Protects Against Ischemic Stroke Injury. *Society for Neuroscience 45th Annual Meeting*. Oct. 18th, 2015. Chicago, IL.

Prosthesis Design and Residual Limb Health. *Chronic Wound Care: Basics to Clinics*. January 10th, 2015. Peerless Hospital, Kolcutta, India.

Tocotrienol Vitamin E Induces Arteriogenesis and Protects Against Ischemic Stroke Brain Injury. *H3C Health Sciences Innovation Conference*. January 17th, 2015. Taj Palace, Mumbai, India.

Quantitative Effects of Elevated Vacuum Suspension on Residual Limb Health. *American Orthotic and Prosthetic Association World Congress*. September 5th, 2014. Las Vegas, Nevada, United States.

Residual Limb Circulation in Response to Elevated Vacuum Suspension: Case Reports from a Transtibial and Transfemoral Amputee. *American Orthotic and Prosthetic Association World Congress*. September 7th, 2014. Las Vegas, Nevada, United States.

Excessive Dietary Alpha-Tocopherol Increases Post-Stroke Microglial Activation and Contributes to Brain Injury. *Society for Neuroscience 44th Annual Meeting*. November 18th, 2014. Washington D.C., United States.

Tocotrienol Vitamin E Induces Arteriogenesis and Protects Against Ischemic Stroke Brain Injury. *Society for Neuroscience 44th Annual Meeting*. November 18th, 2014. Washington D.C., United States.

Glutamate Metabolism by Inducible Glutamate Oxaloacetate Transaminase Protects Stroke-Affected Brain. *Society for Neuroscience 44th Annual Meeting*. November 18th, 2014. Washington D.C., United States.

Quantitative Effects of Elevated Vacuum Suspension on Residual Limb Health. *American Orthotic and Prosthetic Association World Congress*. September 5th, 2014. Las Vegas, Nevada, United States.

Residual Limb Circulation in Response to Elevated Vacuum Suspension: Case Reports from a Transtibial and Transfemoral Amputee. *American Orthotic and Prosthetic Association World Congress*. September 7th, 2014. Las Vegas, Nevada, United States.

Palm tocotrienol attenuates stroke injury and improves collateral blood flow during ischemic stroke. *Palm International Nutraceutical Conference*. May 20th, 2013. One World Hotel and Conference Center, Kuala Lumpur, Malaysia.

Natural vitamin E, alpha-tocotrienol, attenuates stroke injury and improves pial collateral circulation during cerebral ischemia. 2nd International Conference on Tocotrienols and Chronic Diseases. July 13th, 2011. Wynn, Las Vegas, NV.

Preclinical Studies on Tocotrienol Against Stroke. 1st International Conference on Tocotrienols and Chronic Diseases. July 29th, 2010. Wynn, Las Vegas, NV.

The oxygen-sensitive transcriptome in stroke-related injury of the brain: a therapeutic window of opportunity. Society for Neuroscience 37th Annual Meeting, Nov. 5th, 2007. San Diego Convention Center, San Diego, CA.

NATIONAL

Aptamer Inhibition of Von Willebrand Factor Provides Thrombolytic Efficacy and Decreased Stroke Burden without an Increased Risk of Intracranial Hemorrhage. American Association of Neurological Surgeons: Cerebrovascular Section Annual Meeting. Houston, Texas, United States. February 20th, 2017.

Next-Generation Prosthetics and Military Amputee Care. 9th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference. The Ohio State University, Columbus, OH. March 17th, 2016.

Elevated Vacuum Suspension Preserves Residual Limb Skin Health in Lower Limb Amputees. Military Health System Research Symposium. Ft. Lauderdale, FL, United States. August 18th, 2015.

Prosthesis Suspension and Amputee Health. Center for the Intrepid Research Update. San Antonio, TX, United States. July 15th, 2015.

Elevated Vacuum Suspension and Residual Limb Perfusion. American Academy of Orthotists & Prosthetists 41st Annual Meeting. New Orleans, Louisiana, United States. February 5th, 2015.

Residual Limb Health Outcomes in Response to Elevated Vacuum Suspension. Institute of Surgical Research. San Antonio, Texas, United States. April 2nd, 2015.

Methodological assessment of residual limb circulation and skin health in response to elevated vacuum suspension. 40th American Academy of Orthotists and Prosthetists Annual Meeting & Scientific Symposium. February 28th, 2014. Chicago, IL.

Palm oil tocotrienol and arteriogenesis. University of Florida Palm Oil Symposium. August 27th, 2013. Gainesville, FL.

Robot assisted mechanical therapy and post-stroke functional recovery. 6th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference. March 17th, 2013. The Ohio State University, Columbus, OH.

Neuroprotective properties of natural vitamin E alpha-tocotrienol. Pfizer Nutrition, December 7th, 2012. Pfizer Nutrition Worldwide Headquarters, Madison, NJ.

Tocotrienols in Health and Disease. Palm Oil Symposium, September 12th, 2012. Radisson Hotel, Salt Lake City, UT.

Natural vitamin E, alpha-tocotrienol: The vitamin E to defend the nervous system? 102nd American Oil Chemists' Society, May 3rd, 2011. Duke Energy Center, Cincinnati, OH.

Beneficial role of novel, natural, antioxidants in inflammatory disease. 2009 Institute of Food Technologists International Meeting, June 7th, 2009. Anaheim Convention Center, Anaheim/OC, CA.

REGIONAL

Advancements in Prosthesis Design for Amputee Health. Annual Meeting of the Ohio Chapter of the American Academy of Orthotists & Prosthetists. Columbus, Ohio, United States. March 28th, 2015.

Regenerative Medicine and Post-Stroke Functional Recovery. OSU Regenerative Medicine and Cell Based Therapies Retreat. August 1st, 2014. Perrysville, OH.

Sensorimotor Recovery and Neural Plasticity Following Acute Ischemic Stroke. **Rink C.** OSU Regenerative Medicine and Cell Based Therapies Retreat. August 17th, 2012. Mohican State Park Lodge, Perrysville, OH.

Preclinical Models of Acute Ischemic Stroke. OSU Regenerative Medicine and Cell Based Therapies Retreat. Sep 17th, 2010. Mohican State Park Lodge, Perrysville, OH.

The Janus Face of Oxygen Therapy in Acute Ischemic Stroke. Burke/Cornell Medical Research Institute Seminar Series. June 29th, 2010. Burke/Cornell Rehabilitation Hospital and Research Institute, White Plains, NY.

Minimally invasive neuroradiologic model of preclinical transient middle cerebral artery occlusion in canines. Wisconsin Surgical Society, May 6th, 2008. The Ohio State University Medical Center, Columbus, OH.

Natural vitamin E α -tocotrienol protects against glutamate-induced neurodegeneration and stroke. Columbus Surgical Society, February 17th, 2007. Riverside Methodist Hospital, Columbus, OH.

INTERNAL

Surgical Research. Career Exploration Series for Med 1 Students. January 7th, 2016. The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

Soft Tissue Injury and Residual Limb Health in Lower Limb Amputees. Vascular Diseases and Surgery Grand Rounds. October 26th, 2015. The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

Surgical Research. Summer Scholar Seminar Series. June 25th, 2015. The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

Research Opportunities in Surgery. Career Exploration Series for Med 1 Students. June 11th, 2015. The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

Effects of Elevated Vacuum Suspension on Residual Limb Perfusion in Lower Limb Amputees. Vascular Diseases and Surgery Grand Rounds. May 11th, 2015. The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

Prosthesis Design and Residual Limb Health. Vascular Diseases and Surgery Grand Rounds. August 18th, 2014. The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

To Regenerate or Remodel? Ellison Post-Graduate Course in Surgery. September 26th, 2014, The Ohio State University Wexner Medical Center, Columbus, Ohio, United States.

Stroke Therapeutics: Regenerate or Remodel? *Ellison Post-Graduate Course in Surgery – Advances and Innovations in Surgery: The Next Frontier*. September 26th, 2014. Columbus, OH.

Targeting Arteriogenesis in Acute Ischemic Stroke. *DHLRI Research in Progress Seminar Series*. April 5th, 2013. Davis Heart and Lung Research Institute, The Ohio State University Wexner Medical Center, Columbus, OH.

Cerebrovascular Collaterals in Acute Ischemic Stroke. *Division of Vascular Diseases and Surgery Grand Rounds*. Oct. 10th, 2012. Prior Health Science Library, The Ohio State University Wexner Medical Center, Columbus, OH.

The Janus Face of Oxygen Therapy in Acute Ischemic Stroke. *Ohio State University Interdisciplinary Program in Human Nutrition Seminar Series*. Nov 11th, 2010. Campbell Lecture Hall, The Ohio State University, Columbus, OH.

Nutritional Intervention in Neuronal Degeneration and Stroke. *Davis Heart and Lung Research Institute Research in Progress Seminar Series*. May 25th, 2010. Davis Heart and Lung Research Institute, Columbus, OH.

ADDITIONAL INTERNAL LECTURES:

Rink C, Khanna S, Roy S, Khan M, Ananth P, Kuppusamy P, Sen CK. Characterization of the therapeutic potential for supplemental oxygen therapy in acute ischemic stroke. *14th Annual Department of Surgery Research Conference*, May 22nd, 2009. The Ohio State University Medical Center, Columbus, OH.

Rink C, Christoforidis G, Kontzialis M, Bergdall VK, Abduljalil A, Roy S, Khanna S, Knopp MV, Friedman A, Sen CK. Novel pre-clinical model of acute ischemic stroke in canines: A minimally invasive neuroradiological approach of MCA occlusion and reperfusion. *3rd Annual DHLRI Research Retreat*, October 21st, 2008. The Ohio State University Medical Center, Columbus, OH.

Rink C, Christoforidis G, Kontzialis M, Bergdall VK, Abduljalil A, Roy S, Khanna S, Knopp MV, Friedman A, Sen CK. A novel pre-clinical model of stroke: Neuroradiological approach to transient MCA occlusion in canines. *13th Annual Department of Surgery Research Conference*, May 23rd, 2008. The Ohio State University Medical Center, Columbus, OH.

Rink C, Khanna S, Ojha N, Radtke J, Roy S, Sen CK. Significance of the oxygen-sensitive genome in stroke-related injury of the brain: a therapeutic window of opportunity. *12th Annual Department of Surgery Research Conference*, May 25th, 2007. The Ohio State University Medical Center, Columbus, OH.

Rink C, Khanna S, Roy S, Slivka A, Craft TK, Notestine M, DeVries C, Sen CK. Natural vitamin E α -tocotrienol protects against glutamate-induced neurodegeneration and stroke. *11th Annual Department of Surgery Research Conference*, May 26th, 2006. The Ohio State University Medical Center, Columbus, OH.

CONFERENCE POSTERS:

INTERNATIONAL

Khanna S, Gnyawali S, Heigel M, Teplitzky S, Roy S, Sen CK, **Rink C**. Excessive α -tocopherol exacerbates microglial activation and brain injury caused by acute ischemic stroke. *Society for Neuroscience 44th Annual Meeting*. Nov. 18th, 2014. Washington DC Convention Center.

Khanna S, Heigel M, Gnyawali S, Sen CK, **Rink C**. Tocotrienol induces TIMP1 expression and pro-arteriogenic remodeling of cerebrovascular collaterals. *American Heart Association International Stroke Conference*. February 13th, 2014. San Diego, CA.

Rink C, Christoforidis G, Khanna S, Peterson L, Patel Y, Abduljalil A, Irfanoglu O, Machiraju R, Bergdall V, Sen CK. Natural vitamin E alpha-tocotrienol protects against ischemic stroke by inducing arteriogenesis. *Society for Neuroscience 41st Annual Meeting*, Nov. 13th, 2011. Washington DC Convention Center.

Rink C, Christoforidis G, Khanna S, Roy S, Sen CK. Natural vitamin E, alpha-tocotrienol, attenuates stroke injury and improves pial collateral circulation during cerebral ischemia. *Society for Neuroscience 40th Annual Meeting*, Nov. 15th, 2010. San Diego, CA.

Rink C, Khanna S, Roy S, Khan M, Ananth P, Kuppusamy P, Sen CK. The Janus face of supplemental oxygen in ischemic stroke: New insight on therapeutic potential for identifying the oxygen-sensitive transcriptome. *The Oxygen Club of California World Congress*, Mar. 17 – 20th, 2010. Santa Barbara, CA.

Rink C, Khanna S, Roy S, Khan M, Ananth P, Kuppusamy P, Sen CK. Characterization of the therapeutic potential for supplemental oxygen in acute ischemic stroke. *Society for Neuroscience 39th Annual Meeting*, Oct. 20th, 2009. Chicago, IL.

Rink C, Christoforidis G, Kontzialis M, Bergdall VK, Abduljalil A, Roy S, Khanna S, Knopp MV, Friedman A, Sen CK. Novel pre-clinical model of acute ischemic stroke in canines: a minimally invasive neuroradiological approach of MCA occlusion and reperfusion. *Society for Neuroscience 38th Annual Meeting*, Nov. 17th, 2008. Washington DC Convention Center.

Rink C, Khanna S, Roy S, Park H, Ghafourifar P, Sen C. The 12-lipoxygenase path of neurodegeneration: mitochondrial involvement and protection by the natural vitamin E α -tocotrienol. *Society for Neuroscience 36th Annual Meeting*, Oct 15th, 2006. Atlanta, GA.

Rink C, Khanna S, Roy S, Slivka A, Craft TK, Notestine M, DeVries C, Sen CK. Natural vitamin E α -tocotrienol protects against glutamate-induced neurodegeneration and stroke. *Society for Neuroscience 35th Annual Meeting*, Nov. 12th, 2005. Washington DC Convention Center.

NATIONAL

Yoo T, Haruani M, **Rink C**. The Plasma miRNA Profile In Response To Vascular Injury. *9th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference*. March 17th, 2016. The Ohio State University, Columbus, OH.

Spieldenner JM, Paoletto D, Khanna S, Roy S, Slivka A, **Rink C**, Sen CK. Safety and Platelet Function Profile of Natural Vitamin E Tocotrienol In Stroke Survivors: Outcomes of the NUTRITION Clinical Trial. *9th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference*. March 17th, 2016. The Ohio State University, Columbus, OH.

Briggs Z, Gnyawali S, Stewart R, Harris H, Sen CK, Khanna S, **Rink C**. Glutamate Oxaloacetate Transaminase Enables Anaplerotic Refilling of TCA Cycle Intermediates In Stroke-Affected Brain. *9th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference*. March 17th, 2016. The Ohio State University, Columbus, OH.

Stewart R, Gnyawali S, Harris H, Briggs Z, Ramachandran S, Roy S, Sen CK, **Rink C**, Khanna S. Biochanin A Protects Against Ischemic Stroke By Inducing Glutamate Oxaloacetate Transaminase.

9th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference. March 17th, 2016. The Ohio State University, Columbus, OH.

Balch M, Sen CK, Khanna S, Harris H, Gnyawali S, **Rink C**. Robot-Assisted Mechanical Therapy Protects Against Skeletal Muscle Injury After Stroke. 9th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference. March 17th, 2016. The Ohio State University, Columbus, OH.

Heigel M, Sen CK, Levesque P, Khanna S, Hatton J, McKee M, Teplitsky S, **Rink C**. Manual therapy improves sensorimotor function following acute ischemic stroke. 6th Annual Translational to Clinical (T2C) Regenerative Medicine Wound Care Conference. March 17th, 2013. The Ohio State University, Columbus, OH.

Heigel M, Peterson L, Szames D, Singh C, Khanna S, Roy S, Sen CK, **Rink C**. Targeting arteriogenesis in acute ischemic stroke. American Heart Association Research Reception. November 27th, 2012. Columbus Museum of Art, Columbus, OH.

Heigel M, Christoforidis G, Peterson L, Szames D, Singh C, Khanna S, Roy S, Sen CK, **Rink C**. Cerebrovascular collaterals in acute ischemic stroke. 5th Annual Translational to Clinical (T2C) Wound Care Conference. March 23rd, 2012. The Ohio State University, Columbus, OH.

Rink C, Khanna S, Gnyawali S, Heigel M, Singh C, Szames D, Roy S, Sen CK. Excessive brain alpha-tocopherol facilitates microglial activation and contributes to injury caused by acute ischemic stroke. 5th Annual Translational to Clinical (T2C) Wound Care Conference. March 23rd, 2012. The Ohio State University, Columbus, OH.

Rink C, Christoforidis G, Peterson L, Khanna S, Roy S, Sen CK. Tocotrienol vitamin E improves collateral circulation during focal cerebral ischemia attenuating stroke injury. 4th Annual Translational to Clinical (T2C) Wound Care Conference. April 8th, 2011. The Ohio State University, Columbus, OH.

Rink C, Roy S, Peterson L, Sen CK, Khanna S. The Janus face of glutate in the brain: the glucose- and oxygen- dependent role reversal from neurotoxin to neuroprotectant. 4th Annual Translational to Clinical (T2C) Wound Care Conference. April 8th, 2011. The Ohio State University, Columbus, OH.

Heigel M, Khanna S, Roy S, Khan M, Kuppusamy P, Sen CK, **Rink C**. Characterization of the therapeutic potential for supplemental oxygen therapy in acute ischemic stroke. 4th Annual Translational to Clinical (T2C) Wound Care Conference. April 8th, 2011. The Ohio State University, Columbus, OH.

Peterson L, Heigel M, **Rink C**. Clot size controlled model of limb deep vein thrombosis. 4th Annual Translational to Clinical (T2C) Wound Care Conference. April 8th, 2011. The Ohio State University, Columbus, OH.

INTERNAL (select)

Briggs Z, Khanna S, Harris H, Gnyawali S, Teplitsky S, Sen CK, **Rink C**. Robot-Assisted Manual Therapy Improves Ischemic Stroke Rehabilitation and Sensorimotor Recovery. DHLRI Research Day. April 21st, 2016. The Ohio State University Wexner Medical Center, Columbus, OH.

Rink C, Christoforidis G, Khanna S, Peterson L, Patel Y, Abduljalil A, Irfanoglu O, Machiraju R, Bergdall V, Sen CK. Natural vitamin E alpha-tocotrienol protects against ischemic stroke by inducing arteriogenesis. 6th Annual Davis Heart and Lung Research Day. Oct. 11th, 2011. The Ohio State University, Columbus, OH.

Rink C, Khanna S, Roy S, Park H, Ghafourifar P, Sen CK. The 12-Lipoxygenase path of neurodegeneration: mitochondrial involvement and protection by natural vitamin E α -tocotrienol. 6th Annual OSUMC Research Day, March 29th, 2007. The Ohio State University Medical Center, Columbus, OH.

Rink C, Khanna S, Roy S, Slivka A, Craft TK, Notestine M, DeVries C, Sen CK. Natural vitamin E α -tocotrienol protects against glutamate-induced neurodegeneration and stroke. 4th Annual Department of Human Nutrition Research Day, June 2nd, 2006. Campbell Hall, The Ohio State University, Columbus, OH.

INVENTIONS AND PATENTS

1. **Rink C**, Christoforidis G, Roy S, Sen CK. "Method for testing an agent for stroke in humans with a non-human stroke model." filed 2009, (patent not granted), and Application No. 12/543,528 (U.S. Utility Patent), 09010865.5 (Europe Utility Patent)
2. **Rink C**, Roy S, Khanna S, Sen CK. "Methods for Reducing the Occurrence of Hot Flashes." Hovid LLC. filed 2013, (patent pending), and Application No. 61/857,087
3. **Rink C**, Roy S, Khanna S, Sen CK. "Method for Ameliorating Clotting Pathologies and Related Materials and Methods." filed 2013, (patent pending), and Application No. 13/837,021 (U.S. Utility Patent), PCT/US2013/032134 (PCT Patent)
4. **Rink C**, Roy S, Khanna S, Sen CK. "Antiplatelet Effects of Natural Vitamin E α -Tocotrienol." Malaysian Palm Oil Board (MPOB). filed 2012, (patent pending), and Application No. 61/673,500 (U.S. Provisional Patent)
5. **Rink C**, Roy S, Khanna S, Sen CK. "Method of Improving Pial Collateral Circulation and Protecting Ischemic Tissue Using Tocotrienol Compositions." Hovid LLC. filed 2012, (patent pending), and Application No. 61/657,433 (US Provisional Patent), PCT/US2012/044690 (PCT Provisional Patent)
6. **Rink C**, Roy S, Khanna S, Sen CK. "Methods for Treating Burn & Scar Injury Using Tocotrienol Compositions." Hovid LLC. filed 2012, (patent pending), and Application No. 61/657,443 (US Provisional Patent), PCT/US2012/044694 (PCT Provisional Patent)
7. **Rink C**, Roy S, Khanna S, Sen CK. "Method for Improving Liver Function." Filed 2012, (patent pending), and Application No. 61/648,782 (U.S. Provisional Patent), PCT/US2013/041794 (PCT), 13/897,704 (Utility Patent)
8. **Rink C**, Christoforidis GA, Sen CK, Roy S. "System and method for inducing an experimental stroke event (US Provisional Patent)." filed 2008, (patent pending), and Application No. 61/091,661 (U.S. Provisional Patent)