# Donald G Buerk

List of Publications by Year
in descending order



| 78 | 3,789 | 186265 28 | 128289 60 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 78 | 78 | 78 | 3697 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Diabetic impairments in NO-mediated endothelial progenitor cell mobilization and homing are reversed by hyperoxia and SDF-1Î±. Journal of Clinical Investigation, 2007, 117, 1249-1259. | 8.2 | 595 |
| 2 | A Novel Reaction Mechanism for the Formation of S-Nitrosothiol in Vivo. Journal of Biological Chemistry, 1997, 272, 2841-2845. | 3.4 | 273 |
| 3 | Stem cell mobilization by hyperbaric oxygen. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H1378-H1386. | 3.2 | 232 |
| 4 | Elevated plasma viscosity in extreme hemodilution increases perivascular nitric oxide concentration and microvascular perfusion. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H1730-H1739. | 3.2 | 196 |
| 5 | NO mediates mural cell recruitment and vessel morphogenesis in murine melanomas and tissue-engineered blood vessels. Journal of Clinical Investigation, 2005, 115, 1816-1827. | 8.2 | 167 |
| 6 | Nitric Oxide Has a Vasodilatory Role in Cat Optic Nerve Head during Flicker Stimuli. Microvascular Research, 1996, 52, 13-26. | 2.5 | 143 |
| 7 | Can We Model Nitric Oxide Biotransport? A Survey of Mathematical Models for a Simple Diatomic Molecule with Surprisingly Complex Biological Activities. Annual Review of Biomedical Engineering, 2001, 3, 109-143. | 12.3 | 142 |
| 8 | Immunotargeting of catalase to the pulmonary endothelium alleviates oxidative stress and reduces acute lung transplantation injury. Nature Biotechnology, 2003, 21, 392-398. | 17.5 | 139 |
| 9 | Temporal dynamics of the partial pressure of brain tissue oxygen during functional forepaw stimulation in rats. Neuroscience Letters, 2001, 306, 106-110. | 2.1 | 118 |
| 10 | Endothelial Progenitor Cell Release into Circulation Is Triggered by Hyperoxia-Induced Increases in Bone Marrow Nitric Oxide. Stem Cells, 2006, 24, 2309-2318. | 3.2 | 118 |
| 11 | Temporal Dynamics of Brain Tissue Nitric Oxide during Functional Forepaw Stimulation in Rats. NeuroImage, 2003, 18, 1-9. | 4.2 | 97 |
| 12 | Stimulation of nitric oxide synthase in cerebral cortex due to elevated partial pressures of oxygen: An oxidative stress response. Journal of Neurobiology, 2002, 51, 85-100. | 3.6 | 86 |
| 13 | Stimulation of perivascular nitric oxide synthesis by oxygen. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 284, H1230-H1239. | 3.2 | 84 |
| 14 | Modeling the influence of superoxide dismutase on superoxide and nitric oxide interactions, including reversible inhibition of oxygen consumption. Free Radical Biology and Medicine, 2003, 34, 1488-1503. | 2.9 | 78 |
| 15 | The influence of radial RBC distribution, blood velocity profiles, and glycocalyx on coupled NO/O2 transport. Journal of Applied Physiology, 2006, 100, 482-492. | 2.5 | 75 |
| 16 | Reduced Nitric Oxide Concentration in the Renal Cortex of Streptozotocin-Induced Diabetic Rats: Effects on Renal Oxygenation and Microcirculation. Diabetes, 2005, 54, 3282-3287. | 0.6 | 74 |
| 17 | Direct, real-time measurement of shear stress-induced nitric oxide produced from endothelial cells in vitro. Nitric Oxide - Biology and Chemistry, 2010, 23, 335-342. | 2.7 | 73 |
| 18 | Quantifying the l-arginine paradox in vivo. Microvascular Research, 2006, 71, 48-54. | 2.5 | 67 |

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|---|---|---|---|
| 19 | Interactions between NO and O2 in the microcirculation: a mathematical analysis. Microvascular Research, 2004, 68, 38-50. | 2.5 | 65 |
| 20 | Regulation of oxygen sensing in peripheral arterial chemoreceptors. International Journal of Biochemistry and Cell Biology, 2001, 33, 755-774. | 2.8 | 63 |
| 21 | Neuronal nitric oxide synthase and N-methyl-d-aspartate neurons in experimental carbon monoxide poisoning. Toxicology and Applied Pharmacology, 2004, 194, 280-295. | 2.8 | 56 |
| 22 | Vasomotion and Spontaneous Low-Frequency Oscillations in Blood Flow and Nitric Oxide in Cat Optic Nerve Head. Microvascular Research, 1998, 55, 103-112. | 2.5 | 53 |
| 23 | Impact of the FÃ¥hraeus Effect on NO and O2Biotransport: A Computer Model. Microcirculation, 2004, 11, 337-349. | 1.8 | 46 |
| 24 | A Model of NO/O2 Transport in Capillary-perfused Tissue Containing an Arteriole and Venule Pair. Annals of Biomedical Engineering, 2007, 35, 517-529. | 2.5 | 46 |
| 25 | Measuring Tissue PO2 with Microelectrodes. Methods in Enzymology, 2004, 381, 665-690. | 1.0 | 32 |
| 26 | Nitric Oxide Signaling in the Microcirculation. Critical Reviews in Biomedical Engineering, 2011, 39, 397-433. | 0.9 | 31 |
| 27 | Mechanotransduction Drives Post Ischemic Revascularization Through K<sub>ATP</sub> Channel Closure and Production of Reactive Oxygen Species. Antioxidants and Redox Signaling, 2014, 20, 872-886. | 5.4 | 30 |
| 28 | In vivo Tissue pO<sub>2</sub> Measurements in Hamster Skinfold by Recessed pO<sub>2</sub> Microelectrodes and Phosphorescence Quenching Are in Agreement. Microcirculation, 1998, 5, 219-225. | 1.8 | 29 |
| 29 | Transport-dependent calcium signaling in spatially segregated cellular caveolar domains. American Journal of Physiology - Cell Physiology, 2008, 294, C856-C866. | 4.6 | 29 |
| 30 | Nitric-oxide Synthase-2 Linkage to Focal Adhesion Kinase in Neutrophils Influences Enzyme Activity and Î²2 Integrin Function. Journal of Biological Chemistry, 2013, 288, 4810-4818. | 3.4 | 29 |
| 31 | Intramicroparticle nitrogen dioxide is a bubble nucleation site leading to decompression-induced neutrophil activation and vascular injury. Journal of Applied Physiology, 2013, 114, 550-558. | 2.5 | 28 |
| 32 | Nitric Oxide Regulation of Microvascular Oxygen. Antioxidants and Redox Signaling, 2007, 9, 829-843. | 5.4 | 27 |
| 33 | Cat carotid body chemosensory discharge (in vitro) is insensitive to charybdotoxin. Brain Research, 1997, 747, 324-327. | 2.2 | 26 |
| 34 | Adenosine Enhances Functional Activation of Blood Flow in Cat Optic Nerve Head during Photic Stimulation Independently from Nitric Oxide. Microvascular Research, 2002, 64, 254-264. | 2.5 | 24 |
| 35 | A compartmental model for oxygen-carbon dioxide coupled transport in the microcirculation. Annals of Biomedical Engineering, 1994, 22, 464-479. | 2.5 | 23 |
| 36 | Suppression of glomus cell K+ conductance by 4-aminopyridine is not related to [Ca2+] , dopamine release and chemosensory discharge from carotid body. Brain Research, 1998, 785, 228-235. | 2.2 | 20 |

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|---|---|---|---|
| 37 | Effects of iron-chelators on ion-channels and HIF-1Î± in the carotid body. Respiratory Physiology and Neurobiology, 2004, 141, 115-123. | 1.6 | 20 |
| 38 | Acidosis plus melphalan induces nitric oxide-mediated tumor regression in an isolated limb perfusion human melanoma xenograft model. Surgery, 2002, 132, 252-258. | 1.9 | 19 |
| 39 | Evidence that Nitric Oxide Plays a Role in O 2 Sensing from Tissue NO and PO 2 Measurements in Cat Carotid Body. Advances in Experimental Medicine and Biology, 2002, 475, 337-347. | 1.6 | 18 |
| 40 | Shear Stress-Induced NO Production is Dependent on ATP Autocrine Signaling and Capacitative Calcium Entry. Cellular and Molecular Bioengineering, 2014, 7, 510-520. | 2.1 | 18 |
| 41 | Potential role of H2O2 in chemoreception in the cat carotid body. Journal of the Autonomic Nervous System, 1997, 63, 39-45. | 1.9 | 17 |
| 42 | Simultaneous Tissue PO2, Nitric Oxide, and Laser Doppler Blood Flow Measurements during Neuronal Activation of Optic Nerve. Advances in Experimental Medicine and Biology, 1998, 454, 159-164. | 1.6 | 17 |
| 43 | Comparing Tissue PO2 Measurements by Recessed Microelectrode and Phosphorescence Quenching. Advances in Experimental Medicine and Biology, 1998, 454, 367-374. | 1.6 | 16 |
| 44 | Nitric Oxide Synthesis in Brain is Stimulated By Oxygen. Advances in Experimental Medicine and Biology, 2003, 510, 133-137. | 1.6 | 15 |
| 45 | Dynamic coupling of blood flow to function and metabolism in the optic nerve head. Neuro-Ophthalmology, 1998, 20, 45-54. | 1.0 | 14 |
| 46 | Interferon-Î² gene therapy improves survival in an immunocompetent mouse model of carcinomatosis. Surgery, 2004, 135, 427-436. | 1.9 | 14 |
| 47 | Spatial variation of aortic wall oxygen diffusion coefficient from transient polarographic measurements. Annals of Biomedical Engineering, 1992, 20, 629-646. | 2.5 | 13 |
| 48 | 3D network model of NO transport in tissue. Medical and Biological Engineering and Computing, 2011, 49, 633-647. | 2.8 | 12 |
| 49 | Modeling the Regulation of Oxygen Consumption By Nitric Oxide. Advances in Experimental Medicine and Biology, 2003, 510, 145-149. | 1.6 | 12 |
| 50 | Cholesterol Enrichment Impairs Capacitative Calcium Entry, eNOS Phosphorylation & Shear Stress-Induced NO Production. Cellular and Molecular Bioengineering, 2017, 10, 30-40. | 2.1 | 11 |
| 51 | Glucose-induced release of nitric oxide from mouse pancreatic islets as detected with nitric oxide-selective glass microelectrodes. American Journal of Physiology - Endocrinology and Metabolism, 2007, 292, E907-E912. | 3.5 | 10 |
| 52 | A mathematical model for the role of N 2 O 3 in enhancing nitric oxide bioavailability following nitrite infusion. Nitric Oxide - Biology and Chemistry, 2016, 60, 1-9. | 2.7 | 10 |
| 53 | Modeling O2-Dependent Effects of Nitrite Reductase Activity in Blood and Tissue on Coupled NO and O2 Transport around Arterioles. Advances in Experimental Medicine and Biology, 2011, 701, 271-276. | 1.6 | 10 |
| 54 | Vascular and Metabolic Effects of Nitric Oxide Synthase Inhibition Evaluated by Tissue PO2 Measurements in Carotid Body. Advances in Experimental Medicine and Biology, 1998, 454, 455-460. | 1.6 | 10 |

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| 55 | Interpretation of Oxygen Disappearance Curves Measured in Blood Perfused Tissues. Advances in Experimental Medicine and Biology, 1986, 200, 151-161. | 1.6 | 10 |
| 56 | Oxygen Tension Changes in the Outer Vascular Wall Supplied by Vasa vasorum following Adenosine and Epinephrine. Journal of Vascular Research, 1986, 23, 9-21. | 1.4 | 9 |
| 57 | Arteriolar Contribution to Microcirculatory CO2/O2 Exchange. Microvascular Research, 1995, 50, 338-359. | 2.5 | 9 |
| 58 | O2â€“Hb Reaction Kinetics and the FÃ¥hraeus Effect during Stagnant, Hypoxic, and Anemic Supply Deficit. Annals of Biomedical Engineering, 1998, 26, 60-75. | 2.5 | 9 |
| 59 | Investigating the Role of Nitric Oxide in Regulating Blood Flow and Oxygen Delivery from in Vivo Electrochemical Measurements in Eye and Brain. Advances in Experimental Medicine and Biology, 2003, 530, 359-370. | 1.6 | 9 |
| 60 | Tumoricidal activity of highâ€dose tumor necrosis factorâ€Î± is mediated by macrophageâ€derived nitric oxide burst and permanent blood flow shutdown. International Journal of Cancer, 2008, 123, 464-475. | 5.1 | 9 |
| 61 | Mathematical Modeling of The Interaction Between Oxygen, Nitric Oxide And Superoxide. Advances in Experimental Medicine and Biology, 2009, 645, 7-12. | 1.6 | 9 |
| 62 | Mathematical model for shear stress dependent NO and adenine nucleotide production from endothelial cells. Nitric Oxide - Biology and Chemistry, 2016, 52, 1-15. | 2.7 | 7 |
| 63 | TRPC channel-derived calcium fluxes differentially regulate ATP and flow-induced activation of eNOS. Nitric Oxide - Biology and Chemistry, 2021, 111-112, 1-13. | 2.7 | 6 |
| 64 | Nitric oxide release by deoxymyoglobin nitrite reduction during cardiac ischemia: A mathematical model. Microvascular Research, 2017, 112, 79-86. | 2.5 | 5 |
| 65 | A dynamic computational network model for the role of nitric oxide and the myogenic response in microvascular flow regulation. Microcirculation, 2018, 25, e12465. | 1.8 | 5 |
| 66 | An Evaluation of Eastonâ€™s Paradigm for the Oxyhemoglobin Equilibrium Curve. Advances in Experimental Medicine and Biology, 1984, 180, 333-344. | 1.6 | 5 |
| 67 | Two Cytochrome Oxygen Consumption Model and Mechanism for Carotid Body Chemoreception. Advances in Experimental Medicine and Biology, 1986, 200, 293-300. | 1.6 | 5 |
| 68 | Nitrite-Mediated Hypoxic Vasodilation Predicted from Mathematical Modeling and Quantified from in Vivo Studies in Rat Mesentery. Frontiers in Physiology, 2017, 8, 1053. | 2.8 | 4 |
| 69 | Effect of Spatial Heterogeneity and Colocalization of eNOS and Capacitative Calcium Entry Channels on Shear Stress-Induced NO Production by Endothelial Cells: A Modeling Approach. Cellular and Molecular Bioengineering, 2018, 11, 143-155. | 2.1 | 4 |
| 70 | Coordinated regulation of endothelial calcium signaling and shear stress-induced nitric oxide production by PKCÎ² and PKCÎ·. Cellular Signalling, 2021, 87, 110125. | 3.6 | 4 |
| 71 | Nitric Oxide in The Kidney Direct measurements of bioavailable renal nitric oxide. , 2007, 599, 117-123. | | 4 |
| 72 | Commentaries on Viewpoint: A paradigm shift for local blood flow regulation. Journal of Applied Physiology, 2014, 116, 706-707. | 2.5 | 3 |

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|---|---|---|---|
| 73 | Recessed Oxygen Electrodes: Getting More Than PO2. Advances in Experimental Medicine and Biology, 2003, 510, 175-179. | 1.6 | 2 |
| 74 | A Model of NO/O<inf>2</inf>Transport in Capillary-perfused Tissue Containing an Arteriole and Venule Pair. , 2005, 2005, 7580-3. | | 1 |
| 75 | Inhibition of dopamine release with simultaneous chemosensory excitation by hypercapnia with and without [Ca2+]0 in the cat carotid body. Journal of the Autonomic Nervous System, 1998, 69, 184-189. | 1.9 | 0 |
| 76 | Response to Dr. Annemiek J.M. Cornelissen editorial. Medical and Biological Engineering and Computing, 2011, 49, 631-632. | 2.8 | 0 |
| 77 | Electrochemical Measurement of Rapid Dopamine Release in Perfused Cat Carotid Body during Onset of Hypoxia. Advances in Experimental Medicine and Biology, 1994, 360, 193-195. | 1.6 | 0 |
| 78 | Influence of O2-Hb Kinetics and the FÃhraeus Effect on the Arteriolar Role in Gas Exchange. Advances in Experimental Medicine and Biology, 1997, 411, 203-207. | 1.6 | 0 |