



Sveučilište u Rijeci
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**SCIENTIFIC COLLOQUIUM OF THE UNIVERSITY OF
RIJEKA**

**Hypoxic Vasodilation: Is it mediated by
erythrocytes-generated NO?**

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Abstract:

Hypoxic vasodilation: highly conserved physiological phenomenon was first described by Roy and Brown in 1880. They observed a dilation of arterioles, capillaries, and veins after a temporary cessation of tissue circulation accompanied by a rapidly increasing local blood flow. Importantly, that was not mediated by neuronal stimuli, indicating that blood cells and plasma are direct regulators of hypoxic vasodilation. However, the molecular mechanisms of hypoxic vasodilation still a matter of discussion. Critical evaluation of the hypoxic vasodilation mechanisms with a special emphasis of NO involvement in these processes will be discussed. Based on our original data on platelets/erythrocytes interaction and inhibition of purified soluble guanylate cyclase activity by erythrocytes we concluded that erythrocytes cannot produce biologically active NO and acts only as a strong NO scavengers.

Biography:

Dr. Stepan Gambaryan studied biology at Leningrad State University, USSR. He received his PhD in 1981 at Sechenov Institute of Evolutionary Physiology and Biochemistry, Russian Academy of Sciences, St. Petersburg. At the same institute he became Junior Researcher, and later in 1989 obtained a position as a Senior Researcher. Dr. Gambaryan was an invited scientist at Institute of Anatomy and Cell Biology, Ruprecht-Karls-Universität, Heidelberg, Germany (1992), and as a Max Planck Scholar at the Max-Planck-Institute of Biophysik Frankfurt am Main, Germany (1993). From 1994 to 2013 he was a Senior Scientist at Institute of Clinical Biochemistry and Pathobiochemistry, University of Würzburg, Germany. At the moment he holds professor position at the Department of Cytology and Histology, S. Petersburg State University, Russia and is a visiting professor at the Center of Thrombosis and Haemostasis (CTH), Mainz, Germany. Dr. Gambaryan's research interests include signal transduction of protein kinases A and G in kidney, adrenal glands and platelets, as well as biochemistry and pharmacology of platelet receptors. Dr. Gambaryan is author of more than 100 scientific publications and is a referee in a number of respectable journals.