# Catalytic systems based on metallic catalysis in a methane oxidation reaction 

© M.A. Grishina ${ }^{1}$, Ju.S. Mardashev ${ }^{1}$, V.N. Goryacheva ${ }^{2}$<br>${ }^{1}$ Moscow State Pedagogical University, Moscow, 119991, Russia<br>${ }^{2}$ Bauman Moscow State Technical University, Moscow, 105005, Russia

The results of long-term research work of Physical and analytical chemistry, MPGU on creation and research of metal catalysts in methane oxidation reactions are presented. Catalysts may be used in the development of fuel cells or sensors on their basis. We also plan to develop the best selective catalyst for the oxidation of methane to formaldehyde. Promising applications of studied catalysts is shown.

Keywords: catalyst, fuel cell, gas, ruthenium.

Grishina M.A. (b. 1990) graduated from the Department of Chemistry of the Moscow State Pedagogical University in 2012. A post-graduate student and an engineer at the Physical and Analytical Chemistry Department of the Pedagogical University. Research deals with the catalytic oxidation of methane over various catalysts. Sphere of scientific interests is the catalysis and fuel cells. Author of several articles on these topics. e-mail: katiwilh@yandex.ru

Mardashev Y.S. (b. 1930) graduated from the Department of Chemistry of Lomonosov Moscow State University. Dr. Sci. (Chem.), Professor of the Physical and Analytical Chemistry Department of the Moscow State Pedagogical University . Author of more than 50 scientific articles published in the Russian and foreign scientific journals. Most of the publications deal with heterogeneous catalysis. e-mail: mardashevMPGU@yandex.ru

Goryacheva V.N. (b. 1952) graduated from the Department of Chemistry of the Moscow State Pedagogical Institute n.a. V.I. Lenin. Ph.D., Assoc. Professor of Bauman Moscow State Technical University. Author of more than 30 scientific papers in the field of catalysis and the study of heterogeneous catalysts. e-mail: Vanigor2009@vandex.ru

