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**Organization of chemical reactions by using the discrete properties of electric current**Dina U Alshimbayeva<sup>1</sup>, Bolysbek T Utelbayev<sup>2</sup> and Essen N Suleimenov<sup>2</sup><sup>1</sup>Kazakh National Research Technical University, Kazakhstan<sup>2</sup>Kazakh-British Technical University, Kazakhstan

We investigated the mechanism of transport of electric current through the liquid. Early, Michael Faraday has concluded the discrete nature of electric current. Taking into account, the works of M Faraday a study on relationship between electric current and phase transitions was performed. It is shown that phase transitions are caused by electric current and they cause a change of electrical conductivity due to the orientation of elements of the microstructure and generate electron flow. The discrete character allows using pulse electric current for the organization of unusual reactions and technological processes. Transport of electric current through liquid depends also on a cell design for measurement of conductivity. Electric current can cause crystallization of components of liquid on vessel walls. Electrophysical characteristics of the components of liquid influence the electrochemical technologies. Researches of power manifestations during physical and chemical processes are a relevant task for modern natural sciences and have great practical value.

**Recent Publications:**

1. Peng Gao, Shuai Yuan, Yuexin Han, Yanjun Li and Hongyun Chen (2017) Experimental study on the effect of pretreatment with high-voltage electrical pulses on mineral liberation and separation of magnetite ore. Minerals 7(9):153.

**Biography**

Dina U Alshimbayeva is pursuing her PhD with specialization in Project Management. Her major is Oil and Gas Business. She is the Executor of research projects in alternative energy sources, geology and oil and gas industry, metallurgy fields. She has experience of commercialization of results of scientific research and technologies.

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