

СЪЮЗ НА МАТЕМАТИЦИТЕ В БЪЛГАРИЯ  
ИНСТИТУТ ПО МАТЕМАТИКА И ИНФОРМАТИКА – БАН

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## НАЦИОНАЛЕН КОЛОКВИУМ ПО МАТЕМАТИКА

Поредната сбирка на Колоквиума ще се състои на 5 юни 2019 г. (сряда)  
от 16:15 часа в Заседателната зала на ИМИ – БАН,  
София, ул. „Акад. Г. Бончев”, блок 8

Доклад на тема:

*Optimization theory: a view from variational analysis  
(with emphasis on the optimal control theory)*

ще изнесе

Prof. Alexander Ioffe,  
Technion – Israel Institute of Technology, Haifa, Israel.

*Поканени са всички интересуващи се.*

*Ръководител на Колоквиума: акад. П. Попиванов*

**Abstract.** Next year there will be the 60s anniversary of publication of the book of Pontryagin et al "Mathematical theory of optimal processes". The book triggered a series of extensive studies aimed at finding general approaches to analysis of necessary conditions in constrained optimization. (Just mention the method of variations of Dubovitskii and Milyutin and controllability based approach developed in a series of publications by Gamkrelidze, Warga and Clarke.) In the talk we shall discuss a totally new approach, possible in the framework of variational analysis. This approach is based on some ideas associated with the concept of metric regularity. Its key element is a reduction of the original constrained problem to unconstrained minimization of (necessarily nonsmooth) functionals. We shall briefly sketch a proof of Pontryagin's maximum principle based on this approach as well as a proof of a new second order necessary condition for a strong minimum in optimal control.