

# СЕКЦИЯ

## „АЛГЕБРА И ЛОГИКА”

Драги колеги,

На 9 септември 2022 г. (петък) от 13:00 часа ще се проведе дистанционно заседание на семинара по „Алгебра и логика”.

Доклад на тема

### **Taming delays in cyber-physical systems**

ще изнесе

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ISCAS, China).**

Семинарът ще се проведе посредством платформата **Zoom** и всеки желаещ може да се присъедини като последва линка, зададен на страницата на семинара.

От секция „Алгебра и логика” на ИМИ – БАН

<http://www.math.bas.bg/algebra/seminarAiL/>

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#### **Abstract**

With the rapid development of feedback control, sensor techniques and computer control, time delay has become an essential feature of cyber-physical systems (CPSs), underlying both the continuous evolution of physical plants and the discrete transition of computer programs, which may well annihilate the stability/safety certificate and control performance of CPSs. In the safety-critical context, automatic verification and synthesis methods addressing time-delay in CPSs should therefore abound. However, surprisingly, they do not, although time-delay has been extensively studied in the literature of mathematics and control theory from a qualitative perspective. In this talk, we will report our recent efforts to tackle these issues, including bounded and unbounded verification of delay differential equations and controller

synthesis for time-delayed systems, and discuss remaining challenges and future trends.