***Семинар Лаборатории Алгебраической геометрии и ее приложений***

Семинар состоится в среду 17 ноября 2017 года**.**

**Начало в 17:00.**

Семинар будет проходить по адресу: **ул. Усачева, д.6, аудитория 306**

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| На семинаре выступит Artan Sheshmani (Гарвард)  | C:\Users\vera\Desktop\ВЕРА\Лаборатория Богомолова\Конференции\Семинары\Фото\Artan.jpg |

с докладом:

#### *Nested Hilbert schemes, local Donaldson-Thomas theory, Vafa-Witten / Seiberg-Witten correspondence*

**Abstract:** We report on the recent rigorous and general construction of the deformation-obstruction theories and virtual fundamental classes of nested (flag) Hilbert scheme of one dimensional subschemes of a smooth projective algebraic surface. This construction will provide one with a general framework to compute a large class of already known invariants, such as Poincare invariants of Okonek et al, or the reduced local invariants of Kool and Thomas in the context of their local surface theory. We show how to compute the generating series of deformation invariants associated to the nested Hilbert schemes, and via exploiting the properties of vertex operators, prove that in some cases they are given by modular forms. We finally establish a connection between the Vafa-Witten invariants of local-surface threefolds (recently analyzed Tanaka and Thomas) and such nested Hilbert schemes. This construction (via applying Mochizuki's wall- crossing techniques) enables one to obtain a relations between the generating series of Seiberg-Witten invariants of the surface, the Vafa-Witten invariants and some modular forms. This is joint work with Amin Gholampour and Shing-Tung Yau following arXiv:1701.08902 and arXiv:1701.08899.

***Приглашаются все желающие!***