Arithmetic Quantum Field Theory Program

Kickoff Lecture Series
Feb. 5-9, 2024
Room G10, Harvard CMSA, 20 Garden Street Cambridge

In this lecture series we will introduce some of the themes underlying the CMSA Program on Arithmetic Quantum Field Theory taking place this year and at the upcoming conference March 25-29, 2024.

David Ben-Zvi: The Langlands program via arithmetic QFT
Structures in QFT (like factorization for observables and functorial QFT for states and their relation to geometric / deformation quantization) that are sufficiently algebraic and formal to allow for arithmetic analogs.

Minhyong Kim: Arithmetic topology and field theory
The setup of arithmetic topology as a bridge between the background of QFT to that of arithmetic (both "global" and "local"), including the "middle realm" of positive characteristic function fields.

Brian Williams: Algebraic quantum field theory
Questions and structures in arithmetic that have been / might be amenable to inspiration from QFT, in particular the theory of L-functions and the Langlands program.

Schedule

Monday, Feb. 5, 2024

11:00 am - 12:00 pm	Minhyong Kim	Arithmetic topology and field theory
1:30 - 2:30 pm	Brian Williams	Algebraic quantum field theory
2:30 - 3:30 pm	David Ben-Zvi	The Langlands program via arithmetic QFT

Wednesday, Feb. 7, 2024

11:00 am - 12:00 pm	Minhyong Kim	Arithmetic topology and field theory
2:30 - 3:30 pm	Brian Williams	Algebraic quantum field theory

Thursday, Feb.8, 2024

2:30 - 3:30 pm	Minhyong Kim	Arithmetic topology and field theory
4:00 - 5:00 pm	David Ben-Zvi	The Langlands program via arithmetic QFT

Friday, Feb. 9, 2024

1:00 - 2:00 pm	Brian Williams	Algebraic quantum field theory
2:00 - 3:00 pm	David Ben-Zvi	The Langlands program via arithmetic QFT
3:30 - 4:30 pm	David Ben-Zvi	The Langlands program via arithmetic QFT

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