AMERICAN UNIVERSITY OF BEIRUT

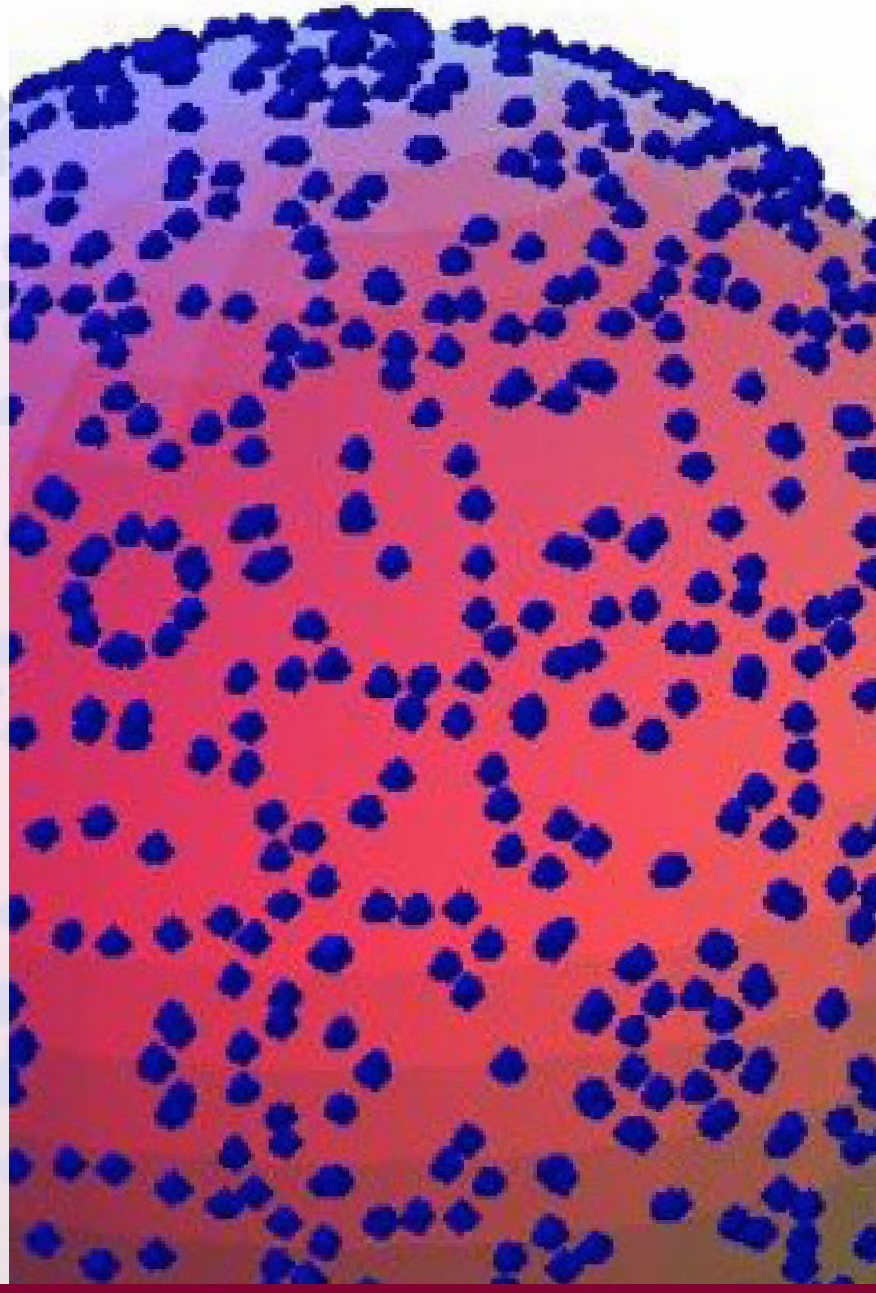
CENTER FOR ADVANCED MATHEMATICAL SCIENCES

AMERICAN UNIVERSITY OF BEIRUT

FACULTY OF ARTS & SCIENCES

Department of Mathematics

THE REPRESENTATION OF INTEGERS BY QUADRATIC FORMS



A problem that goes back to the beginnings of Number Theory is to understand which integers can be expressed as values of a quadratic form that has integer coefficients. For example, which integers are the sum of three squares? Another problem is to count solutions when they exist and study how the representing integers (those that go into the quadratic form) are distributed.

After a gentle historical introduction, I will explain some of my earlier work on this subject and then go into some very recent results.

NOVEMBER 21 | 4:00PM

COLLEGE HALL, AUDITORIUM B1

WILLIAM DUKE

Distinguished Professor,
University of California, Los Angeles (UCLA), USA

William Duke got his PhD in 1986 from NYU under Peter Sarnak. He held positions at UC San Diego, Rutgers and since 2020 has been at UCLA, where he is Distinguished Professor. He has been a member of IAS in Princeton and a visiting Professor at ETH in Zurich. Recently he was chairman of the Mathematics Department at UCLA. Honors include an NSF Postdoc, a Sloan fellowship, a Clay Mathematics Institute Scholarship, and a Simons fellowship. He is a Fellow of the AMS. He gave an invited lecture at the International Congress of Mathematicians in Berlin in 1998. He has more than 75 publications and has been supported by numerous NSF grants.