Department of Mathematics
University of North Carolina at Chapel Hill

The 2015 Alfred Brauer Lectures

Michael Hopkins
Harvard University

LECTURE 1: Homotopy groups of spheres
Monday, March 23, 2015 from 3:30 – 4:30*
Peabody Hall, Room 105

LECTURE 2: The Kervaire Invariant
Tuesday, March 24, 2015 from 4:00 – 5:00
Phillips Hall, Room 332

LECTURE 3: The cobordism hypothesis
Wednesday, March 25, 2015 from 4:00 – 5:00
Phillips Hall, Room 332

*There will be a reception in the Mathematics Faculty/Student Lounge on the
third floor of Phillips Hall, Room 330, 4:45—6:00 pm, on Monday, March 23.
Refreshments will be available there at 3:30 before the second and third lectures.

See website for complete abstract: **http://math.unc.edu/seminars-and-colloquia/brauer**

The Alfred Brauer Lectures 2015

Professor Michael Hopkins, of Harvard University, will deliver the 2015 Alfred Brauer Lectures in Mathematics. The first lecture, entitled "Homotopy groups of spheres," will be on Monday, March 23 from 3:30 to 4:30 pm in Peabody Hall, Room 104. There will be a reception at 4:45 pm in Phillips Hall 330 following Monday's talk. The second lecture, entitled "The Kervaire Invariant" will be at 4:00 pm on Tuesday, March 24 in Phillips Hall 332. The third lecture, entitled "The cobordism hypothesis" will be at 4:00 pm on Wednesday, March 25, also in Phillips Hall 332. An abstract can be found on the Mathematics Department's website: www.math.unc.edu.

Alfred Brauer (1894—1985) had a profound impact on the Mathematics Department at the University of North Carolina. Born in Germany, he held a position at the University of Berlin until the advent of the Nazis during the 1930's; he fled the country in 1939, accepting Hermann Weyl's invitation to the Institute for Advanced Study in Princeton. He came to North Carolina in 1942 and taught here until his retirement in 1966. During this time he founded the Mathematics and Physics Library, using his knowledge and expertise to establish a superb collection. In appreciation for this effort the Library was named for him in 1976. Alfred Brauer was honored by the University with the award of a Kenan Professorship in 1959, the Tanner Award for excellence in undergraduate teaching in 1965, and an honorary Doctor of Legal Letters degree in 1972. He also received honors from outside the University, including the Oak Ridge Science Award and the G.W.F. Hegel Medal from the University of Berlin. In 1975 an Alfred T. Brauer Instructorship was created at Wake Forest University, where he taught after his retirement from UNC.

Professor Michael Hopkins has made fundamental contributions to algebraic topology, specifically stable homotopy theory. He received his Ph.D. with Mark Mahowald at Northwestern and D. Phil with Ioan James at Oxford, both in 1984. In his early career, Hopkins was an NSF Postdoctoral Fellow at Princeton, a Sloan Fellow, and a Presidential Young Investigator. He later became a professor of Mathematics at Chicago and MIT, before becoming Professor of Mathematics at Harvard in 2005. He is best known for his work on the nilpotence theorem, topological modular forms, and the proof of the Kervaire Invariant Conjecture.

Hopkins has twice been a speaker at the International Congress of Mathematicians, including a plenary address in Beijing in 2002. Among his numerous invited talks have been the Marston Morse Lectures at the Institute for Advance Study (2000) and the AMS Colloquium Lecture Series at the JMM meeting in San Antonio in January 2015. His honors include the Oswald Veblen Prize in Geometry (2001), the quadrennial National Academy of Sciences Award in Mathematics (2012), and the biennial Nemmers Prize (2014). Hopkins has been an Associate Editor of the Annals of Mathematics, Journal of the AMS, and the Duke Journal; he is currently a Managing Editor of Advances in Mathematics. Hopskins was elected to the National Academy of Sciences in 2012.

The Alfred Brauer Fund was established by the Department of Mathematics in 1984 on the occasion of Dr. Brauer's ninetieth birthday, and the Alfred Brauer Lectures began in 1985. The most recent Brauer Lecturers have been Peter Sarnak, János Kollár, Andrew Majda, Jeff Cheeger, Shing-Tung Yau, Percy Deift, Charles Fefferman, Claire Voisin, Alex Eskin, Gérard Laumon, Alexander Lubotzky, Vaughan Jones, and Simon Donaldson.