

**CCSU**  
**DEPARTMENT OF MATHEMATICAL SCIENCES**

# **COLLOQUIUM**

Friday, March 18  
2:00 – 3:00 PM  
Maria Sanford, Room 101

## **INTRODUCTION TO HODGE THEORY**

**SU-JEONG KANG**

**PROVIDENCE COLLEGE**

### **ABSTRACT**

Algebraic geometry is a study of algebraic varieties, which are solution sets of finitely many polynomials. One classical way to study an algebraic variety is using various cohomology theories. Hodge theory uses a special feature that de Rham cohomology carries, namely it can be decomposed into smaller pieces. These pieces not only behave pretty nicely but also bear important information about the variety itself, that we have and have not figured out yet completely. In this talk, I will start with questions in vector calculus and discuss how they are related to the de Rham cohomology. Then I will give a short introduction to Hodge theory. During most part of talk, we will look at examples, and it will be open and accessible to everyone.

***For further information:***

[gotchevi@ccsu.edu](mailto:gotchevi@ccsu.edu) 860-832-2839  
<http://www.math.ccsu.edu/gotchev/colloquium/>