### Weekly Seminar & Events Bulletin
March 15th, 2020 - March 21st, 2020

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Abstracts for the week of March 15th, 2020 - March 21st, 2020

Student Dynamics
Monday, March 16, 2020, 3:00pm-3:50pm
3866 East Hall
Sayantan Khan (UM)
TBA

Teaching Mathematics
Tuesday, March 17, 2020, 11:30am-1:00pm
3866 East Hall
LCIT Discussion ()
Learning Community on Inclusive Teaching Discussion

Algebraic Geometry
Tuesday, March 17, 2020, 3:00pm-3:50pm
1372 East Hall
Shunsuke Takagi (University of Tokyo)
CANCELLED

Student Geometry/Topology
Tuesday, March 17, 2020, 3:00pm-4:00pm
1866 East Hall
Christopher Zhang ()
TBA

Algebraic Geometry
Tuesday, March 17, 2020, 4:00pm-4:50pm
1360 East Hall
Bruno Klingler (Humboldt University)
CANCELLED
Student Arithmetic  
**Wednesday, March 18, 2020, 3:00pm-4:00pm**  
3088 East Hall  
Yiwang Chen (University of Michigan)  
*Canceled*

Algebraic Geometry  
**Wednesday, March 18, 2020, 4:00pm-5:20pm**  
4096 East Hall  
Bruno Klingler (Humboldt University)  
*Canceled*

Commutative Algebra  
**Thursday, March 19, 2020, 3:00pm-4:00pm**  
1866EH East Hall  
Luis Nunez-Betancourt (Cimat)  

*The Nash blowup in prime characteristic*  

The Nash blowup is a natural modification of algebraic varieties that replace singular points by limits of certain vector spaces associated to the variety at non-singular points. For several decades, it has been studied whether it is possible to resolve singularities of algebraic varieties by iterating Nash blowups. This problem has mostly been treated in characteristic zero due to an example given by Nobile that discouraged its study in positive characteristic. In this talk, we will discuss a new approach in prime characteristic using differential operators. This is joint work with Daniel Duarte.

Algebraic Geometry  
**Thursday, March 19, 2020, 4:00pm-5:00pm**  
2866 East Hall  
Bruno Klingler (Humboldt University)  
*Canceled*

Applied Interdisciplinary Mathematics (AIM)  
**Friday, March 20, 2020, 3:00pm-12:00am**  
1084 East Hall  
()  
*Cancelled*
Student Commutative Algebra  
Friday, March 20, 2020, 3:00pm-4:00pm  
3088 East Hall  
Swaraj Pande (University of Michigan Ann Arbor)  
CANCELLED: Local Cohomology, Serre’s S condition and Reflexive Modules

We will first introduce the local cohomology modules as obstructions to extending sections from an open set. After briefly discussing some properties, we will use this to study Serre’s $S_2$ condition and reflexive modules. The aim will be to understand the correspondence between Weil divisors and reflexive (fractional) ideals of a normal domain. I will try to clearly state/define any concept we use beyond Math 614 material.

Junior Colloquium Series  
Friday, March 20, 2020, 4:00pm-5:00pm  
3088 East Hall  
Robert Krasny (Michigan)  
Scientific Computing (Research at Michigan Series)  
CANCELLED.

The goal of scientific computing is to simulate a scientific process when it is too difficult to study by experiment or theory. A scientific computing project requires (1) a mathematical model or set of equations describing the problem, (2) an algorithm for solving the equations, and (3) a computer program to implement the algorithm. Scientific computing research is carried out in academia, industry, and the national labs. There is continuing need to improve the accuracy and efficiency of the simulations, and to extend their scope to challenging new problems. This talk will give an overview of scientific computing and discuss some examples from my work in fluid dynamics and protein/solvent electrostatics.

Algebraic Geometry  
Friday, March 20, 2020, 4:00pm-5:00pm  
4096 East Hall  
Bruno Klingler (Humboldt University)  
CANCELLED