Remarks for CHQ Cluster "Meet and Greet," 8/29/2016

Welcome to the 2016-2017 *Core Human Questions Cluster* of Montserrat. Today we're introducing ourselves so you'll start to get to know all of the CHQ faculty; you'll get to know the instructor of your individual Montserrat seminar even better over the next few days as your seminars meet for the first time. I don't think many incoming first year students really appreciate all of the design of Montserrat at first or until you see it in action. In any case, even if you didn't do so intentionally, in the CHQ, "you chose the best cluster" and you'll see how the system works over the next weeks and months.

I am John Little from the Mathematics and Computer Science department. I'm excited to be teaching the seminars called *Mathematical Thinking* this fall, and *Thinking About Mathematics* next spring. The best way to explain why I have been a pretty regular participant in Montserrat almost since the start is to say that, while I *am* a mathematician, I am not *only* a mathematician.

As a teacher of mathematics, I am also very concerned that the way mathematics is often taught today at the elementary and secondary levels in the US doesn't show students what mathematics is "really about" and it doesn't do enough to encourage young people to exercise their mathematical creativity. To me, *figuring things out in creative ways* is the real purpose and point of mathematics. Not seeing that because of an over-emphasis on acquiring rote skills for high-stakes tests can tend to kill any interest students might have in mathematics or any satisfaction they might get from studying the subject.

I'm also very interested in how mathematics connects with other areas. That's not just the "obvious" connections with the physical, biological, or social sciences, where mathematics serves as a language and a tool for modeling the "real world," describing relationships, and predicting the behavior of systems. I'm also very interested in the more subtle connections between mathematics and art, mathematics and music, in the ways we can see the creativity of human minds working along parallel tracks, some we explicitly label mathematical and some where that idenfication might be less immediate, but where the same kinds of thinking are taking place.

So I'm hoping to give the 16 students in my seminar a small taste of what I find most interesting and exciting about mathematics by looking for examples of mathematical thinking across many cultures and in (perhaps) unexpected places – certainly in the ways all human societies have developed ways to count and measure space and time, but also in the ways mathematical thinking shows up in the ways we conceptualize our family relationships, design our living environments, and create games and puzzles to challenge our minds. Next semester we will take a look at where some of the mathematics you all learned in high school comes from historically and how mathematicians and others think about the subject. Some of our CHQ common readings will also have strong mathematical themes so we'll be "right in the thick" of coming to understand them. I'm excited to get started and I hope you feel the same way!