Math Table

Geometry in the non-Archimedean world

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April 9th 6 PM, SC 507
Food will be served. Learn more:
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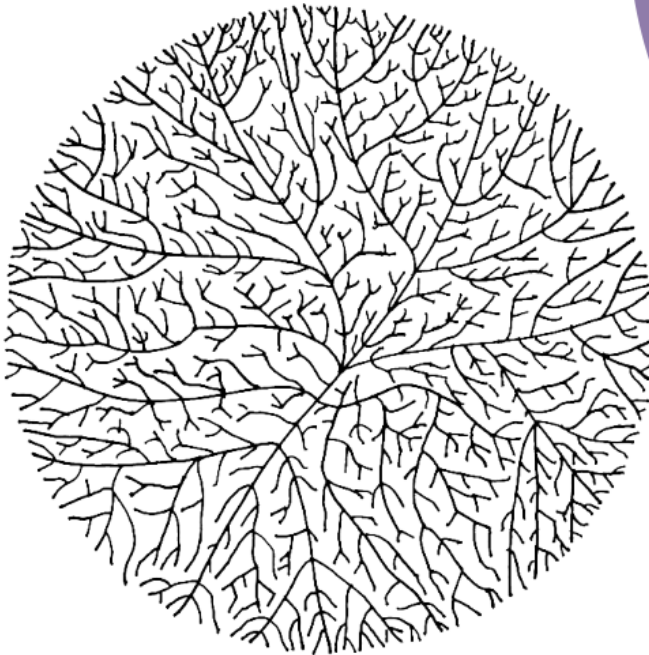
In number theory, there are numbers called p-adic numbers that are treated on an equal footing as the real numbers. We have some idea of how to do geometry over the real numbers; we learn about manifolds and stuff. But how do we do geometry over the p-adic numbers?

In this talk, I will try to explain why p-adic numbers naturally arise in studying numbers. These numbers satisfy a certain non-Archimedean property, and geometry becomes horribly non-intuitive due to this. I will talk about how people developed different notions of geometry to overcome this. We will also see why number theorists visualize p-adic numbers as a fractal-like tree figure.