Crocheting Adventures with Hyperbolic Planes

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Abstract

Why do I keep crocheting hyperbolic planes? Since the very first one I made in 1997, I made countless others. It all began with my desire to make teaching hyperbolic geometry tactile -- more approachable to everybody. That simple crochet pattern I use to make a hyperbolic plane model essentially is a demonstration of exponential growth; and that growth can sometimes lead to unexpected results, as it happened in my case. In my talk I will speak about my journey beginning with classroom models, making fiber art pieces for exhibits, writing the book Crocheting Adventures with Hyperbolic Planes (2nd edition, CRC Press, 2018), and working on several art installations. I want to talk about the experiences I had along my journey, and what I learned from these experiences. I will also talk about the largest installation I have authored – Dreams and Memories (2nd Riga Contemporary Art Biennale, May 15-October 11, 2020).

Figure 1: Experiments crocheting surfaces with negative curvature (approx. 30 cm diameter)

Figure 2: “White Cloud” (approx.2x2x2 m) – an installation for my largest solo exhibit Hyperbolic Planes and Sustainability Networks (Riga-Culture Capital of Europe, 2014)