

Individual paper proposal

The 7th Norwegian Conference on the History of Science
Norwegian Museum of Science and Technology, Oslo, Norway
15-16 November 2018

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- **Paper title:**

Lab-auroras before Birkeland

- **Abstract:**

The Norwegian professor Kristian Birkeland (1867-1917) is well known for his 'Terrella-experiments', where he simulated the Aurora Borealis on metal spheres (terrellas, meaning small Earths) in vacuum chambers. Birkeland's largest experiment was depicted on the former Norwegian 200-kroner bank note, and a functioning replica is now on display in the Norwegian Museum of Science and Technology.

Birkeland's attempts to 'tame' the Northern Lights and 'can' it in tubes and glass boxes are often described as unique and groundbreaking. However, a more comprehensive study of relevant texts and museum-artifacts shows that laboratory aurora was nothing new in Birkeland's period. Like everyone else, Birkeland based his theories and experiments on existing knowledge and equipment. In this paper, I will describe various attempts to create laboratory auroras, from around 1675 to Birkeland.

Throughout this period, much effort was made to replicate and 'can' the aurora, based on current theories and available technical equipment.

- **5 keywords:**

Aurora Borealis, Birkeland, Terrella, Gas-discharges, Vacuum

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- **Details of any specific audio-visual equipment required.**

Power point on Mac.