

# Department of Physics

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## Achievements In the Physics Department

### Nobel Prize Winners

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**Patrick Blackett** was awarded the [Nobel Prize](#) in 1948 for "his development of the Wilson cloud-chamber and his discoveries therewith in the fields of nuclear physics and cosmic radiation".

**Blackett started his research career in the '20s with Rutherford who had discovered the transmutation of nitrogen to oxygen.**

Blackett used the Wilson cloud-chamber to observe 400,000 tracks of alpha-particles in nitrogen gas and saw 8 clear examples of nitrogen to oxygen transmutations. With the Occhialini he then used the chamber to detect cosmic rays. Initially the chamber was simply expanded every few seconds with the result that most photographs were blank; Blackett

realised that by putting Geiger counters above and below the chamber to control its operation, photographs could be taken only when cosmic rays had left tracks in the gas. In 1933 he used the technique to confirm Anderson's discovery of the positron, clearly demonstrating that positrons were produced in electron-positron pairs.

In 1953 he took over the Physics Department here, planning and leading its major expansion in the 1950s. Subsequently he became president of the Royal Society, was made a life-peer and a Companion of Honour, and was honoured with the Order of Merit.

[View Blackett's Nobel Prize Certificate](#)