

# The Life (and theorem) of Emmy Noether



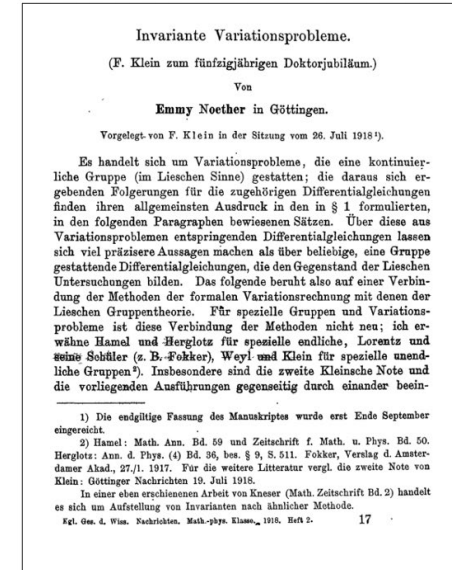
Born in Erlangen in 1882.

She attended lectures at the universities in Erlangen and Göttingen and enrolled at the University of Erlangen in 1904 when restrictions on women's participation were lifted. She earned her PhD in 1907.

She moved to Göttingen in 1915 where she was eventually allowed to lecture under her own name although she wasn't paid for her work until 1923.

Removed from her position in 1933, she moved to the US and became a professor at Bryn Mawr College.

She died from complications after a surgery in 1935.



In 1918, she developed *Noether's theorem* which links symmetry and conservation laws.



| Symmetry              | Conservation Law                 |
|-----------------------|----------------------------------|
| Translation in space  | Linear momentum                  |
| Translation in time   | Energy                           |
| Rotation in space     | Angular momentum                 |
| Gauge transformations | Electric, weak and colour charge |