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## **Artin's conjecture on representations of Galois groups**

As part of his study of finite-dimensional complex representations of certain finite Galois groups, Emil Artin in 1923 showed how to associate to each such representation a differentiable complex function, defined on the half-plane  $\operatorname{Re}(z) > 1$ . He conjectured that in many cases these functions should have an analytic continuation to the whole complex plane. Many mathematicians have worked on this conjecture but its resolution still seems very far off.

In my talk I shall explain the conjecture and how little we know about it. No specialist knowledge of number theory or complex analysis will be required.