In recent years we have witnessed remarkable progress in the efficiency of Boolean SAT solvers, so much so that these solvers routinely solve large industrial instances with millions of variables and clauses in them. This phenomenon has puzzled practitioners and theoreticians alike, since the Boolean satisfiability problem is known to be NP-complete and believed to be intractable in general. This Fields workshop aims to address this puzzle. In particular, we have invited leading SAT solving researchers and proof complexity theorists to enable an exchange of ideas that would eventually lead us to an explanation of why SAT solvers are efficient. More broadly, this workshop hopes to foster long-term collaborations between formal methods researchers and proof complexity theorists with the aim of studying not only SAT solvers, but also other proof systems like SMT solvers.