The quest to determine whether life existed, or still exists, on Mars is underway with a number of missions planned in the next few decades. The search for life involves the extraction and characterization of organic matter. The currently operating Mars Science Laboratory and Curiosity Rover have shown that Mars minerals are hindering organic detection experiments. The problem must be fixed and new approaches are needed if we are to detect convincing evidence of life on future Mars missions. The research project will investigate the next generation of analytical methods to recover organic matter in ways that work with Martian geology.

The PhD project will place the student in a position to contribute to future instrument teams for Mars missions. The research will use analytical chemistry equipment in the Imperial College Organic Geochemistry Laboratories (right). Full training will be provided. The project would suit an applicant who is enthusiastic about geochemistry and space missions.

The ideal candidate will have a background in Earth Science, Chemistry, Planetary Science or a subject that develops similar skills. Contact: Professor Mark Sephton (m.a.sephton@imperial.ac.uk) for more information. Details of how to apply can be found at: http://www.imperial.ac.uk/study/pg/apply/how-to-apply/