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## Strategies for producing food from microalgae for improved food security

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Microalgae offer the world a potential solution for sustainable sources of protein, carbohydrates and oils. In the face of a growing population, set to rise to 9.7 billion by 2050, there are increasing pressures on production of protein. This is exacerbated by the increase desire of people world-wide to consume more meat where the production of livestock has a significant feed requirement. Microalgae encapsulate a combination of protein, carbohydrates and essential oils which can be used for different foods and offer a potential solution to increased food security. Various strategies for producing microalgae for food at scale will be investigated and their feasibility as a protein substitute assessed.

### Biography

Ian A Watson first degree was in Applied Physics followed by a PhD from the School of Engineering, University of Glasgow, in "Optimising the gaseous discharge and optical coupling of a pulsed CO<sub>2</sub> laser". He has extensively researched the effects of high power laser beams on microorganisms and laser sterilization and inactivation; publishing on direct effects of lasers and their efficacy on decontaminating different substrates (solids, liquids and air) and a range of microorganisms (*E. coli* to *B. atrophaeus*, an anthrax simulant). He is actively investigating microalgal growth, dewatering and extraction of biofuel and utilization of microalgae for food.

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