EXTERNAL ORGANISATION: PriorityOne

SUPERVISOR/S: Shane Stuart, Chris Glasson (UoW) and Christina Praeger (UoW)

PROJECT TITLE: The Fifth Taste – unlocking New Zealand’s seaweed flavour

FIELD: Science (biology, chemistry)

PROJECT LOCATION: University of Waikato Coastal Marine Field Station, Tauranga

PROJECT AIM: Using science to create and enhance flavours in seaweed and freshwater algal food preparation

PROJECT ABSTRACT: The use of the term ‘umami’ for the fifth taste is now partly understood as an allosteric action of glutamate (present in seaweeds and macroalgae) and certain 5’-ribonucleotides (e.g. sourced from bonito) on the umami receptors. Asian chefs have exploited these flavours for centuries, with the appreciation of Western diners. The burgeoning western seaweed industry is now giving access to seaweeds that have yet to be investigated for creating such flavours. Thus this project will apply traditional and scientific knowledge to investigate the potential of the seaweeds and freshwater macroalgae of New Zealand in food products. Efforts will be made to release the umami potential evident in the biochemical makeup of New Zealand seaweeds and freshwater macroalgae. A focus on seaweed salts, stocks and baked goods using concepts of molecular gastronomy will result in beverages and canapés for the final presentations day of the Summer Scholarship Innovation Academy organised by Priority One. The student will also have the opportunity to participate in Priority One’s ‘Summer Open Lab’ (SOL) programme, which provides weekly workshops on the theme of innovation for students undertaking summer projects across the Western Bay of Plenty. This is designed to fit realistically within their workload, and will offer opportunity to network with local companies and other students, and build skills and capability relevant to their career development.

STUDENT SKILLS:
- Passion for innovation and entrepreneurship
- Self-motivated and pro-active
- Written and verbal communication skills
- to work with internal and external stakeholders
- food preparation (cooking)
- chemistry/biochemistry
- food preparation safety

PROJECT TASKS:
- Use traditional and non-traditional food preparation and cooking techniques to prepare unique “all New Zealand” beverages and dishes with seaweed or freshwater macroalgae
- provide recipes for beverages and canapés prepared with New Zealand seaweeds
- create a final research poster
- create a recipe booklet

EXPECTED OUTCOMES:
- Student’s Research Poster (as per clause 6 of the Scholarship regulations)
- Recipes for beverages and canapés with New Zealand seaweeds.
- Preparation of beverages and canapés for Summer Scholarship Innovation Academy organised by Priority One.
- Quantitative chemistry in determining flavour compounds, pending student background.