# 2017/18 Vacation Scholarships

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| **Job Title:** | CSIRO Undergraduate Vacation Scholarships – Energy |
| **Reference No:** | 51602 |
| **Classification:** | CSOF1.1 |
| **Stipend:** | $1506.67 per fortnight (before tax) |
| **Location:** | Clayton, VIC |
| **Tenure:** | 8 to 12 weeks from November 2017 to February 2018 |
| **Role Purpose:** | The 2017/18 Vacation Scholarship Program is designed to provide students with the opportunity to work on real-world problems in a leading R&D organisation. Students complete a self-contained research project; they also join with their peers in skills development activities, and give a short talk to a one-day symposium at the end of the program.  Participation in the Vacation Scholarship Program has influenced previous scholarship holders in their choice of further study and future career options. Many have gone on to pursue a PhD in CSIRO or to build a successful research career within CSIRO, a university or industry. |
| **Project Description:** | **Project Title**  Electronics Development for Tilt-meters  **Project Description**  CSIRO is seeking talented and passionate students to join as a summer vacation student in the Hydraulic Fracturing Team located in Clayton, VIC. As a vacation student, you will be exposed to multiple areas of research across the team, developing a strong technical foundation in your engineering discipline. With mentoring and support from CSIRO, this is an opportunity to learn hands-on practical skills, strengthening your communication, teamwork and problem-solving ability.  We are currently developing a Wireless Sensor Network for our Tilt-meter Array. The array is used to measure the fracture-induced deformations, which can then be inverted to obtain useful fracture parameters and map the geometry of the hydraulically induced fractures.  The vacation student project will join the team and help develop electronics hardware & firmware for the tilt-meters used in the array.  **Project Duties/Tasks**   * Circuit and layout design for a PCB to interface tilt-meter peripherals (e.g. sensors, motors) with a microcontroller for serial data output. * Microcontroller firmware development for tilt-meter control, including serial output protocol and sensor levelling algorithm. * Subsequent testing and debugging of developed hardware and firmware.   **Relevant Fields of Study**  Electrical, Electronics and Mechatronics Engineering or any other relevant field of study.  The required skills are the following:   * Experience with electronics and circuit design; * Experience with serial communication protocols (e.g. UART, SPI); * Experience with PCB design (e.g. EAGLE, Altium); and * Experience with microcontroller programming (e.g. PSoC Creator, Atmel-ICE, CodeWarrior, Arduino IDE).   **Location:**  Clayton, VIC  **Contact:**  Amirali Soroush via phone on (03) 9545 2773 or email [amirali.soroush@csiro.au](mailto:amirali.soroush@csiro.au) |
| **Eligibility/**  **Pre-Requisites:** | To be eligible to apply you must be an Australian/New Zealand Citizen, Australian Permanent Resident, or an international student who has full work rights for the 8 to 12 weeks duration (does not require visa sponsorship).  Vacation scholarships are for students who:   * are currently enrolled at an Australian university; * have completed at least three years of a full-time undergraduate course (however exceptional second year students may be considered); * have a strong academic record (credit average or higher); and * intend to go on to honours and/or postgraduate study. |
| **How to Apply:** | Please apply online at [www.csiro.au/careers](http://www.csiro.au/careers). **You will be required to:**   1. submit a **resume/cover letter** (as one document) which includes:  * the reasons why the research project/s you have selected are of interest to you; and how your previous skills/knowledge and experience meets the project requirements; and * an outline of your longer-term career aspirations and detail how this program will help you achieve them.  1. upload your **academic results** in the ‘***Requested Information’*** field.   **Referees:** If you would like to include referees (either work or university lecturers/ tutors)in your application, please add their name and contact details into your resume**.**  If you experience difficulties applying online call 1300 984 220 and someone will be able to assist you. Outside business hours please email: [csiro-careers@csiro.au](mailto:csiro-careers@csiro.au).  *Please do not email your application. Applications received via this method may not be considered.* |
| **About CSIRO:** | The [**Commonwealth Scientific and Industrial Research Organisation (CSIRO)**](http://www.csiro.au) is Australia’s national science agency. At CSIRO we shape the future. We do this by using science to solve real issues. Our research makes a difference to industry, people and the planet.  We imagine. We collaborate. We innovate. |