



The National Committee on Automation, Control and Instrumentation

**THE UNDERGRADUATE THESIS
PRIZE IN AUTOMATION, CONTROL
AND INSTRUMENTATION**

Regulations

1. NAME

The prize shall be known as:

**ENGINEERS AUSTRALIA
UNDERGRADUATE THESIS PRIZE
IN AUTOMATION, CONTROL AND INSTRUMENTATION**

2. AIM and PURPOSE

2.1 The aim of the prize is to recognise excellence achieved in undergraduate project work in the disciplines of automation (A), control (C) and instrumentation (I).

2.2 Subsidiary objectives of the prize are:

- to encourage student interest in ACI, particularly at the undergraduate level;

- to encourage the application of ACI, and particularly the integrated application of A, C and I;
- to encourage academic participation in ACI as part of undergraduate education; and
- to encourage a high quality of reporting of undergraduate project work.

3. SPONSORSHIP

The prize is sponsored annually by the National Committee on Automation, Control and Instrumentation (NCACI) of Engineers Australia.

The prize was inaugurated in 1995 and the sponsorship commenced from the proceeds of the 1993 IFAC World Congress held in Sydney.

4. ELIGIBILITY

- 4.1 Any project work undertaken as part of the award of a professional undergraduate qualification relevant to ACI and reported in the form of an academic thesis shall be eligible.
- 4.2 Whilst the prize will normally be awarded for undergraduate project work undertaken by either an individual student, or a team of students, in the final year of a Bachelor of Engineering (Honours) degree, the prize shall not be restricted to such projects or students.

Hence project work undertaken by an **individual student** shall also be eligible if it is:

- part of group project, and that part encompasses A, C or I;
or
- undertaken other than in the final year of the course; or
- undertaken as part of a Bachelor of Engineering (pass degree), Bachelor of Technology, Bachelor of Applied Science or other undergraduate degree, provided the work is reported in the style of an academic thesis.

Alternatively, ACI project work undertaken by a **team of students** shall also be eligible if it is:

- undertaken other than in the final year of the course; or
- undertaken as part of a Bachelor of Engineering (pass degree), Bachelor of Technology, Bachelor of Applied Science or other undergraduate degree, provided the work is reported in the style of an academic thesis.

5. SUBMISSION

- 5.1 The form and timing of submission is designed to accommodate normal undergraduate practice with regard to senior-level project work. It is intended that submission will not place significant additional burdens on the student or students.

5.2 Each submission will consist of:

- (i) **A completed application form** (supplied by the Institution of Engineers, Australia) detailing:
- name and contact address/telephone/fax of applicant, either as an individual or as nominated team contact (for a team submission);
 - name of the academic institution, department, etc;
 - details of course undertaken, (e.g. B Eng(Hons) in Chem Eng);
 - title of the project thesis;
 - for a team project, a full listing of team members and their respective roles in the project;
 - relation of the project work to the course undertaken and relative magnitude,(e.g. *final year Honours Project; 20% of total final year effort*);
 - signature of applicant;
 - name and contact address/telephone/fax of the project academic supervisor;
 - endorsement (by signature) of the project academic supervisor.
- (ii) **Two (2) identical ROM copies, either CD (standard 700Mb) or DVD (4.7Gb)** of the project thesis.
- (iii) For an INDIVIDUAL project submission, **a statement** to the effect that the work reported in the thesis is the *bona fide* work of the student alone, signed by the applicant and endorsed by the supervisor; BUT ONLY if such a statement is not already included as part of the thesis.
- Or:
- For an TEAM project submission, **an explanatory statement** listing all the team members and detailing the roles of each and of the supervising (non-student) participants; BUT ONLY if such a statement is not already included as part of the thesis.
- (iv) **Responses to the following three (3) questions:**
- A. *What innovation is involved in this project?*
 - B. *What is the value or potential value of the project to Australian industry?*
 - C. *Why should your project thesis win the ACI Undergraduate Thesis Prize?*

Each response shall not exceed 200 words.

- (v) **An undertaking that if the prize is awarded to the applicant he/she, or a nominated member of the team, will attend the Award Ceremony.** (This attendance will be at the expense of the NCACI.)

5.3 There is no application fee.

5.4 Applications will be submitted to:

The Administrator, NCACI Thesis Prize
The Institution of Engineers, Australia
11 National Circuit
BARTON, ACT 2600

5.5 **The annual deadline** for receipt of applications at Engineers Australia will be **December 15.**

5.6 An acknowledgement will be issued to the applicant.

6. JUDGING

6.1 The judging panel will be a sub-committee of the NCACI with the power to co-opt and take external advice as it sees fit.

6.2 Each application (thesis and supporting pages) will be assessed by at least two (2) members of the subcommittee; and a separate written appraisal will be prepared by each assessor. A standard assessment form will be used to facilitate equitable comparison.

6.3 **Criteria for thesis assessment** will include the following:

(i) with respect to the project as reported in the thesis:

- innovation;
- technical merit;
- intellectual quality;
- industry relevance;
- integration of A C and I; and

(ii) with respect to the thesis:

- the general quality of presentation.

6.4 **Evaluation of the thesis (and project work reported) will be with regard to:**

- **the relative magnitude of the project effort (as a proportion of the individual students' final year workload); and**
- **the resources available to the student/s.**

And in addition for team projects:

- **the size of the team – number of students and range of skills;**
- **team organisation and interaction.**

6.5 Inspection of project hardware is specifically not required (although it is expected that appropriate illustration will be provided in the thesis).

6.6 Ancillary material, e.g. audio, video or other illustration, or source code, may be provided in any readily-accessible form, but any such material must be restricted to the space available with the thesis on the single CD-ROM (provided as two identical copies, as per 5.2(ii) above).

Applicants should note that ancillary material will NOT carry major weight in the assessment: rather the assessment will be based principally on the thesis as per 6.3 and 6.4 above.

7. THE PRIZE

7.1 The Prize will consist of:

- **a medal;**
- **a certificate / certificates*;** and
- **a cheque for \$2000.**

(* for a team thesis prize, one certificate for the team listing all members, plus one per team member.)

7.2 If appropriate to the applications received, the NCACI will normally award a single, annual prize in each of the categories of individual project work and team project work.

7.3 The NCACI reserves the right to:

- make no award; or
- to split the prize among two or more recipients; or
- to award more than one prize in either category;

in any given year as it sees fit.

7.3 The NCACI may also award **Certificates of Commendation** to those theses of high quality which are not successful in winning the prize.

8. PRESENTATION

8.1 The presentation of the Prize will take place at a suitable formal occasion of the Institution, such as a national conference appropriate to

the subject area of the project work. The event will be determined in consultation with the prize winner/s.

- 8.2 The expenses of the prize-winner (individual or team nominee, plus one guest) will be met by the NCACI. This will include air travel and overnight costs, as necessary.
- 8.3 Formal invitations to the presentation ceremony will be sent to the project supervisor/s, Head of Department of the winner, etc.

9. ANNUAL TIMETABLE

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| 9.1 | Announcement , publicity, circular to all Heads of university engineering (and appropriate science) departments | February / March |
| 9.2 | Re-announcement, - as above - | September / October |
| 9.3 | Submission deadline for applicants | December 15 |
| 9.4 | Judging | January - March |
| 9.5 | Announce winner | March / April |
| 9.6 | Award presentation | (as appropriate) |
