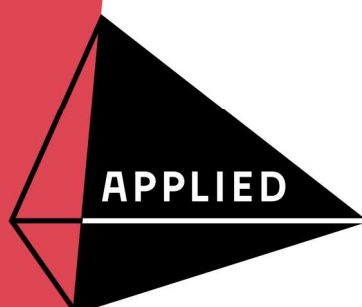


Submission to the

# **Australian and New Zealand Standard Research Classification (ANZSRC) Review 2019**

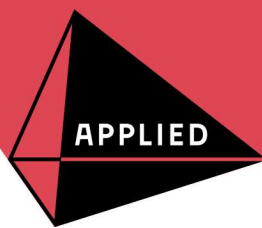
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Australian Academy of  
Technology & Engineering

GPO BOX 4055  
Melbourne, 3001  
VIC, Australia

T +61 3 9864 0900  
F +61 3 9860 0930  
E [info@applied.org.au](mailto:info@applied.org.au)



# Submission to the Australian and New Zealand Standard Research Classification (ANZSRC) Review 2019

The Australian Academy of Technology and Engineering (the Academy<sup>1</sup>) welcomes the opportunity to provide input into the review of the Australian and New Zealand Standard Research Classification (ANZSRC). The Academy has provided specific responses to a limited number of questions from the discussion paper below.

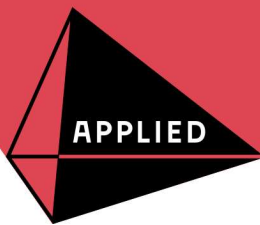
The Academy is aware of a submission from the Australian Council of Engineering Deans that recommends a number of specific changes to Fields of Research (FoR) codes at the four and six digit level and is broadly supportive of these proposals, subject to further consultation with the engineering community.

## ANZSRC Principles:

**Q1. Are the principles of the Review outlined in section 2 of the discussion paper appropriate and sufficient? Do any further overarching principles need to be considered in developing the revised ANZSRC?**

- The categories are unlikely to be mutually exclusive – applied research may draw upon knowledge from strategic basic. Some research projects may involve one or more research categories (strategic basic and applied research). This principle may need to be applied flexibly given this relationship.
- According to the Frascati Manual 2015, section 2.38, ‘The relationship between basic research, applied research and experimental development has to be seen within a dynamic perspective. It is possible that applied research and experimental development could adapt fundamental knowledge arising from basic research directly for general application. However, the linearity of such a process is affected by the feedback that takes place when knowledge is used to solve a problem. This dynamic interaction between knowledge generation and the solution of problems links basic and applied research and experimental development.’ This perspective should be reflected in the ANZSRC.

<sup>1</sup> The Australian Academy of Technology and Engineering is a Learned Academy operating as an independent, non-political and expert think tank that helps Australians understand and use technology to solve complex problems. We bring together Australia’s leading experts in applied science, technology and engineering to provide impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.



## ANZSRC Classifications:

### Type of activity (ToA)

#### **Q4. Is there ambiguity in the existing ToA categories? How could this be improved?**

- The existing ToA categories overlap and are not entirely mutually exclusive. For example, applied research would often be based upon the results from the strategic basic research. The boundary between the two may sometimes be unclear; for example, is research into the genetic code of plants being carried out simply to advance knowledge or for possible future commercial exploitation (or both)?
- An apparent difference would be in the scope of the work. Strategic basic research would provide a broader base of knowledge whereas applied research would be directed towards a specific application. Also, the two categories of research differ in the length of time between research and reasonably foreseeable practical applications, either in the public or private sectors, which is a somewhat subjective distinction.
- While the division between basic research and applied research is in some ways artificial, the directional change towards research with identified applications such as productivity gains, policy development and economic activity is an important marker of the importance of university-based research to social and economic transformation<sup>2</sup>, and should continue to be captured by the ANZSRC.

#### **Q5. Should ANZSRC adopt the Frascati Manual 2015 ToA definitions?**

- The Frascati Manual 2015 ToA definitions for Applied Research and Experimental Development are similar to ANZSRC definitions.
- As stated in the Frascati Manual, the relationship between basic research, applied research and experimental development has to be seen within a dynamic perspective.
- Given the importance and utility of international comparisons, the Academy would support consideration of the adoption of the Frascati 2015 ToA definitions.

<sup>2</sup> [Research engagement for Australia – Measuring research engagement between universities and end users](#)

### Fields of Research (FoR)

**Q6. Is the current overall structure appropriate?**

- a. Should there be more or fewer levels to the hierarchy?
  - b. Would it be useful to have broad themes or 'one digit' classifications such as Sciences, Medicine, Social Sciences and Humanities, similar to the 'Sector' level of SEO?
- The Frascati Manual 2015 proposes the use of the OECD fields of research and development (FORD) classification for R&D measurement purposes that is based on content approach. Where the content of the R&D subject matter is closely linked, subjects are grouped together to form the broad (one-digit) field and narrower (two-digit) fields of the classification.
  - The use of broad 'one digit' classifications, as listed in the FORD, would be a useful addition for capturing research activity in Australia.

**Q8. Where should the classifications change (at the Division, Group or Field level)? Please identify specific codes, where appropriate. In particular:**

- a. What new or emerging areas of research should be allocated FoR codes (and at which level)?
  - b. Should any of the existing FoR codes be split, deleted or merged?
  - c. Should any of the existing Group or Field codes be moved to other places in the classification?
  - d. Is there ambiguity or redundancy in the existing FoR codes? (e.g. areas where research could reasonably be classified in two or more different codes)
  - e. Where changes are proposed, please explain why the changes are necessary and what criteria you have used to determine the need for change.
- Emerging research areas are mostly interdisciplinary or multidisciplinary, such as environmental sustainability, quantum biology and biomimetics/bio-inspired technologies. Consideration should be given to making the classifications adaptable to this characteristic.
  - The Academy recommends that projects continue to be able to be coded to multiple FoR codes to allow the reflection of interdisciplinary and multidisciplinary research projects.

The Academy and its Fellows would be pleased to further assist the Australian Bureau of Statistics (ABS), Stats NZ, the Australian Research Council (ARC) and the New Zealand Ministry of Business, Innovation and Employment (MBIE) in this review process as appropriate. The contact at the Academy is Ms Riajeet Kaur, Policy Analyst ([riajeet.kaur@applied.org.au](mailto:riajeet.kaur@applied.org.au) or 03 9864 0942).