Position Description

College/Division: College of Engineering and Computer Science
Faculty/School/Centre: School of Computing
Department/Unit: School of Computing
Position Title: Research Fellow
Classification: Level B
Position No: 
Responsible to: Giuseppe Barca
Number of positions that report to this role: 
Delegation(s) Assigned:  

PURPOSE STATEMENT:
The School of Computing is a leading Centre of High-Performance Computing research in Australia.

The Research Fellow is expected to undertake work in all three areas of academic activity—research, education and service (including outreach), with a major emphasis on research. The allocation of time to each area will be discussed with the position supervisor annually and be reflective of the conditions of the external funding, the appointee’s research agenda, school and interdisciplinary teaching requirements and leadership opportunities within the School environment. The Research Fellow may also be required to supervise or mentor less senior staff, and undertake leadership roles as applicable. The staff member will contribute cooperatively to the overall intellectual life of the School, College and University.

KEY ACCOUNTABILITY AREAS:
Position Dimension & Relationships:
The Research Fellow will be a member of School of Computing, accountable to Dr Giuseppe Barca. The project will focus on the development of novel exascale computing algorithms for application in computational chemistry and high-performance computing. The Research Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships within the all academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and where possible, international colleagues.

Role Statement:
In their role as an Academic Level B the Research Fellow is expected to:

1. Undertake independent research in the area of high-performance computing with applications in computational chemistry with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national and/or international level. This includes working as part of a team on an externally funded project subject to deadlines and being primarily responsible for project delivery in some areas.
2. Actively seek and secure external funding including the preparation and submission of research proposals to external funding bodies.
3. Subject to the requirements of the funding source and where an opportunity exists, the occupant may be required to contribute to the teaching activities of the School at the undergraduate and graduate levels. This includes, but is not limited to, the preparation and delivery of lectures and tutorials, the preparation of online material, marking and assessment, consultations with students, acting as subject coordinators and the initiation and development of course/subject material.
4. Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Supervision of research students.
5. Supervise research support staff in your research area.

For assistance please contact HR Division Ph. 6125 3346
6. Actively contribute to all aspects of the operation of the School. This may include representation through committee memberships.
7. Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
8. Maintain high academic standards in all education, research and administration endeavours.
9. Take responsibility for their own workplace health and safety and not willfully place at risk the health and safety of another person in the workplace.
10. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.
11. Other duties as required that are consistent with the classification of the position.

**SELECTION CRITERIA:**

1. A PhD in computer science or computational chemistry, with a track record of independent research in the field of computational chemistry and/or high-performance computing, as evidenced by publications in peer-reviewed journals and conferences, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at conferences.
2. Evidence of excellent programming skills in C/C++, CUDA, MPI and OpenMP and/or other GPU programming models.
3. Evidence of exhaustive experience in HPC software environment, including but not limited to compiler, debugging, and profiler toolchains.
4. Evidence of good knowledge of quantum chemistry computational methods and algorithms, of algorithm design and numerical optimization methods.
5. Evidence of the ability to articulate and prosecute innovative research in the fields of high-performance computing and computational science and a vision for the activities they will undertake at the ANU.
6. Evidence of an ability and willingness to teach at all levels.
7. An ability to supervise and graduate high-quality PhD/Masters research students.
8. The demonstrated ability to work as part of a team, contributing to team management and a demonstrated ability to meet deadlines.
9. Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.
10. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

*The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.*

<table>
<thead>
<tr>
<th>Supervisor/Delegate Signature:</th>
<th>Date:</th>
<th>11/11/2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed Name:</td>
<td>Giuseppe Barca</td>
<td>Uni ID:</td>
</tr>
</tbody>
</table>

**References:**

- Professional Staff Classification Descriptors
- Academic Minimum Standards