



## Post Specification

<b>Post Title:</b>	Assistant Professors in Theoretical Physics (2 posts)
<b>Post Status:</b>	Permanent
<b>School/Faculty:</b>	School of Mathematics/ Faculty of Engineering, Mathematics and Science
<b>Location:</b>	School of Mathematics, Main Campus, Trinity College Dublin, Dublin 2
<b>Salary:</b>	The appointments will be made on the Department of Education and Skills recognised Lecturer salary scale at a point in line with current Government pay policy
<b>Closing Date:</b>	12 noon on Friday 17 <sup>th</sup> January, 2014
<b>Interview Dates:</b>	Interviews are likely to be held on both 13 <sup>th</sup> and 14 <sup>th</sup> March, 2014

### Post Summary

The School of Mathematics at Trinity College Dublin is seeking candidates for the above posts. The two appointments, which will be permanent, will be tenable from September 2014.

These posts are teaching and research positions. The successful candidates will be required to contribute to all levels of teaching and supervision undertaken by the School, and will be expected to conduct a vigorous research programme.

Applicants must have a PhD and a demonstrated potential for excellence in research and teaching. Theoretical Physics is a particular strength of the Trinity School of Mathematics with active research in string theory, lattice field theory, general relativity and across a broad range of topics in quantum field theory.

Candidates in all areas of Theoretical and Mathematical Physics will be considered.

### Standard duties of the Post

The appointees will be expected to undertake high-quality research and develop a high profile in the national and international research communities. They will assist in the delivery of the School's undergraduate and postgraduate programmes and supervise research students. Applicants will have excellent organisational and interpersonal skills, and will have the ability to work both independently and as part of a team. The successful candidates will also be expected to raise external research funding and are encouraged to pursue further training in higher education teaching. The post holders will contribute to the administration of the School as directed by the Head of School.



## Person Specification

The ideal candidates will have the following:

### Qualifications

- PhD, and a minimum of 2 years postdoctoral experience

### Knowledge & Experience

- Proven publication record in high quality peer reviewed journals together with potential for substantial publication record in medium term (**essential**)
- Proven ability or evident potential to attract external research funding (**desirable**)
- Demonstrable excellence in undergraduate teaching in both small and large group environments
- Potential for building and development of the subject area with demonstrated vision and commitment (**essential**)
- Experience of working collaboratively and effectively in an interdisciplinary environment
- Experience of module development and administration (desirable)
- Ability to engage in the administrative requirements of the School and the College

### Skills & Competencies

- Ability to work effectively as a member of a team. Ability to collaborate with colleagues at an inter-disciplinary level, and participation at School, Faculty and College level
- Excellent communication skills
- Strong organisational skills with the ability to effectively manage a demanding workload
- Willingness to contribute to the discipline and wider community
- Excellent presentation skills with the ability to enthuse listeners
- A commitment to research-led and innovative teaching methods

### Further Information

Further information regarding the School of Mathematics may be obtained at

<http://www.maths.tcd.ie>

### Informal Enquiries

Prospective applicants may discuss the positions further by contacting the Head of School, Professor Sinéad M. Ryan by email to [headmath@maths.tcd.ie](mailto:headmath@maths.tcd.ie)



## The School of Mathematics

Mathematics in Trinity has a long history stretching back to 1613 and the first appointment to a professorship of Mathematics in the College was in 1652. Noteworthy among the mathematicians associated with the College are Hamilton (Andrews' Professor of Astronomy 1827-65) and J. L. Synge who held the University Chair of Natural Philosophy for a period in the 1920s. A more full account of the historical development of Mathematics in the first 400 year of the College can be found in the booklet written by T.D. Spearman (University Professor of Natural Philosophy 1966-1997). The text of that booklet is available on the web at <http://www.maths.tcd.ie/pub/official/400Hist>.

The School of Mathematics was ranked 15<sup>th</sup> in the world among Schools of Mathematics in the 2011 QS Rankings.

The School of Mathematics carries out research in Pure Mathematics, Applied Mathematics and in Theoretical Physics. There are established weekly seminar series in Analysis, Theoretical Physics and Computational Applied Mathematics. A colloquium series in Pure Mathematics is run jointly with other neighbouring universities. The Irish Government has committed a large sum of money in its National Development Plan to the establishment of a smart economy. Members of the School have been successful in attracting grants under these programs, mainly through Science Foundation Ireland (SFI) [www.sfi.ie](http://www.sfi.ie).

The School of Mathematics has a range of research interests, and the topics can be roughly grouped under the headings below.

- Pure Mathematics
  - Partial Differential Equations, Algebra and Number Theory, Functional analysis, Complex analysis & geometry, Algorithms and History of Mathematics
- Applied Mathematics, Theoretical and Mathematical Physics
  - String Theory, Lattice Quantum Chromodynamics, General Relativity and Quantum Field Theory

The School offers the following degree programmes:

- Moderatorship in Mathematics
- Two-Subject Moderatorship in Mathematics
- Moderatorship in Theoretical Physics (with the School of Physics)

The School is also involved in teaching:

- Science Students
- Engineering Students
- Computer Science Students
- Management Science Students
- The School has an active commitment to postgraduate research and to PhD



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programmes. Currently it has some 20 students registered for M.Sc. and PhD degrees by research, in addition to 13 registered for the M.Sc. course in High Performance Computing. Further to the recent Strategic Review, the appointee will be expected to play an active role with increasing these numbers.



## Trinity College Dublin

Founded in 1592, Trinity College Dublin is the oldest university in Ireland and one of the older universities of Western Europe. On today's campus, state-of-the-art libraries, laboratories and IT facilities, stand alongside historic buildings on a city-centre 47-acre campus.

Trinity College Dublin offers a unique educational experience across a range of disciplines in the arts, humanities, engineering, science, human, social and health sciences. As Ireland's premier university, the pursuit of excellence through research and scholarship is at the heart of a Trinity education. TCD has an outstanding record of publications in high-impact journals, and a track record in winning research funding which is among the best in the country.

TCD has developed significant strength in a broad range of research areas including the 18 broadly-based multi-disciplinary thematic research areas listed below.

Sustainable Environment	Next Generation Medical Devices	Identities in Transformation
Smart and Sustainable Cities	Creative Technologies – Digital Media, Arts and Entertainment	International Development
Cancer	Neuroscience	Immunology and Infection
Nanoscience	Telecommunications	Creative Arts Practice
Inclusive Society	Mathematics of Complexity	Intelligent Media and Human Communication
Ageing	International Integration	Digital Humanities

Its current flagship interdisciplinary research institutes are in areas such as biomedical science, arts and humanities, neuroscience, international integration studies, and nanostructures and nanodevices. The construction of Ireland's first purpose built nanoscience research institute, CRANN, was opened in January 2008, which houses 150 scientists, technicians and graduate students in specialised laboratory facilities.

The building also includes an innovative public venue, the Science Gallery. In 2011, it received the Shorty Award for Best Cultural Institution on Twitter globally and the Irish Web Award for Best Education and Third Level Website. These joined a list of awards that includes European Museum of the Year Award – Special Commendation 2010 and National IT award for best use of technology in education, 2009.

The recently opened Trinity Biomedical Sciences Institute (TBSI) is an unprecedented development for Biomedical Research in Ireland, both in terms of scale and ambition. It



provides a facility for TCD to continue its upward trajectory in both basic and translational research programmes, notably in the areas of Immunology, Cancer and Medical Devices.

The Library of Trinity College is the largest research library in Ireland and is an invaluable resource to scholars. In addition to purchases and donations accrued over four centuries, the College has had 200 years of legal deposit. By this right Trinity can claim a copy of every book published in Ireland the UK. The Library has over 4.25 million books, 22,000 printed periodical titles and access to 60,000 e-journals and 250,000 e-books. The Library's research resources also include internationally significant holdings in manuscripts (the most famous being the Book of Kells), early printed material and maps. Its collections and services support the College's research and teaching community of 15,000+ students and academic staff.

Trinity continues to attract intellectually strong students from Ireland and abroad. More than half of its incoming undergraduates have earned in excess of 500 out of a maximum 600 points in the national Leaving Certificate examination. The accessibility of a Trinity education to all students of ability is also very important. Trinity College was the first university in Ireland to reserve 15% of first year undergraduate places for students from non-traditional learning groups – students with a disability, socio-economically disadvantaged students as well as mature students. The College has met its target in this respect. There is also an exciting international mix of its student body where 16% of students are from outside Ireland and 40% of these students are from outside the European Union. TCD students also have an opportunity to study abroad in other leading European universities through Trinity's partnership agreements.

Students also benefit from a scholar teacher model where they have the opportunity of being taught by world-leading experts in their field. Interdisciplinary forms a key element in the College strategy in increasing Trinity's international standing as a research-led university.

Many of Trinity College Dublin's alumni have helped shape the history of Ireland and Western Europe. They include author, Jonathan Swift, philosopher, George Berkeley, political philosopher, Edmund Burke, wit and dramatist, Oscar Wilde, historian, William Lecky, religious scholar, James Ussher, scientists, John Joly, George Johnstone Stoney, William Rowan Hamilton and physicians, William Stokes and Denis Burkitt.

Two of Trinity College's alumni have won Nobel prizes – Ernest Walton for Physics in 1951 and Samuel Beckett for Literature in 1968. The first President of Ireland, Douglas Hyde was a graduate as was the first female President of Ireland, Mary Robinson.

### **The Selection Process in Trinity**

- The Selection Committee (Interview Panel) will include members of the Academic community together with an External Assessor who is an expert in the area.
- Applications will be acknowledged by email. If you do not have confirmation of receipt within 1 day of submitting your application online, please get in touch with us immediately and prior to the closing date/time.



- Given the degree of co-ordination and planning to have a Selection Committee available on the specified date, the College regrets that it may not be in a position to offer alternate selection dates. Where candidates are unavailable, reserves may be drawn from a shortlist.
- Outcomes of interviews are notified in writing to candidates and are issued **no later than 5 working days** following the selection day.
- In some instances the Selection Committee **may** avail of telephone or video conferencing.
- The College's selection methods may consist of any or all of the following:
  - Interviews
  - Presentations
  - Psychometric Testing
  - References
- It is the policy of the College to conduct pre-employment medical screening/full pre-employment medicals.
- Information supplied by candidates in their application (Cover Letter and CV) will be used to shortlist for interview.

### **Equal Opportunities Policy**

Trinity College Dublin is an equal opportunities employer and is committed to the employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community.



## **Pension Entitlements**

This is a pensionable position and the provisions of the Public Service Superannuation (Miscellaneous Provisions) Act 2004 will apply in relation to retirement age for pension purposes. Details of the relevant Pension Scheme will be provided to the successful applicant.

Applicants should note that they will be required to complete a Pre-Employment Declaration to confirm whether or not they have previously availed of an Irish Public Service Scheme of incentivised early retirement or enhanced redundancy payment. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Irish Public Service employment.

Applicants formerly employed by the Irish Public Service that may previously have availed of an Irish Public Service Scheme of Incentivised early retirement or enhanced redundancy payment should ensure that they are not precluded from re-engagement in the Irish Public Service under the terms of such Schemes. Such queries should be directed to an applicant's former Irish Public Service Employer in the first instance.

## **Application Procedure**

Candidates should submit a cover letter together with a full curriculum vitae to include the names and contact details of 3 referees (email addresses if possible), your list of publications and a research plan (summarising research to be carried out in the next two years and including details for funding to be sought - 2 pages), and a teaching statement (summarising teaching experience and approach - 2 pages) **by e-Recruitment:**

### **APPLICATIONS WILL ONLY BE ACCEPTED BY E-RECRUITMENT**

If you have any query regarding this, please contact:

Ruth Keenan, Recruitment Officer, Human Resources, House No. 4, Trinity College Dublin

**Tel: +353 1 896 1118**

**Email: [ruth.keenan@tcd.ie](mailto:ruth.keenan@tcd.ie)**