



Post Specification

Post Title:	Research Student -PhD Studentship in Recommender Systems and Personalisation
Post Status/Ref:	3+1 year PhD Studentship ADAPT_PHD_BEEL
Research Group/Department/School:	ADAPT Centre, School of Computer Science and Statistics, Trinity College Dublin, the University of Dublin
Location:	O'Reilly Institute, Trinity College Dublin, the University of Dublin, College Green, Dublin 2, Ireland
Funding:	Payment of tax-free stipend (16,000€ tax-free). In addition, payment of academic fees *
Closing Date and Time:	5 March 2017, or later (until filled)

***NOTE: Applicants must have been resident in an EU member state for 3 out of the last 5 years to be eligible for EU fees**

Post Summary

The ADAPT Centre at Trinity College Dublin is offering a 4 year PhD scholarship in the field of recommender systems and personalization. Your PhD research will focus on improving the state-of-the art in recommender systems for digital libraries. The exact goal will be based on your interests and skills, and will be discussed between you and your PhD supervisor. One potential goal could be to develop a novel recommendation approach based on, for instance, machine learning, network analysis or natural language processing. Alternatively, you may explore new ways to ensure reproducibility in recommender-systems research, or tackle one of the other issues that the community of recommender systems for academia is currently facing. A major part of your research will be conducted with Mr. DLib, which is a



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recommendation-as-a-service provider who delivers thousands of recommendations every day to different partners. For more details, please visit <http://mr-dlib.org> and refer to these two publications:

Beel, J., Breitinger, C., Langer, S., Lommatzsch, A., & Gipp, B. (2016). Towards Reproducibility in Recommender-Systems Research. *User Modeling and User-Adapted Interaction (UMUAI)*, 26(1), 69–101. doi:10.1007/s11257-016-9174-x

Beel, J., Gipp, B., Langer, S., & Breitinger, C. (2016). Research Paper Recommender Systems: A Literature Survey. *International Journal on Digital Libraries*, (4), 305–338. doi:10.1007/s00799-015-0156-0

In addition to your contribution to the Mr. DLib project, you have the opportunity to collaborate with other researchers at ADAPT and apply your research in their projects and with industry partners.

Standard duties and Responsibilities of the Post

The successful candidate will research the specialist area of recommender systems and related disciplines (intelligent systems, machine learning, network analysis, text mining)

Tasks to be performed as part of this position will include:

- Conducting literature surveys in the field of recommender systems
- Development software mostly in JAVA
- Analysing data
- Installing, maintaining and using recommendation frameworks
- Contribute to workshop, conference, and journal publications
- Contribute to short term focused projects with Industry Partners
- Supervision of interns, students, and volunteers who contribute e.g. to the Mr. DLib project

Background on the ADAPT Centre



ADAPT is Ireland's global centre of excellence for digital content and media innovation. Led by TCD, it combines the expertise of researchers at four universities (Trinity College Dublin, Dublin City University, University College Dublin, and Dublin Institute of Technology) with that of its industry partners to produce ground-breaking digital content innovation.

ADAPT brings together more than 120 researchers who collectively have won more than €100m in funding and have a strong track record of transferring world-leading research and innovations to more than 140 companies. With EURO 50M in new research funding from Science Foundation Ireland and industry, ADAPT is seeking talented individuals to join its growing research team. Our research and technologies will continue to help businesses in all sectors and drive back the frontiers of future Web engagement.

Your PhD supervisor is Dr. Joeran Beel, who is an Ussher Assistant Professor in Intelligent Systems, affiliated with the ADAPT Center and KDEG Group at the School of Computer Science and Statistics. Joeran Beel's research focus lies on recommendations-as-a-service, recommender-system evaluation, and user modelling in the digital libraries context.

Why join ADAPT @ TCD

1. Work on hard, relevant problems in an interdisciplinary and exciting research environment. The ADAPT Centre combines expertise of researchers at Trinity College Dublin, Dublin City University, University College Dublin and Dublin Institute of Technology. It brings together more than 120 researchers who have collectively won more than €100M in competitive research funding and have an international track record of bridging research and innovations to more than 140 companies. With €50M in new research funding from SFI and industry, ADAPT research and technologies will help businesses in all sectors to manage, personalise and deliver digital content more effectively.



2. Work in a University where excellence of research is valued. Trinity College Dublin is Ireland's premier University and is ranked in 71st position in the top 100 world universities by the QS World University Rankings 2014.
3. Work in a centre focussed on advancing your career. Whether you want to take an academic, industrial, or entrepreneurial career path, ADAPT prides itself in the support and mentoring that enables all its Students and early-stage researchers to reach their full potential. This year alone its postdoc-to-PI programme has helped three postdocs transition to be Principal Investigators on their own H2020 projects, while four others have recently won funding with ADAPT support to realise the commercialisation of their research through spin outs and licensing.

Funding Information

Funding for:

UK Students, EU Students, International Students

Funding amount: Payment of tax-free stipend. In addition, payment of academic fees; fully for EU students and partially for non-EU students

Person Specification

Qualifications

The successful candidate will have an excellent academic record (first class or primary degree) in Computer Science or a related discipline

Knowledge & Experience (Essential & Desirable)

- Excellent JAVA knowledge
- Good knowledge in Linux, Tomcat, MySQL, REST Web Services (Jersey), Apache Lucene/Solr, Mahout, Hadoop, XML, and JSON
- First experiences with recommender systems, machine learning, artificial intelligence, network analysis, or natural language processing



- First experiences with data science (ideally with Python)

Skills & Competencies

- The successful candidate will have:
 - High self-motivation, love for details, excellent problem solving abilities, and reliable and structured working style
 - Project management and open-source community management skills
 - must be eager to work in and learn from multi-disciplinary and multi-organisation teams.
- **Good written and oral proficiency in English (essential)**
 - should have English language certification if English is not their first language, the requirement being: IELTS: 7.0+, TOEFL iBT: 100+, TOEFL pBT: 600+, CEF: C1+, or equivalent.
- **Further Information for Candidates**

URL Link to School	https://www.scss.tcd.ie
URL Link to Research Group	http://adaptcentre.ie/#vacancies

GARDA CLEARANCE:

Police vetting may be sought in respect of individuals who come under consideration for a postgraduate studentship. See admission requirements <http://www.tcd.ie/study/eu/postgraduate/> or contact the Academic Registry for further information <http://www.tcd.ie/academicregistry/registration/before-registering/>

Trinity College Dublin, the University of Dublin

Founded in 1592, Trinity is at the nexus of tradition and innovation, offering undergraduate and postgraduate programmes across 24 schools and three faculties: arts, humanities, and social sciences; engineering, maths and science; and health



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sciences. Spread across 47 acres in Dublin's city centre, Trinity's 17,000-strong student body comes from all 32 counties of Ireland, and 16% of students come from outside the country. Of those, 40% are from outside the European Union, making Trinity's campus cosmopolitan and bustling, with a focus on diversity.

As Ireland's leading university, the pursuit of academic excellence through research and scholarship is at the heart of the Trinity education. Trinity is known for intellectual rigour, excellence, interdisciplinarity, and research-led teaching. Home to Nobel prize-winners such as scientist Ernest Walton and writer Samuel Beckett, Trinity draws visitors from across the world to its historic campus each year, including to the Book of Kells and Science Gallery which capture the university's connection to both old and new.

Trinity accounts for one-fifth of all spin-out companies from Irish higher education institutions, helping to turn Ireland into an innovation-intensive, high-productivity economy. That culture of innovation and entrepreneurship is a defining characteristic of our campus as we help shape the next generation of job creators. Trinity has developed significant strength in a broad range of research areas, including the 19 broadly based multi-disciplinary thematic research areas.



Ireland's first purpose-built nanoscience research institute, CRANN, houses 150 scientists, technicians and graduate students in specialised laboratory facilities. Meanwhile, the state-of-the-art Biomedical Sciences Institute is carrying out breakthrough research in areas such as immunology, cancer and medical devices.

The Old Library, which houses the Long Room, in Trinity is the largest research library in Ireland, with a collection of six million printed items, 500,000 maps, 80,000 electronic journals, and 350,000 electronic books. Some of the world's most famous scholars are graduates of Trinity, including writer Jonathan Swift, dramatist Oscar Wilde, philosopher George Berkeley, and political philosopher, and political theorist Edmund Burke. Three Trinity graduates have become Presidents of Ireland - Douglas Hyde, Mary Robinson and Mary McAleese.



Trinity is the highest ranked university in Ireland, and among the world's leading higher education institutions.

Trinity College Dublin World University Rankings

Overall

- Trinity is Ireland's No.1 University in the QS World University Ranking, THE World University Ranking and the Academic Ranking of World Universities (Shanghai).
- Trinity is ranked 71st in the World and 21st in Europe in the 2013/2014 QS World University Ranking across all indicators.

Internationalisation

- Trinity is ranked 44th in the World in the Times Higher Education Top 100 Most International Universities.
- Trinity is 46th in the World in the QS World University Ranking 2013/2014 in terms of International Faculty.

Research Performance

- Trinity is ranked in the top 70 universities in the world in the Times Higher Education Ranking of World Universities in terms of overall research and in the top 75 universities in the world in terms of citations (research impact).
- Trinity ranks in the top 1% of research institutions in the world in the following 17 Essential Science Indicators fields (an increase of over 150% from 2004): Physics, Chemistry, Engineering, Social Sciences (General), Immunology, Neurosciences, Nanosciences, Materials Science, Pharmacy and Toxicology, Molecular Biology and Genetics, Biology and Biochemistry, Microbiology, Plant and Animal Science, Clinical Medicine, Agriculture, Psychiatry/Psychology, Environment/Ecology.

In the QS Faculty Rankings 2015*:

- Trinity is ranked 63rd in the world in Arts and Humanities.
- Trinity is ranked 69th in the world in Life Sciences and Medicine.



- Trinity is ranked 89th in the in Social Sciences and Management.

In the QS Subject Rankings 2015:**

Trinity College Dublin features in the world's elite (Top 200) institutions in 25 of the 28 subjects in which it was evaluated by the QS World University Rankings by Subject 2015. Of these, Trinity ranks in the top 100 in the world in 14 subjects and in the top 5 in the world in 5 subjects.

Top 50

- Trinity is ranked 32nd in the world in English Language and Literature.
- Trinity is ranked 33rd in the world in Politics and International Studies.
- Trinity is ranked 39th in the world in History.
- Trinity is ranked 48th in the world in Biological Sciences.
- Trinity is ranked 49th in the world in Modern Languages.

Top 100

- Trinity is in the top 100 in the world in Chemistry.
- Trinity is in the top 100 in the world in Computer Science and Information Systems.
- Trinity is in the top 100 in the world in Education.
- Trinity is in the top 100 in the world in Geography.
- Trinity is in the top 100 in the world in Law.
- Trinity is in the top 100 in the world in Medicine.
- Trinity is in the top 100 in the world in Pharmacy and Pharmacology.
- Trinity is in the top 100 in the world in Philosophy.
- Trinity is in the top 100 in the world in Psychology.

Trinity subjects ranked in the world top 101-200 (QS Subject Ranking 2015)

Subject	Trinity Rank
Accounting and Finance	101-150



Business and Management Studies	101-150
Economics and Econometrics	101-150
Linguistics	101-150
Physics and Astronomy	101-150
Sociology	101-150
Engineering - Civil and Structural	151-200
Engineering – Electrical	151-200
Engineering – Mechanical	151-200
Environmental Sciences	151-200
Mathematics	151-200

* QS 'Faculty' Rankings 2015: www.topuniversities.com/faculty-rankings

** QS Subject Rankings 2015: www.topuniversities.com/subject-rankings

Equal Opportunities Policy

Trinity College Dublin, the University of 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.

Application Procedure

Please apply via email to vacancies@adaptcentre.ie and include a;

- Targeted cover letter (600-1000 words) expressing your suitability for a position
- Complete CV
- Names and contact details of two academic referees

Please include the reference code: ADAPT_PHD_BEEL on all correspondence.



There will be a screen and interview process, and the successful candidate will be invited to apply via the TCD graduate studies admission system.

General enquires concerning this post can be addressed to sinead.gorham@adaptcentre.ie

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