

**Institution: University of Oxford** 

**Unit of Assessment: 26B Linguistics** 

# 1. Unit context and structure, research and impact strategy

#### Introduction

The Unit comprises the Faculty of Linguistics, Philology, and Phonetics, which was created in 2008 and has since become Oxford's focal point for the study of human language in all its aspects. The Faculty is an environment in which research and teaching about the structure and history of individual languages and language-families inform, and are informed by, research in all major domains of linguistic theory, namely phonetics, phonology, morphology, syntax, and semantics. A central role in these interactions is played by our laboratories—the *Language and Brain Laboratory* and the *Phonetics Laboratory*—which are open to any member of the Faculty and used by many.

This is the first time that Oxford's Faculty of Linguistics, Philology, and Phonetics has made a REF submission separate from the Faculty of Mediaeval and Modern Languages, a fact that reflects our distinctive identity and our pride in our achievements. During the assessment period, the faculty has secured the full endowment of the Chair of Linguistics in perpetuity, laying a firm foundation for the future of the subject in the University, and we constantly promote undogmatic openness to new ideas and methods in all aspects of our work. In 2014, the combined UoA asserted its strategy of allowing no subdomain of linguistics and philology to be an 'island'. It also aimed to maintain its distinctive profile in 'providing research students with an environment where a strong philological tradition is sustained while all core areas of linguistic theory are supported', while also enhancing 'its cognitive orientation by expanding into teaching and research on psycholinguistics and neurolinguistics'. It is through commitment to the pursuit of these strategic aims that the Faculty is now able to support an independent submission to REF2021.

We seek to make our research a means of cultural and social transformation, for instance via our work on endangered languages. We insist that theories should be illustrated by, and tested on, hard linguistic data, whether obtained through psycholinguistic and phonetic experimentation in our laboratories, through our linguistic fieldwork, through the historical, philological, and comparative linguistic study of ancient and modern languages, or through any combination of these approaches. Some members of the Faculty favour particular theoretical stances (for example *Lexical Functional Grammar*, or theories of morphological autonomy), but we ensure that no single view is ever imposed and that a spirit of intellectual openness is always encouraged. We offer a welcoming, stimulating, supportive atmosphere to researchers at all levels and from all backgrounds, and seek to promote research of exceptional quality and the highest standards of intellectual rigour.

It is an essential part of our identity that many of our researchers hold posts shared with other Faculties (Modern Languages, English, Classics), and we have energetically argued for the continuation and reinforcement of these posts, as well as for posts solely associated with our Faculty. In the review period we have created a new post in Syntax (Mycock) and filled our recently vacated post in Semantics (Altshuler). Positions vacated in French linguistics and in Russian and Slavonic linguistics due to retirement have both been filled (Wolfe and Eckhoff). The Faculty's share of the Russian and Slavonic linguistics post has been increased to 50%. We have created a new post in Hispanic Linguistics (Acedo-Matellán). The newly appointed Jesus Professor of Celtic (Willis), based in our Faculty, is a historical linguist and syntactician. These new colleagues refresh and expand our expertise in syntax, semantics and general historical linguistics, as well as in the study of the history and structure of individual languages and language families.

We continually review our teaching to make sure that it reflects the broad span of our research. We have in the past eight years established joint degrees in Modern Languages and Linguistics, and in Psychology, Philosophy, and Linguistics. At graduate level we have created a new one-year Master's research degree in Linguistics. We have also recently obtained approval to establish a joint Master's degree with Experimental Psychology. These courses provide precisely the evidence-based broad training needed to pursue the Faculty's research goals. The



publications submitted for the current REF show how we span sociolinguistics, semantics, syntax, morphology, phonology, phonetics, and psycholinguistics, drawing on detailed and rigorous knowledge of a wide range of languages and of their histories. The breadth and depth of our research is inspired by the informed diversity of approaches and interests that we foster.

All the Faculty's research projects are subject to rigorous ethical control and approval as governed by the protocols of the *Central University Research Ethics Committee* and overseen by the Faculty Research Committee. The University is a signatory of the San Francisco Declaration on Research Assessment (DORA).

## Range of languages that inform our research

Our research in linguistics is defined by extensive knowledge of the structure and history of language, and we cover as wide a range of languages as possible. In the REF period we have strengthened comparative-historical research into individual languages and families of languages, while encouraging a highly productive breadth in less familiar varieties. For example, our research in Germanic languages, (Hoge, Jones, Lahiri, Sytsema) covers not only German but also Yiddish, Dutch, and Norwegian; our work on Slavonic languages (Eckhoff, Fellerer, MacRobert) covers Ukrainian, Czech, Polish, Bulgarian, and Old Church Slavonic as well as Russian; in addition to our interest in Ancient Greek, we are conducting research on modern Greek (Baltazani, Coleman); Celtic languages such as Breton, Irish, and Welsh are also investigated (Kennard, Temple, Willis); our work on Romance languages (Acedo-Matellán, Bach, Cappellaro, Maiden, Paoli, Wolfe, Temple, and others) covers all the Romance languages from Romanian to Portuguese, including endangered languages and dozens of dialectal varieties. The Faculty also has expertise in Classical and Indo-European Philology, in the work of De Melo, Probert, Vatri, and Willi, focusing principally on Latin, Greek, and Anatolian. Research on ancient Indo-Iranian languages, particularly Sanskrit, is conducted by Lowe and Petrocchi. Among modern languages of India, there is work by **Lahiri** on Bengali and **Payne** on Hindi. Classical, medieval, and modern Armenian is the focus of Meyer's research. Outside Indo-European languages, recent research projects conducted or supervised by members of the Faculty have explored, for example, languages of Australasia (Dalrymple, Hemmings, Bach) and Indonesia (Dalrymple, Bach), Finno-Ugric (Maiden), Japanese (Frellesvig), and others. A part of this work is exemplified in our Impact case-studies on endangered languages. Our range of languages is also reflected in our DPhil research topics. Some of these span whole families of languages, and at a conservative estimate we cover at least fifty languages across Eurasia and Australasia.

# Research objectives

During the RÉF period the Faculty has built up its research capacity in syntax and semantics by creating a community of researchers in the disciplines and encouraging collaboration. No particular theoretical stance is imposed, but several of these researchers share an interest in Lexical Functional Grammar. For example, Dalrymple, Mycock, and Lowe have recently authored The Oxford Reference Guide to Lexical Functional Grammar. Interest in syntactic theory overlaps with the description of ancient languages in the Leverhulme-funded project Uncovering Sanskrit Syntax led by Lowe, which uses corpus data to explore the interclausal syntax of Sanskrit. The (morpho)syntax and semantics of Romance languages (Ibero-Romance with Catalan, Italo-Romance, and Gallo-Romance) is at the centre of the research activities of Acedo-Matellán, Paoli, Wolfe. Hoge researches the syntax of Germanic languages; Willis works on the syntax of Celtic. Research from a psycholinguistic perspective into semantics and into the syntax-semantics interface is carried out by Husband.

Much of the Faculty's research in phonology and phonetics centres around the *Language* and *Brain Laboratory* and the *Phonetics Laboratory*. The *Language and Brain Laboratory* actively covers phonology, morphology, syntax, and semantics. Research members in this laboratory are engaged in theoretical as well as experimental research covering a variety of psycholinguistic and neurolinguistic methodologies. The phonetics group at the *Phonetics Laboratory* is investigating a wide variety of research themes related to speech and language, including speech synthesis, computational phonology, the neurology of speech production, vocal tract imaging, and the analysis and modelling of intonation.



Morphology—especially from a diachronic perspective—is also a major research topic not only for members of the *Language and Brain Laboratory* but also for several members of the community of Romance linguists within the *Research Centre for Romance Linguistics* and in the associated *Romance Linguistics Seminar*. Our research in Romance linguistics aims to cover all branches and periods of the Romance languages, with particular emphasis on little-known varieties (notably at present lstro-Romanian). In addition to morphology (e.g., **Bach, Cappellaro, Maiden**), researchers are currently working on the phonology (**Watson, Payne**) and the syntax (**Acedo-Matellán, Paoli, Wolfe**) of Romance languages. One strand of the AHRC-funded collaborative Open World Research Initiative (OWRI) project *Creative Multilingualism*, investigating the interconnection between linguistic diversity and creativity and mainly located in the Faculty of Medieval and Modern Languages, has been assigned to the Faculty of Linguistics and examines mutual intelligibility across Romance languages (**Cappellaro, Maiden**).

Work in sociolinguistics is largely carried out by **Cameron** and **Temple**, and there is a sociolinguistic element in the philological research of **Willi** and of **Willis**. **Cameron** works particularly on language ideologies and language and gender studies. She is currently a coinvestigator on the *NIHR*-funded research project *Qualitative Analysis of Remote Consultations*, based in the Department of Primary Care Health Sciences. Focusing on medical consultations conducted via Skype or FaceTime, it seeks to understand the effects of the medium on doctorpatient interaction and produce guidance for clinicians on using it effectively. **Temple** works on phonetics/phonology and variationist linguistics and the interface between them, with reference particularly to French, English, and Welsh.

Our involvement with corpus linguistics has recently been boosted by the contribution of **Eckhoff**, whose research includes construction of diachronic text corpora for Russian and Church Slavonic, within a wider initiative to build such resources for early attestations of the major Indo-European branches. **Eckhoff** also works on computational topics related to practical corpus-building work. **Willis**' *AHRC-Deutsche Forschungsgemeinschaft* project will have a significant corpus-building element.

# Research support and impact strategy

The Faculty benefits from the research support offered by the central University, which supports bids for funding from a wide range of external funders as well as our impact activity. During the assessment period, our researchers made over 60 grant applications, to bodies as diverse as the AHRC, ERC, EPSRC, ESRC, Alzheimer's Research UK, and National Institute for Health Research, covering a range of subjects including: Latin grammar; technology-mediated communication in the treatment of illness; Indian linguistics; language typology; the history of intonation; the semantics of individuation. Building on research originally funded by a proof-of-concept grant from the ERC, the Faculty has obtained support in the development and promotion of its cutting-edge work in automatic speech recognition (FlexSR) from Oxford University Innovation, an organization which assists University researchers who wish to commercialize their intellectual property.

The Faculty also allows postholders and postdoctoral researchers to claim up to GBP500 per year in personal research expenses (e.g., for travel to conferences).

We proactively support open access for all our research. Faculty members are encouraged to lodge all of their research outputs online via the *Oxford Research Archive*. We ensure that provision is made in all grant applications to fund accessible digital archiving or research. The Faculty has already produced, or has funding to produce, publicly accessible sites and databases such as the *Oxford Online Database of Romance Verb Morphology*, the *ISTROX* website on Istro-Romanian, and now hosting the *Tweetolectology* website which investigates the spread of morphosyntactic innovations in English using social media. Members of the Faculty have been actively engaged in wider discussions about how to ensure open access. For example, our Fellows of the British Academy have contributed to the Academy's input to Science Europe's Plan S (which aims to 'accelerate the transition to full and immediate open access to scientific publications'). **Lahiri** brought her voice to a meeting in collaboration with Oxford University Press at the Taylorian Library (autumn 2018) with other heads of learned societies to discuss open access issues of



journals such as the Philological Society; she particularly emphasized the need to protect the interests of early career researchers in the implementation of open access.

As part of our strategic support for impact, we embrace opportunities for knowledge exchange and public engagement in all our research. For example, we have ensured that the Faculty is formally supported by a Knowledge Exchange Officer and have energetically sought engagement with TORCH (The Oxford Research centre in the Humanities - Oxford's centre of intellectual energy for the humanities, which facilitates the development of new ideas and collaborations both within academia and beyond). Baghai-Ravary held a TORCH Knowledge Exchange Fellowship to develop software which can analyse a telephone questionnaire, searching for the characteristic signs of a range of medical conditions that can severely impair the ability of sufferers to communicate. Cappellaro was awarded a TORCH Knowledge Exchange Fellowship (2017) with the project Linguistic Fieldwork and Collective Memory aimed at a creating a sociolinguistic archive and a permanent exhibition of the unusual, and threatened, dialect of a community in rural Italy. Also in collaboration with TORCH, members of the ISTROX project on the Istro-Romanian language have presented their work as part of the public 'Library Lates' series Babel - Adventures in Translation at the Bodleian Library; subsequently Maiden gave a public lecture on Istro-Romanian and its speakers. TORCH has also assisted the ISTROX project by publicizing the launch of its online interactive platform in association with Zooniverse.

## Intellectual development through seminars and workshops

A major engine for the intellectual involvement of our researchers at all levels is the Faculty's intensive programme of seminars and workshops. These include Master's students, DPhil students, Postdoctoral Researchers, and permanent postholders, and involve lively dissemination and discussion of new ideas and methods in linguistics in a friendly and informal atmosphere that ranges across all areas of our activities. Speakers are drawn from across the full career range, from Master's students to senior established academics, and we offer funding to invite speakers from outside Oxford (and frequently from outside Britain, for example William Labov in 2015). Most of the permanent seminars occur weekly, and in at least two out of Oxford's three teaching terms, so that there are at least sixteen of each of our seminars every year. The regular series comprise:

General Linguistics Seminar — covering an extensive range of topics in general linguistics, from philology to theoretical syntax or phonology.

Romance Linguistics Seminar — covering comparative and historical work on all Romance languages and dialects and the interfaces between Romance linguistics and general linguistic theory: these seminars are held jointly by the Faculty of Linguistics and the Faculty of Modern Languages

Comparative Philology Seminar — on the linguistics and philology of ancient Indo-European languages and spanning the Faculties of Linguistics and of Classics.

The Faculty also supports occasional seminar series, such as the *Endangered Languages Seminar*, and the *Introducing Ancient Scripts Seminar* involving members of the Faculties of Classics and Oriental Studies. The *Developmental Seminars in Experimental Psychology*, organized by the Department of Experimental Psychology, and the *Applied Linguistic Seminar*, organized by the Department of Education, also frequently discuss topics in Linguistics.

We attract many visiting academics who present their work at special one-off seminars and workshops (for example, Leverhulme Visiting Professor Anita Mehta (2018)). The Faculty also organizes 'blue sky thinking' discussions, where colleagues are encouraged to present their emerging research ideas in a completely informal and constructive atmosphere. These were established to ensure that early career researchers had access not only to a wide range of senior colleagues to help crystallize possible research proposals but to provide support beyond our formal mentoring scheme. The result is an unconstrained and productive airing of research ideas and suggestions.



# 2. People

The current composition of the Faculty is:

Statutory Professors5 (04 FTE)Associate Professors16 (12 FTE)Departmental Lecturers5 (03.65 FTE)Research Associates17 (15.7 FTE)

The Faculty strives to recruit, support, and enthuse its members—from the earliest postdoctoral colleagues to senior professors—in all the areas in which we conduct research. Our policies and staffing strategy are governed by the University's Code of Practice. We encourage our members to employ all the structures and facilities provided by the University to seek funding for innovative and original research, playing close attention to national and international priorities and initiatives. Regular sabbatical entitlement is one term for every six worked, in line with University policy. The Faculty supports externally-funded research leave applications.

## Access to research facilities and involvement in research activities

We promote and facilitate access to all our research facilities, including our laboratories and libraries (described in Section 3 below). We enthusiastically support various training programmes for postgraduate research and postdoctoral members of the Faculty, such as the advanced *Core Training in Linguistics* programme and training and collaborations with other universities. Postgraduate research students may each claim up to GBP500 every year to enable them to attend appropriate specialist training courses or workshops, or conduct independent fieldwork (for which they receive specialist training and guidance, for instance in ethical clearance and research integrity).

Our strategy is to make the most effective use of our expertise in different domains of linguistic theory or across a range of languages by ensuring that our postgraduate research students are formally supervised, whenever appropriate, by more than one person. Faculty members have collaborated with colleagues in the Universities of Helsinki, Kristiansand, Nijmegen, Konstanz, Zurich, Padua, among others, in the supervision of graduate students.

The involvement and support of early career researchers is crucial, and we actively apply to all available sources in order to fund them. The funding sources of our current 20 early career researchers are as follows (two researchers receive funding from more than one source):

Arts and Humanities Research Council	3 (1 also funded by <i>ERC</i> )
Arts and Humanities Research Council with	1 (also funded by <i>ERC</i> )
Deutsche Forschungsgemeinschaft	
British Academy	1
European Research Council	8
Economic and Social Research Council	2
Leverhulme Trust	3
Newton Fellowship	1
Oxford University John Fell Fund	3

Our early career researchers are offered mentoring, are formally represented on the Faculty Board, are offered training funds, and receive funding each year to enable them to organize workshops or similar events on topics of their choice or to acquire new training on skills which they had no opportunity to learn earlier. We place our Departmental Lecturers on 12-month contracts in order to enhance their capacity to conduct research during the summer vacation period. We are committed to equal opportunity in the recruitment and support of ECRs and graduate students, and to supporting those with children through nursery provision and flexible working.



We enable postgraduate researchers and early career researchers to acquire and refine new skills, which they are then able to pass on to others. Some examples are:

- •RAs in the *Language and Brain Laboratory* learn how to conduct EEG experiments, and to analyse and interpret the brain-imaging data.
- •Recently graduated DPhil students have been involved in and trained in the documentation and presentation and evaluation of material evidence of our research activities.
- •Postdoctoral fellows regularly attend training sessions on the latest statistical methods or on Functional Magnetic Resonance Imaging.
- •We have facilitated Charlotte **Hemmings'** ongoing programme of events, funded by Wikipedia, to give researchers the skills to edit Linguistics-based Wikipedia articles. Since 2018, eight of these 'editathons' have taken place, editing Wikipedia entries on over 30 linguistic topics.
- •We were the first Faculty in the Humanities Division to fund and run a Software Carpentry workshop to provide researchers with coding skills, particularly in R.
- •We regularly fund a linguistics writing bootcamp used extensively by our postdocs and PGRs.
- •We encourage our PGRs to make use of the facilities provided by the *Oxford Foundry* (https://www.oxfordfoundry.ox.ac.uk/), the university's hub for student entrepreneurship.
- •We facilitated Antonia **Ruppel's** organization of a series of Endangered Language film screenings with accompanying workshops.
- •We facilitated and partly funded the Indo-Iranian Philology day, at Wolfson College, Oxford (with our then DPhil student Robin **Meyer** as co-organizer).

## Recruitment, diversity, and inclusion

The Faculty's strategy is to recruit and retain the very best available applicants for its posts. It is committed to promoting inclusivity and encouraging the diversity of our applicants. At present, just over half of our postholders are female, as are two of our five statutory professors and approximately 60% of recent early career researchers and postdoctoral fellows. Posts are advertised nationally and internationally, and every person appointed is supported by a mentor who is independent of the formal probation and assessment process. Of our Category A staff whose citizenship could be identified, 15 are UK citizens, 12 are EU or EEA citizens, 4 are US citizens, with 1 Korean and 1 Indian citizen.

Some indicators of our recruitment, diversity, and inclusion strategies in action are:

- •The Faculty is seeking to entrench and enhance the very best practice in gender equality through its current preparations for an Athena Swan Bronze Award. The Faculty has demonstrated its commitment to this initiative by buying-out **Husband** from his teaching to lead the application, and through the establishment of a self-assessment team of 9 postholders, 3 postdoctoral researchers, 2 staff, and 2 student members. The team has been actively working to understand what gender equality issues persist across the whole of the career pipeline and are working towards an action plan to address those issues. This team has also been active in advising the Faculty Board on relevant aspects of COVID-19 measures.
- •Faculty members are mentored for the internal 'Recognition of Distinction' exercise: since 2014, three such awards have been made (to **Probert**, **De Melo**, and **Asudeh**).



•Robin **Meyer** piloted an *Equality and Diversity* course for Early Career Researchers that is now being rolled out across the Humanities Division. This not only made researchers better able to support the next generation of academics, but also provided invaluable support for their own needs.

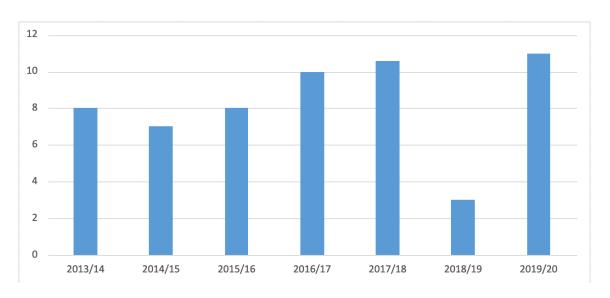
# Staffing Strategy

We strive to maintain our capacity to span the broad range of areas that the Faculty encompasses, such as the creation of a joint post with Modern Languages in Hispanic linguistics to cover both Spanish and Portuguese. Given our interests in Psycholinguistics, we have recently proposed a new joint post with the Faculty of Experimental Psychology. Posts at Associate Professor level are enhanced by the benefits of a college association or tutorial fellowship: **Acedo-Matellán** (Oriel College), **Altshuler** (Jesus College), **Eckhoff** (Lady Margaret Hall), **Mycock** (Somerville College), **Wolfe** (St Catherine's College).

We are substantially reinforcing the Faculty's investment in research by obtaining endowments of Chairs and Lectureships. In 2018 we secured the full endowment of the *Chair of General Linguistics*. The holder of the newly endowed *Jesus Chair of Celtic*, a distinguished researcher in general historical linguistics, is principally associated with our Faculty. The *Diebold Chair of Comparative Philology* is already fully endowed. In the near future we shall seek a successor to Professor Lahiri in this Chair, and it is our policy to seek a scholar who, like her, will combine theoretical expertise with experimental ability. We are currently prospecting for ways of fully endowing the Chair of the Romance Languages.

## **Graduate researchers and ECRs**

Since 2014, 57.6 doctoral degrees have been awarded in Linguistics. The profile by year and number of degrees awarded is:



Our doctoral graduates and postdoctoral researchers have been very successful in establishing themselves in research-related careers. These career paths reflect the range of our research activities, and typically lie at the intersection of general linguistic theory and the study of particular languages or language-families.

Examples among our recent DPhil students are:

•Esher is now permanent CNRS researcher in morphology and historical linguistics. Formerly at the unit *CLLE-ERSS*, Université de Toulouse Jean Jaurès, she has recently moved to the *LabEx EFL* programme in Paris;



- •Two postdoctoral Postdoctoral Research Fellowships in the *Surrey Morphology Group*, at the University of Surrey (**Kaye**, **Sims-Williams**);
- •Team-leader position at *Amazon*, Berlin, working on *Natural Language Understanding within Alexa Al.* (**Schuster**);
- •Junior Research Fellowships in Oxford colleges awarded to three of our doctoral graduates (**Cappellaro**, **Esher**, **Bach**), all three working on issues of morphological theory with reference to Romance languages.

Further examples among our recent postdoctoral researchers:

- •Althaus is Lecturer in Psychology in the School of Psychology at the University of East Anglia;
- •Arora became a Researcher at Amazon (USA, Boston), and is now Assistant Professor in the Department of Electrical Engineering at the Indian Institute of Technology, Kanpur;
- •Kotzor is Lecturer in Linguistics at Oxford Brookes University;
- •Findlay has been appointed to a three-year postdoctoral research fellowship at the University of Oslo;
- •Lowe is Associate Professor in Sanskrit in the Faculty of Oriental Studies at Oxford;
- •Meyer is Associate Professor in Historical Linguistics at the University of Lausanne;
- •Wetterlin is Professor of Linguistics at Agder University, Norway.

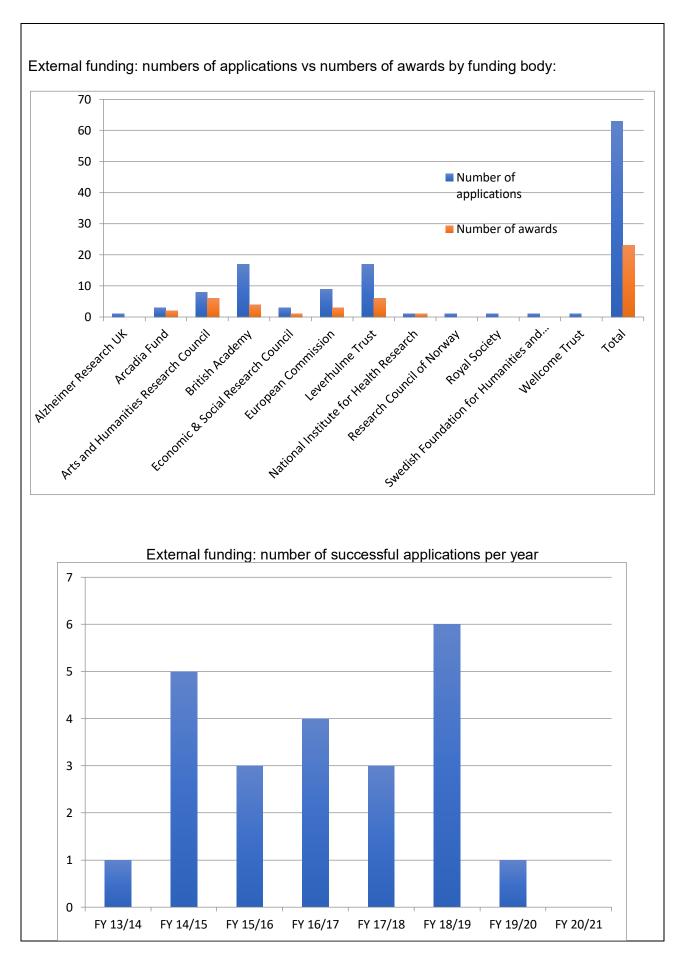
# 3. Income, infrastructure and facilities

Members of the Faculty are continually informed and advised about research funding opportunities by the Divisional Research Facilitator with responsibility for Linguistics, as well as by the Faculty's own Director of Research. Those interested in applying for funding are strongly encouraged to discuss their plans, however embryonic, with the Research Officer and the Research Director. The UoA has carefully and diligently used internal sources of funding to pilot work that has then been submitted successfully to external funders. For example, since 2014 we have won 15 awards from the *John Fell Fund* (supported by an annual transfer from the university press), 2 *Vice-Chancellor's Innovation Awards*, 2 awards from the *REF Strategic Support Fund*), and we pursue and obtain funding across the full span of our disciplines — from philology and the historical study of individual languages, to general theoretical linguistics and psycholinguistics — from funding bodies such as *AHRC, British Academy, Endangered Language Fund, Leverhulme, ERC*, and *UKRI*.

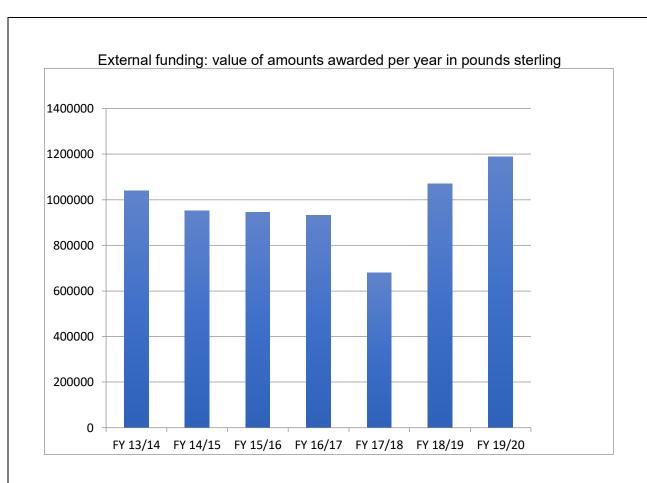
Our total external research income between 2014 and July 2020 was GBP6,806,826, averaging around GBP1M per year. Our most prominent sources of funding are the *AHRC*, the British Academy, the European Commission, and the Leverhulme Trust.

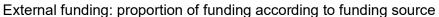
Academy, the European Commission, and the Leverhulme Trust.
Details are set out below:

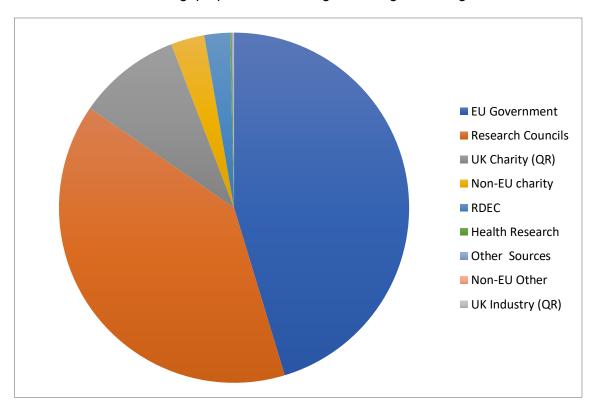








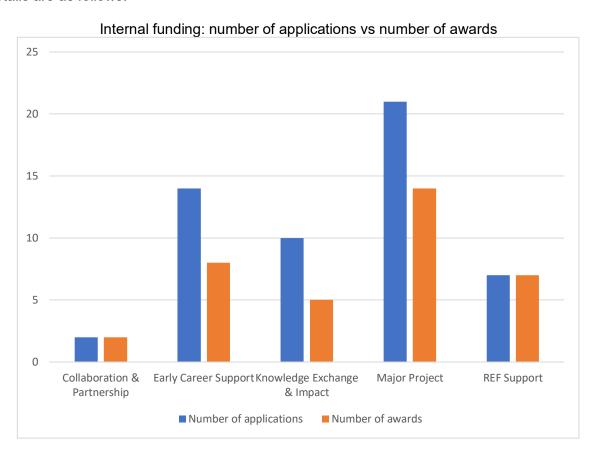






Since 2014, Faculty researchers have made 54 applications for internal funding for research support from the Humanities Division, of which 36 were successful (a success rate of 67%). The total value of the funding obtained was GBP806,759. In addition to applications to the University's *John Fell Fund* for major projects, there have been successful applications for funding to support Collaboration and Partnership, Early Career Researchers, Knowledge Exchange, and REF preparation.

## Details are as follows:









#### Infrastructure

The principal elements of our infrastructure supporting research are:

The Language and Brain Laboratory
The Phonetics Laboratory
The Research Centre for Romance Linguistics
The Libraries

## i. The two Laboratories

Professor David Poeppel, Director of the Department of Neuroscience at the Max-Planck-Institute in Frankfurt, described the Language and Brain Laboratory (in an email to Prof. Lahiri of February 2018) as 'a marvelous [sic] lab and precious resource for Oxford' and observed that '[t]here are very few departments/labs that have managed to construct such a well integrated facility at the intersection of the humanities/linguistics and the sciences/psychology/neuroscience'. Our Language and Brain Laboratory and our Phonetics Laboratory are a major part of the Faculty's contribution to research in psycholinguistic, neurolinguistic, phonetic, and phonological research. They will be a central part of the Faculty's provision in the new GBP150M Schwarzman Centre for the Humanities building, expected to open in 2024/5.

The Language and Brain Laboratory was established in 2008 and covers all aspects of linguistics, including phonology, morphology, syntax, and semantics. Researchers are engaged in theoretical as well as experimental research using psycholinguistic and neurolinguistic methodology. The Language and Brain laboratory is an integral part of the Faculty and provides state-of-the-art research facilities for a variety of behavioural, eye-tracking, speech production, and neurolinguistic experiments, including recording equipment for making high-quality voice recordings. The neurolinguistics laboratory is equipped to support a wide range of psychophysiological experiments and provide the 'cleanest' possible brain wave recordings. The eye-tracking laboratory is used in areas as diverse as psycho- and cognitive linguistics and psychology, oculomotor research, and the visual system. Examples are the study of reading processes, speech production, and language comprehension, face and motion perception, and hand-eye coordination. The Psycholinguistics laboratory is equipped with bespoke hardware and software for a wide variety of behavioural experiments (e.g., lexical decision tasks, or timed forced choice experiments) across different modalities. The hardware is transportable and can be used to run as many as 16 participants at once in a classroom situation for large fieldwork studies. In recent years, experiments have been conducted by our postdocs, under the direction of Lahiri, in India, Germany, France, Sweden, China, and South Korea. In the speech recording laboratory audio recordings (e.g., to create stimuli) can be made using analogue microphones and digital recorders. This equipment can also be used for speech production studies which measure the time taken for someone to plan an utterance.

The Laboratory's most recent major project (2011 to 2016) was WORDS: Asymmetry, change and processing in phonological mental representation, funded by an ERC Advanced Investigator Award (PI Lahiri). The project combined approaches from historical linguistics, psycholinguistics, neurolinguistics, phonology, and computational modelling to examine the abstract representation of words. This research has been followed by another ERC-funded project, again led by Lahiri, called MORPHON. Resolving morpho-phonological alternation: historical, neurolinguistic, and computational approaches. It combines expertise in theoretical and typological linguistics, brain-imaging methods, and computational modelling to shed light on questions about the existence and cross-linguistic incidence of morpho-phonological alternations, their diachronic profiles, their processing, and their mental representation. The Laboratory has received two ERC 'Proof of Concept' grants, one building on the WORDS project, leading to the development of a FLEXible new approach to automatic Speech Recognition based on linguistic principles, the other for a project called MorSR to see whether using morpho-phonological principles could improve speech



recognition. Research conducted at the Laboratory has recently resulted in two international commercial patents for a 'Method and apparatus for automatic speech recognition'.

The Phonetics Laboratory's resources are mainly used by linguistics students, especially graduate students in Linguistics and in other departments working on speech. Hardware for physiological study includes electroglottography, labial electromyography, measurement of airflow, ultrasound tongue imaging, anatomical models, and tube models. The audio recording provision includes two small studios with high quality microphones and digital recording. The studios are equipped with specialized software for the presentation of visual and/or auditory stimuli. As well as excellent provision for research in speech physiology and acoustics, the computing infrastructure of the lab is outstanding: in addition to Linux and Windows/Netware computer networks, there is an extensive collection of software for speech analysis and synthesis. The Laboratory hosts a wide range of ongoing phonetics-related projects, spanning the audio edition of the Spoken British National Corpus (Coleman and others), to the Ancient Sounds project seeking to show how words sounded in the distant past (Coleman, in collaboration with the University of Cambridge), to Prosodic Variation in Indian Englishes (Payne in collaboration with the University of Melbourne), to the Greek in Contact project on the intonational patterns of Greek (Baltazani). The Laboratory's library contains a large collection of working papers from other labs, and a collection of journals, books, conference proceedings, theses and offprints; on-line dictionaries, papers, theses, and course notes; speech corpora; audio and video tapes.

# iii. The Research Centre for Romance Linguistics

The Centre (hosted jointly by the Faculty of Linguistics and the Faculty of Medieval and Modern Languages) brings together the many staff and graduate students (26 at present) associated with the Faculty whose research touches on the history and structure of Romance languages. It has also attracted a number of Romance linguists from abroad to spend time working in Oxford. It seeks to keep its members abreast of research in all Romance languages, especially via its programme of seminars, emphasizing the particular contribution that detailed knowledge of the Romance languages can make to current debates in general linguistic theory. Members of the Centre have generated about 100 publications over the past seven years, and research conducted by members of the Centre has contributed substantially to the Faculty's impact-oriented work on the southern Italian dialect of Bocchigliero, as well as to the *ISTROX* project on the severely endangered Istro-Romanian language.

# iv. The Libraries

In addition to the central Bodleian Library—which houses a large collection of books relevant to our discipline and a unique range of manuscripts and documents important to our philological activities—and the Sackler Library, a major repository of works in Classical linguistics and philology, the Taylorian Library contains the great bulk of our collection of books in general linguistics, and on the history and structure of medieval and modern European languages. All these libraries, each situated within a few minutes' walk of the Faculty, are fully accessible to, and extensively used by, our researchers. Oxford's total library holdings in general linguistics number tens of thousands of titles (approximately 25000 in general linguistics alone: our holdings in the linguistics and philology of individual languages are very substantial but difficult to calculate precisely). It is, for example, the Taylorian Library's extensive holdings on Italian and Romanian dialects which provided the initial stimuli and support materials for **Cappellaro**'s work with speakers of the Calabrian dialect of Bocchigliero, or the work led by **Maiden** (the *ISTROX* project) on the dying Istro-Romanian language.

Faculty members have collaborated in the supervision of graduate students with colleagues in the Universities of Helsinki, Kristiansand, Nijmegen, Konstanz, Zurich, Padua, among others. Oxford Linguistics scholars (**Wolfe**, **Paoli**) were actively involved in activities leading to the recently signed memorandum of understanding between the Universities of Oxford and Padua.



## 4. Collaboration and contribution to the research base, economy and society

#### Introduction

The Faculty contributes intensively, both nationally and internationally, to promoting and supporting research in linguistics and philology.

The Faculty's activities have repercussions well beyond the confines of academia on many fronts. A prime example is the major practical application of the *FlexSR* speech recognition programme (submitted as one of our Impact Case Studies). Another related case is our work with schools on promoting awareness of the historical relation between languages and cross-linguistic intelligibility as part of Oxford's *Creative Multilingualism* project. Such projects, and the results of fieldwork in the case of the endangered languages, have further inspired research in the Faculty through internal talks and seminars. Examples of some of these activities follow:

# Our research projects and their wider contributions to society and the research base Endangered languages

Our work on the structure and history of languages goes well beyond well-known standard languages. Across the Faculty there are several projects on endangered languages which transcend pure linguistic description and analysis in seeking to engage with the community of speakers in ways that seek not only to preserve and document these languages but also to involve the surviving speakers in the process and give them the means to transmit knowledge of them to younger generations. Some of this work is presented in two of our Impact case-studies (Linguistic archiving and collective memory: building the Bocchigliero museum project on a southern Italian language; and Preserving and revitalizing endangered languages covering work respectively on Breton, Enggano, and languages of Northern Sarawak). The Bocchigliero project has real and locally acknowledged potential to benefit the local economy. A further project, ISTROX, funded by Oxford's John Fell Fund, draws on the Hurren Donation, an extensive and generous gift to the Faculty of unpublished audio recordings and other material from the 1960s on the dying Romance language Istro-Romanian. The surviving members of the community (in Croatia, the US, and elsewhere), will be (partly online) in the analysis and interpretation of material which is part of their recent linguistic history and all of which will eventually be made freely available to them. The significance of this research has already led to two presentations at the Bodleian Library for the general public, under the auspices of TORCH.

The endangered languages projects were often originally sparked by our interest in phenomena of significance to phonological, morphological, or syntactic theory found in the languages explored. Thus, our work on languages of Northern Sarawak originates in research into information structure in those languages. Our work on Breton emerges from a study of the relationship between metrical structure, gender, and mutation. Our work on Enggano was stimulated by several typologically unusual features of that language. Our work on Bocchigliero arose from interest in the peculiar interaction of number-marking with gender in that dialect. Our work on Istro-Romanian is rooted in interest in the relation between gender and number-marking, in the peculiar morphology of aspect-marking, and in the genesis of novel inflexion classes, in that language. Beyond these particular projects, various strands of our research focus on aspects of endangered languages (e.g., Occitan, Francoprovençal, Romansh, Ladin, Friulian, Megleno-Romanian, Frisian). There have also been three series of Endangered Languages Seminars (2016, 2017, and 2019), organized under the aegis of the Bodleian Library, bringing together researchers interested in this topic from across the University, and covering some 20 different languages ranging from the northern Americas to Australia. The seminars have included talks on the general theory and methodology of language preservation. The series have also been accompanied by book displays and by the screening—organized by one of our early career researchers—of subtitled films in some of the languages presented.

FlexSR



The research associated with this speech recognition project has really major potential social and commercial benefits in addition to the innovative applications to language-learning systems presented separately as one of our impact case studies. Our strategy is to maximize this potential. The fundamental underlying components of FlexSR are lightweight and consume very little storage space, and do not require network connectivity. This is a particularly important feature for use where it is critical that the system continue working in a wide variety of geographical locations, such as command-recognition systems. Our system can be used in cars to control the entertainment system, climate control, etc., as well as in home assistant systems (e.g., turning on/off lights). FlexSR's acoustic model can be combined with a constrained grammar of commands that can be instantiated quickly and easily for any new language. Manufacturers are under increasing pressure to support a wider variety of languages, given the rapidly-growing market for example in India, where dozens of different languages are spoken. Corpora, especially of speech recordings, are not only expensive but relatively sparsely available for these languages, so that it is disproportionately expensive and time-consuming for manufacturers to train appropriate models using the current commercial approach. Since the phonological systems of the many languages of the world, even those that are under-resourced, are well studied, the requisite transcriptions can be made very quickly and cheaply. FlexSR can accommodate under-resourced languages easily, regardless of the availability of suitable training data. Two patents have been obtained on technical aspects of the prototype systems described above, and a third is in progress. The prototypes have also been used to provide demonstrations to a variety of potential investors, clients, and industry partners, including Tata Motors and IBM, as well as OUP.

Intonation and diachrony: how language contact shapes intonational patterns

This *ESRC*-funded project, led by Mary **Baltazani** (with Joanna **Przedlacka** and John **Coleman**) looks at how long-term language contact shapes the intonation of communities through past multilingualism, by looking at the history of Greek varieties in contact with other languages. It seeks actively to involve members of the speech communities involved (Greek, Turkish, Venetian) in their own linguistic history, for example through the exhibition *Echoes of the Past: Turkish, Venetian, and Greek* organized at the Hellenic Centre in London in October 2019.

## Wordovators

The *Wordovators* project, led by **Pierrehumbert**, has the goal of discovering the fundamental mechanisms that support the complexity of the lexicon in human languages. It combines mathematical modelling with large-scale experiments in the form of computer word games. Hosted on the web, the games recruit players from all over the world. Single-player games will explore cognitive factors in the creation and processing of novel words. Multiplayer games using a futuristic space-exploration scenario will investigate the interaction of cognitive and social factors in the development of shared vocabularies.

## British National Corpus

**Coleman** continues his involvement with publication of the *British National Corpus* and is involved in a project to crowdsource corrections to the corpus from 'citizen scientists'. The Corpus has been used by dictionary publishers (e.g., *Longman, Chambers, OED*) to add value to their products; it provides text and audio models of English usage and pronunciation for English-language teachers world-wide; the OCR examinations board has been using extracts of conversational material originally recorded in *Oxford's Phonetics Laboratory* as part of its examination matter for analysis of natural English conversation; *BNC* is used a source of data for natural languages technology and speech processing (e.g., the *Infochimps* company).

# Ancient Sounds

In collaboration with the University of Cambridge Statistical Laboratory, Oxford's Phonetics Laboratory, led by **Coleman**, has developed the *Ancient Sounds* project (supported by funding from *AHRC* and *EPSRC*) which aims to answer the question 'What did words sound like in the



past?', by developing methods to triangulate backwards from contemporary audio recordings of simple words in modern Indo-European languages to regenerate *audible spoken forms* from earlier points in the evolutionary tree. Since 2015 audio demonstrations have been made available to the general public via Twitter feeds and in a blog.

# Services to the discipline

The Faculty actively seeks ways in which it can help the study of linguistics and philology to flourish, nationally and internationally. Faculty members are warmly encouraged and supported to shape and guide scholarship in linguistics through memberships of editorial boards and reviewing. We now have involvements in several dozen journals and book series across the field.

We are active on the editorial or advisory boards of over 30 different journals or publication series across linguistics and philology (14 in general linguistics; 1 in phonology and phonetics; 3 in classical philology; 2 in historical linguistics; 1 in south Asian linguistics; 1 in psycholinguistics; 5 in Romance linguistics; 2 in semantics; 3 in sociolinguistics; 1 in Celtic linguistics). Among these journals and series are Language (Willis), Journal of Linguistics (Börjars, Dalrymple, Willis); Oxford Guides to the World's Languages (Maiden as co-general-editor); Phonology and Phonetics (Lahiri, series editor). Three members of the Faculty (Maiden, Dalrymple, and Probert) have, in succession, served on the board of Delegates of Oxford University Press, with special responsibility for publications in Linguistics. We have also served as publication referees (sometimes on multiple occasions) for a range of major journals and major publishers of linguistic and philological studies. These include refereeing book and chapter proposals for major academic publishers (10 publishers, among them Oxford University Press, Cambridge University Press, John Benjamin), and publication proposals for some 80 journals, among them: Acta Classica, Folia Linguistica Historica, French Studies, Glotta, Journal of Historical Syntax, Journal of Linguistics, Journal of Phonetics, Journal of Sociolinguistics, Language in Society, Language, Natural Language and Linguistic Theory, Neuropsychologia, Phonology, Cognition, Revue romane, Semantics and Pragmatics, Slavonic and East European Review.

## National and international dissemination of our ideas

We encourage members of the Faculty to present their research in national and international fora, and our contributions are much in demand. For example, we have, collectively, delivered over 100 keynote or plenary invited lectures in 25 countries, in Europe, north and south America, Australia, India, Japan, and New Zealand. These have included a number of lectures explicitly presenting and explaining our research to the general public (e.g., Cameron in Hong Kong, New Zealand, the UK, USA; Coleman in the UK; Husband in Canada). Among the internationally prestigious public lectures delivered have been: the *Annual Jenny Cheshire Lecture in Sociolinguistics*, Queen Mary University London (2017, Cameron); *Anna Morpurgo Davies Lecture, Joint Lecture of the British Academy and the Philological Society* (2015, Lahiri); invited plenary lecture at conference *Penser l'Europe*, organized on the occasion of the 100th anniversary of Romanian Unification, Bucharest (2018, Maiden); *Gray Lectures, Faculty of Classics in Cambridge* (Probert 2020). Our various lectures and presentations on documenting endangered languages in Indonesia and in south-east Europe (the former by Dalrymple in the UK and in Indonesia and the latter by Maiden, on Istro-Romanian, in the UK and France) have particular importance in diffusion of public understanding of language endangerment and the preservation of endangered languages,

We have contributed widely to advanced graduate training through presentations, workshops, and extended lecture courses in our various subject areas (for example, **Dalrymple** in the UK, Japan, Singapore; **Maiden** in Czech Republic, France, Italy, Romania, Switzerland, USA; **Paoli** in Sweden; **Probert** in UK and Netherlands; **Wolfe** in UK, Italy).

## Our contributions through visiting professorships and fellowships

We seek to foster international scholarly collaboration by welcoming visiting scholars to Oxford, and encourage our members to take up professorships and fellowships abroad. For example, **Wolfe** held a visiting professorship at the University of Padua where he presented his ideas on parametric theory and Romance languages, collaborated with colleagues on a grammar of old Venetan, and gave an internationally broadcast seminar on the Verb Second phenomenon; as



part of a visiting professorship at the University of Naples he discussed historical French syntax. collaborated in research on old Sardinian word order. Maiden held a visiting professorship at Institutul de Cultură al Universitătii din Bucuresti, in Bucharest (2017), during which he had highly productive exchanges of ideas with Romanian experts on issues in Romanian historical morphology, leading towards a forthcoming jointly authored volume: The Oxford History of Romanian Morphology (OUP 2021). Dalrymple was able to develop and present her research in Lexical Functional Grammar and on language endangerment as guest professor at the Laboratoire de Linguistique Formelle, Université Paris Diderot, Ngee Ann Kongsi Visiting Professor at the National University of Singapore, visiting researcher at the Department of English Language and Literature, National University of Singapore, visiting fellow at the Centre for Advanced Study of the Norwegian Academy of Science and Letters, and visiting professor at Universitas Pendidikan Indonesia, Bandung, Indonesia. Probert held a Spinoza visiting scholarship in the Classics Department of the University of Leiden (2019), including collaborative research on ancient grammatical thought in the Graeco-Roman tradition. She is busy maintaining and reinforcing the productive links with scholars at the University of Leiden. Payne has received a Leverhulme International Academic Fellowship, which will involve her being based for long periods in India and Australia. This will involve collaboration with the University of Melbourne School of Languages and Linguistics phonetics laboratory, as well as with its Research Unit for Multilingualism and Cross-Cultural Communication and also with the University of Hyderabad and with the Speech and Language Processing Laboratory, at the English and Foreign Languages University, Hyderabad.

The international academic visitors we welcome to Oxford are of various kinds. Professor Anita Mehta (Leverhulme Visiting Professor; modelling of speech perception) came to us with external funding and against strong international competition. Some of our visitors have benefited from visiting fellowships offered and funded by Oxford colleges: Professor Cecilia Robustelli (Università degli Studi di Modena e Reggio-Emilia; Visiting Fellow at Trinity College, Italian linguistics); Professor Frans Plank (Konstanz, Senior Research Fellow in Linguistics at Somerville College in morphology, syntax, typology, historical linguistics). Others have been externally funded by their home institution or by national research funds: Dr Manuel Badal (Valencia, Spanish linguistics); Professor Kyunchul Chang (Pusan, English and Korean linguistics); Professor Alexandru Nicolae (Bucharest, Romanian linguistics); Professor Henning Reetz (Frankfurt, phonetics and phonology); Dr Serena Romagnoli (Zurich, Italian linguistics); Dr Elena Siminiciuc (Neuchâtel, Romanian linguistics and semantics).

Many of these visiting scholars have enthusiastically contributed to our own research and teaching by giving invited seminar papers, and these events have been major opportunities for our early career researchers and graduate students to interact with them.

# National and international profiles of our research

The influence and impact of our research, and our achievements in developing and promoting linguistics and philology, have borne fruit in various honours, prizes, awards, and prestigious appointments.

Aditi **Lahiri** was made *Commander of the British Empire* in the 2020 New Year's Honours list for her distinguished service to the study of Linguistics. Martin **Maiden** was made *Comandant* ('Commander') in *Ordinul Naţional «Serviciul Credincios»* (the National Order for 'Faithful Service') of the Republic of Romania, by decree of the President of Romania, in 2014: the award cites Maiden's services to the study of the Romanian linguistics and to the dissemination of Romanian language and culture in Britain.

Three members of the Faculty received prestigious awards in recognition of the overall quality of their research: Andreas **Willi** was awarded the German *Forschungspreis der Alexander-von-Humboldt-Stiftung* (worth EUR60,000) for his outstanding achievements in research and teaching; Aditi **Lahiri** won the 2018 *Oxford Vice Chancellor's Innovation Award* for 'inspiring research; Janet **Pierrehumbert** received the *International Speech Communication Association*'s *Scientific Achievement Medal* in 2020.

An example of recognition of our work on the linguistic study of individual languages is **Maiden**'s receipt (2018) of the *Timotei Cipariu* prize of the Romanian Academy for the most



distinguished publication in Romanian philology and linguistics of the year 2016, awarded for his contributions to publication of *The Syntax of Old Romanian* (OUP). Maiden was made (2019) a *membro corrispondente* of the Italian *Accademia della Crusca*, the most important and ancient body for the study and dissemination of the Italian language and in the same year was elected an Honorary Fellow of Downing College, Cambridge, in recognition of academic distinction. Our success in encouraging research in the area of sociolinguistics is reflected in the award in 2014 to Jamie **Findlay** (then a graduate student, now Departmental Lecturer) of the *International Gender and Language Association* graduate student essay prize (for an article later published in the *Journal of Language and Sexuality*).

Our defence, support, and leadership of research on the national and international stage We continually promote, defend, and lead, research in linguistics, philology, and phonetics on the national and international stages by maintaining a strong and active presence in learned societies, funding agencies, and the like.

A number of us have held presidencies of learned societies. **Lahiri** was elected UK President of the *Alexander von Humboldt Stiftung* in 2015, President of the *Philological Society* (Britain's oldest and foremost learned society for the history and structure of languages) in 2017, and Vice President (Humanities) of the *British Academy* in 2018. **Maiden** was elected in 2019 Vice-President of the *Société de Linguistique et de Philologie Romanes* (the world's foremost society for the study of the linguistics and philology of Romance languages), with the expectation that he will become President of the Society from 2022.

We are a presence in various learned societies. Four members of the Faculty are *Fellows* of the British Academy (**Dalrymple**, **Lahiri**, **Maiden**, **Willi**), **Willi** having been elected to a Fellowship in 2020. **Lahiri** is a member of Academia Europaea and three more members of the Faculty have recently been appointed to it (**Probert** 2016; **Dalrymple** and **Maiden** 2018). **Pierrehumbert** was elected to the American National Academy of Sciences in 2019, while **Frellesvig** was elected a Fellow of the Royal Danish Academy of Sciences and Letters in 2019.

For well over a century Oxford linguists and philologists have been a major presence on the Council of the *Philological Society*. This tradition has been strongly upheld in the review period: in addition to **Lahiri**'s presidency of the *Society*, six of us (**Probert, MacRobert, Meyer, Maiden, Wolfe, Willis**) are or have been on the Council as ordinary members, another (**Ashdowne**) is honorary secretary, and two of our former doctoral students (Robin **Meyer** and Zeprina-Jaz **Ainsworth**) have served as student associates.

# Support for research funding bodies internationally

We have been active in supporting international and national research funding bodies—as referees, reviewers, and consultants. The national and international bodies we have served span:

Europe: European Research Council (**Probert**); European Science Foundation (**Willi**); HERA, Humanities in the European Research Area (**Fellerer**)

Italy: Agenzia Nazionale di Valutazione del sistema Universitario e della Ricerca (Willi)

Austria: Scientific Advisory Board of the University of Vienna (Lahiri)

Belgium: Fonds voor Wetenschappelijk Onderzoek (Lahiri, Willis)

Croatia: International Board for the Re-accreditation of the Philosophical Faculty, University of Split, Croatia (Fellerer)

Denmark: Danmarks Frie Forskningsfond (Maiden)

Germany: Deutsche Forschungsgemeinschaft (Lahiri); Deutsche Akademische Austauschdienst (Paoli)

Italy: *PhD. Advisory Board*, Università di Padova (**Wolfe**); *Collegio di dottorato*, Facoltà di linguistica «Salvatore Battaglia», Università degli Studi Federico II, Naples (**Maiden**)

United Kingdom: Endangered Languages Documentation Programme; Newton Fellowships (Maiden); Management Committee of the Joint Association of Classical Teachers Greek Summer School (Probert). Numerous colleagues have participated in evaluations for AHRC and Leverhulme.

# Unit-level environment template (REF5b)



United States: *National Endowment for the Humanities* (**Fellerer**); *National Science Foundation* (**Husband**; **Lahiri**)

Netherlands: Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Lahiri); Netherlands Institute for Advanced Studies (Fellerer)

Poland: Narodowe Centrum Nauki (Willis)

Spain: Evaluation committee for the restructuring of the *Instituto da lingua galega*, Universidade de Santiago de Compostela (**Maiden**)

Sweden: Vetenskapsrådet (Willi); Riksbankens Jubileumsfond (Hoge)

Switzerland: Swiss National Science Foundation Fellowship Awards (Maiden)