

Institution: City, University of London
Unit of Assessment: D33 Music, Drama, Dance, Performing Arts, Film and Screen Studies
<p>1. Unit context and structure, research and impact strategy</p> <p>Introduction</p> <p>The Department of Music at City remains a vital, energizing and innovative hub that leads cutting-edge research across numerous local, national and international networks. Our research profile is highly varied relative to our size and often characterised by a practice-based emphasis on contemporary music-making, even when this is predicated on research into historic music cultures. While our reach is international, our central London base attracts sizeable audiences for our extensive series of concerts, conferences and symposia.</p> <p>Over this REF period we have expanded our research staff base from 9.2 to 11.8 FTE. This now comprises four professors (Cottrell, Lingas, Mera, Nooshin), two readers (Armstrong, Pace), four senior lecturers (Einbond, Loya, Molitor, Rennie), and two more recent lecturers (Browning [2020+], Nystrom [2018+]). We have increased our professional service support by 1.0 FTE and improved on several key metrics: more than doubling external grant income, significantly expanding non-HESA income, and increasing total PhD completions. Our vibrant community of doctoral researchers is at the heart of our activities and remains an important component of the cosmopolitan research environment that has long characterised our work.</p> <p>Strategic aims since 2014</p> <p>In REF2014 we pointed to our research strengths in 1) ethnomusicology; 2) the interface between music and technology (notably in relation to music and other media); and 3) various relationships between music scholarship and performance. Many of our research activities continue to coalesce around these broad themes, but we have consciously developed the interstices between them as well as expanding our activities in other longstanding disciplinary interests. This is especially the case in relation to music analysis, where Loya's appointment has stimulated more departmental activity in this sub-field (both he and Pace are elected trustees of the Society for Music Analysis [SMA]) as detailed in #4 below. Together with Nooshin's work in ethnomusicology and music analysis, they demonstrate a strategic augmentation of our overall research profile and a fourth area in which we now provide disciplinary leadership.</p> <p>Three key drivers have underpinned research activity over the period: KD1) implementing the bold impact strategy that we set out in REF2014; KD2) increasing our international reach and thus our global disciplinary research leadership; and KD3) explicitly developing our research expertise in the relationship between scholarship and practice across a range of sub-fields. Much of the research activity laid out in this submission demonstrates how we have operationalised these key drivers; two new initiatives provide specific examples:</p> <p>1) In 2017 we established a new research centre SPARC (Sound Practice and Research at City), jointly directed by Einbond, Molitor and Rennie but involving Armstrong, Mera, Nooshin and now Browning, to promote creative and scholarly work on sound and composition practices. The Centre has its own record label (multi.modal recordings, with professional distribution via</p>

NMC of the three releases so far) curated by Molitor and Rennie, and holds an annual symposium that brings together scholars and practitioners. The first symposium (2017) resulted in a special issue of *Tempo* as well as reviews of the recordings in *The Wire* and other publications. The Centre is directly funded by the department's research committee, but members have also leveraged other funds, such as £2k of HEIF funding given to support the 2019 symposium. We have further supported the Centre's development through targeted PhD studentships and fee waivers for researchers producing cognate work (e.g. Hoffman, Asmundsdottir) as well as retaining active links with affiliated postdoctoral researchers (e.g. Cole, McKay). Various invited international guests—e.g. Martin Buckner (USA), Bernhard Lang (Austria)—have participated in these symposia.

2) Also in 2017 we formed the City Pierrot Players, an in-house ensemble comprising staff and professional musicians directed by Pace. It was inaugurated as part of a study day on musical modernism and *commedia dell'arte* (06.06.17), providing both scholarly and performance investigations of this tradition, but has given several subsequent concerts involving contemporary material, such as the *Decennials* concert (27.11.18) which celebrated the birthdays of, and collaborated with, several living composers, including Hans-Joachim Hespos (Germany) and Kunsu Shim (Germany/South Korea).

These two initiatives exemplify how the key drivers shape our work overall: they generate impact through concerts, recordings and other public-facing activity (KD1); they increase our international engagement (KD2) through their association with distinguished overseas artists; and they illustrate through wide-ranging textual and practical activities a commitment to interrogating relationships between scholarship and practice in a range of different domains (KD3).

Impact strategy

Implementing KD1 has generated numerous impactful research activities, viz.: the international performance commitments of scholars such as Lingas and Pace; the many national and international public performances of compositions by Armstrong, Einbond, Molitor, Nystrom and Rennie; extensive and wide-ranging commitments to public musical performances taking place in our concert hall and other local spaces; engagement with schools and other educational contexts by Lingas, Nooshin and Pace; and extensive international media contributions in print, online and on air from all team members.

Our impact case studies are microcosms of these broader activities. Lingas's work researching and performing Byzantine chant, and Pace's collaborations with myriad composers developing contemporary piano repertoire, evidence our research expertise in the relationship between scholarship and practice (KD3) and are exemplary within the field for the way they convert rigorous scholarship into professional music performance. They comprise extensive international performances, further dissemination via numerous recordings, wide-ranging media work, and associated educational and outreach activity that generates new audiences and informs existing ones. While global in their scope and in the recognition they command, they are strongly connected to research activities undertaken on campus: both case studies combine their international work with performances undertaken in our own concert series; they are closely connected with completed and ongoing doctoral research projects; and they regularly feed into

our research seminar series and other conferences, thus linking our 'local' and 'global' research activity in a mutually productive fashion (KD2).

It is a measure of the extent of our impact activities—relative to our size—that two further case studies were considered for inclusion: Nooshin's outreach and educational work relating to Iranian music culture was highlighted in REF2014 and has extended its impact during this period; and our recently established research centre SPARC supports a range of impact activities that would already comprise a meaningful case study.

This widespread impact activity has been facilitated by our 2014 pledge to 'support public dissemination of our research through the allocation of Department and School funds, [and] to take advantage of other funding sources...whenever possible'. The financial specifics are detailed in #3, but we have consistently delivered on this pledge. Internal mechanisms include: impact-specific departmental funding awarded via our Research and Ethics Committee to nearly all staff over the period; institutional pump-priming awards for Einbond, Nooshin and Rennie; and HEIF monies awarded to support impact work for nine members of the team. External funding streams include: a £10k KTP Innovation Voucher for work with Arcola Theatre (Cottrell); Arts Council England monies and similar to support public installations in collaboration with festivals and other organisations (Molitor) and education work (Nooshin); support from local councils and the National Lottery for the *Walls on Walls* community-building arts engagement project (Rennie); and a wide range of UK and international festivals and other performance organisations for the public dissemination of research by our performers and composers (notably Lingas and Pace). Our consistent success in gaining and deploying these funds demonstrates a recognition of the importance of research impact, and a commitment to producing it, that runs throughout the team.

This extensive impact footprint arises in part from our 2014 commitment that, when appointing new staff, we would 'assess not only the international quality of their research but also its potential impact'. Thus, several staff were appointed in part because of the public-facing nature their research already evidenced. Molitor's research prior to her appointment, for example, included work with the Tate Gallery, Turner Contemporary and the Science Museum, which prefigured her 2016 *Singing Bridge* installation on Waterloo Bridge produced as a staff member. Rennie had similarly undertaken the first *Walls on Walls* project prior to his appointment in 2016 as well as a comparable project working in the favelas of Maré, Rio de Janeiro.

We have also developed impact awareness within our PGR community, particularly through effective use of AHRC Cultural Engagement monies. Thus, Howell built on her 2015 thesis about Boosey & Hawkes by constructing 3D-printed clarinet mouthpieces from manufacturer's technical drawings, which performers have used on surviving instruments; this also resulted in a jointly authored paper with her supervisor (Cottrell). Lingas worked with Antonopoulos to organise a study day on the teaching of Byzantine music in the diaspora, involving UK and Greek academics, members of Cappella Romana and the School of Byzantine Music; talks and follow-up interviews were broadcast on London's Hellenic TV.

We have further expanded our impact footprint by developing our concert series into a regular and well-attended feature of London's musical landscape, described by Robert Barry in *The Wire* magazine (December 2016) as a 'superb London concert series'. To support this, and our broader performance activity (including our three-week City Summer Sounds music festival), we

have invested in a dedicated 0.6 Performance Officer Leo Chadburn (also an award-winning composer). As planned in 2014, we have ‘privilege[d] in our concert schedule the performance of new artistic works, especially those by staff or doctoral students’. For example, the premiere of Molitor’s *You Touched the Twinkle on the Helix of my Ear* was given in May 2018, and a concert by the Riot Ensemble in April 2019 gave UK premieres not only to Einbond’s Kate Frankenstein but also doctoral researcher Rodgers’ *Maeshowe*. Between October 2016 and March 2020 we staged 85 world premieres and 29 UK premieres. Annual audience figures for concerts on site = c.2000 for each season 2016-19, with audiences largely comprised from external visitors rather than students or staff. Several of these events have been recorded for broadcast on BBC Radio 3, further illustrating the significance and national impact of the series. Examples include the concert by An Assembly, featuring music entirely by younger composers, broadcast on 10.06.17; or the concert by Explore Ensemble, broadcast on 21.03.20, featuring premieres by John Croft and Edwin Hillier.

We have also asserted our presence more strongly elsewhere on the London scene, via research collaborations that go beyond our own performance spaces. Examples include our two-day celebration in September 2016 of the work of musicologist Bob Gilmore—*The World According to Bob*—partly curated by Armstrong with performers including Pace, and held in collaboration with Café Oto in Dalston, parts of which were again broadcast on BBC Radio 3. And we regularly collaborate with the Iklectik venue near Waterloo for concerts and other events, such as the research symposia organised there by SPARC on both 14/15.09.18 and 14.09.19, in which presentations and performances were split between the venue and our own performance spaces, thus externalising our research activity for local London audiences.

Interdisciplinary research

Much of our interdisciplinary work involves links with computer science. Lingas’s collaboration with professors of both Art History and Computer Science at Stanford University provides an outstanding example. Working with the vocal group Capella Romana, the *Icons of Sound* project endeavours to recreate the sonic experience of Byzantine liturgical chants as they would have been originally heard when performed in Constantinople’s Hagia Sofia. Project outputs have been made available on CD, DVD and film (and are included here in both REF2 and REF3), with the CD reaching the top spot in the Billboard ‘Traditional Classical Albums’ chart in March 2020 and being voted the #2 release overall for that year. Similar interdisciplinary collaborations are embedded across the team. Cottrell undertook a CI role in the *Digital Music Lab*, an AHRC-funded project involving partners (mostly computer scientists) from five HE institutions and the British Library, investigating Big Music Data. The project resulted in several co-authored publications and an open-access resource allowing researchers to analyse a dataset of more than one million audio recordings. Einbond’s research has a significant computational component, as evidenced by his current participation in a network led by Georgina Born on Music and Artificial Intelligence and his ongoing collaborative work with IRCAM in Paris. Mera has similarly collaborated with computer scientist Dr Simone Stumpf to research eye-tracking as an indicator of the effectiveness of film music. Armstrong co-supervised the PhD research of Andrew Lambert with Tillman Weyde in City’s Department of Computing, resulting in four co-authored papers; Lambert went on to receive the 2016 Silver Prize from the Worshipful Company of Technologists, awarded for ‘outstanding contribution to the field of Computer Science’.

Open research environment

While recognising that Music faces particular challenges in relation to open access, we make as much of our research as possible freely available, and all staff have ORCID identifiers. City Research Online hosts most of our textual outputs, subject to publisher embargos, with 207 such outputs uploaded over the period. Armstrong has developed an open-source programming library (FOSC) for object-oriented generation of musical scores, freely downloadable from Github. The SPARC website has several downloads that showcase ongoing creative work. Our departmental blog also provides snapshots of current departmental research as well as hosting videos of some of our research debates (such as 'Practice-as-Research' in 2015 and 'Are We All Ethnomusicologists Now?' in 2016). Several of our practice-based projects have extensive freely available resources. Each of Rennie's *Walls on Walls* installations have downloadable sound files generated from that project (presently amounting to c.2k streams); Molitor's *Auricularis Superior*—selected for the ISCM 2019 World Music Days—is similarly freely downloadable. Lingas's group Cappella Romana continues to expand its web-based media activities, with over 20,000 people watching the live feed of the ensemble's September 2017 concert in Iași, Romania. A 2008 recording uploaded by a fan to YouTube has over 1.3m plays, while other YouTube videos from the group, all evidencing outcomes of Lingas's research, range from c.330k to c.710k views, and streams from Spotify of various tracks amount to more than 750k since 2015 alone.

Future goals

Over the next cycle our research activities will continue to coalesce around the four areas outlined above. We will particularly develop our music analysis work, thus shaping the current resurgence of this sub-field within the discipline. Notwithstanding the uncertainty of the research funding environment, increasing overall amounts of grant capture and improving our FTE income metric by at least 50% will remain a strategic priority. We will make major investments in our already excellent research facilities. Generating impact (KD1) will remain central to our activities. We will sustain a broad range of impactful research that traverses performance, creativity and scholarship, funded from a range of sources. We will develop, through conferences, publications and similar, a national and international leadership role as disciplinary 'impact champions', disseminating our expertise for the benefit of both academic colleagues elsewhere and the discipline's PGR community. Demonstrating the potential for high-quality impact will remain an essential or desirable criterion when advertising staff positions that include a significant responsibility for research. We will build on the internationalisation advances (KD2) we have made in this cycle by assembling or joining international networks and teams of eminent researchers with cognate interests. In particular, we will disseminate our creative practice outputs at the highest professional levels and expand our activities wherever possible, generating new audiences and linking these activities with excellent research scholarship (KD3) in a mutually productive fashion. These key drivers will be particularly enhanced through our further development of SPARC, and we will use this research centre not only to enhance grant capture activities and international networking but also to increase the number of legacy outputs available (recordings, films, texts), particularly via open access.

2. People

Staffing strategy

Staffing FTE has increased over the period from 9.2 to 11.8, with five new appointments made since 2014 (Browning, Einbond, Molitor, Nystrom, Rennie) and Loya's interim appointment being made permanent. The impact of Loya's appointment in rejuvenating our work in music analysis is noted above. The appointments of Einbond, Rennie, Molitor and Nystrom have all served to enhance our creative and scholarly work in relation to music, sound and technology. They have been instrumental in establishing and developing SPARC. Browning's ethnographic research into sound art creativity adds a further dimension to this work, as well as illustrating our ongoing commitment to ethnomusicology in general.

Whereas our 2014 profile was comprised largely of lecturers and senior lecturers, with just one professor, we now have four professors, two readers, and all other staff at senior lecturer level except our two most recent appointments. All staff with new ranks have progressed to them rather than being appointed from elsewhere. This illustrates both our enhanced research stature and our capacity to develop individuals, because all promotions must satisfy strict research quality criteria and reader/professor appointments are externally reviewed and validated. It is also testament to the supportive environment existing within the department since all applications for promotion are scrutinised by more senior colleagues before being submitted for institutional consideration.

Staff support and development

All new staff are appointed a mentor from within the department, part of whose remit is to support the development of the new appointee's research profile. ECRs are encouraged to apply for university pump-priming awards, which are intended to strengthen future funding applications or lead to high-quality publications. For example, Einbond received £5k in 2016/17 for collaborative research with the US quartet Yarn/Wire leading to performances of *The Kind of Problem a City Is* in both London and Chicago; and Rennie £4.8k in 2017/18 towards the costs of making a short film about a site-specific *Walls on Walls* installation in Camden.

The departmental Research and Ethics Committee provides an important mechanism for sustaining and vitalizing our research activity. Over the period some £65k of funds has been distributed to staff and doctoral researchers, with awards ranging from small reimbursements for UK travel or conference costs to awards of more than £1k for international activities. Between 2017-19 alone, for example, funds were awarded to Pace for primary research in der Akademie der Künste (AdK) and Staatsbibliothek, Berlin; to Rennie and Molitor to support publication and dissemination costs for the multi-modal record label; to Nooshin to support grant writer costs; to Armstrong to enable attendance at a premiere of his work in Australia.

Our workload model generously allocates 40% of staff time for research, while all staff can also apply for sabbatical leave after seven terms of service, subject to approval of research intentions. Outcomes are followed up via written reports to the School Research and Enterprise committee and during staff appraisals. Over this REF cycle, ten periods of sabbatical leave have been approved, for eight different members of staff; Lingas was also granted study leave for one

term, externally funded by the Oregon foundation, and a further 2020 grant facilitating a 0.5 research buy-out to concentrate on Capella Romana activities for the next 2.5 years.

Our commitment to staff development goes beyond permanent contract holders. ECR Kyle Devine was submitted in REF2014 and subsequently appointed at the University of Oslo in part on the strength of a research profile that we helped develop during his fixed-term contract. Graham Griffiths, also on a fixed-term contract with us in 2014 but who has long been a visiting lecturer and research fellow, has similarly been supported financially for several research trips to Russia in support of his Stravinsky research.

Postgraduate Research

We sustain a strong PGR community that remains large relative to our staff base. While very recent staffing appointments have slightly diluted our overall PGR student/staff metric (down from 3.0 in 2014 to 2.7 in 2020) our total number of PhD completions has risen over the period from 28 to 32; 27 doctoral researchers are presently registered. The Senior Tutor for Research (currently Armstrong) provides research leadership for PGRs and also takes responsibility for progression monitoring. Timely completion rates are evidence of high-quality support; during a periodic review of PGR programmes in 2019 it was noted that our average completion rates were 3.94 years for FT students and 6.03 years for PT students.

As noted in REF 5a, the Doctoral College oversees a Researcher Development Programme for PGRs which provides training in qualitative and quantitative methods, research ethics, thesis writing, viva preparation, etc. This is augmented at department level with music-specific research seminars, composition workshops, careers sessions, etc., in which PGRs participate and, on occasion, lead. All doctoral researchers are reviewed annually. Where progress appears unsatisfactory, remedial measures are agreed between the individual and the department. Continuing unsatisfactory progress is likely to result in withdrawal from the programme. The department institutes a rigorous PhD upgrade process in which, within approximately 18 months (FTE) of registration, ongoing work is scrutinized by two members of staff. PGRs are expected to demonstrate competence across a range of criteria including originality, methodology, research independence and familiarity with relevant literature. All researchers must present at least one paper every year as part of the department's seminar series and they receive feedback on their presentation from their supervisor and others present.

Most doctoral researchers are supported with departmental funds at some point in their programme to give conference presentations or for other activities (University or UKRI studentship holders have an automatic entitlement of £1,000 over three years). In 2018/19, for example, c.30% of the departmental research committee's expenditure was on doctoral researcher activity. This included attendance at conferences in New York (Simmons-£500) and Portugal (Penev-£191), as well as invited talks in Iceland (Dysers-£350) and Turkey (Lolovar-£500), among others. Rodgers was also supported with funds (£413) to undertake high-quality recordings of two of her compositions, later released on the record label All That Dust.

The level of support given to our doctoral researchers, and the rigorous critique of ongoing work that we provide, has resulted in achievements by them that are impressive and wide-ranging. Monographs such as *Pioneer Female Violin Virtuosi in the Early Twentieth Century* (Routledge, 2019) by Goldberg, and *Contemporary Worship Music and Everyday Musical Lives* (Routledge,

2017) by Porter, were both derived from their PhD theses. Others have published in journals as diverse as *Ethnomusicology* (Sylvanus), *Perspectives of New Music* (Cole), *The Galpin Society Journal* (Howell), *Ethnomusicology Review* (Wilford, Messeder), *The Journal of the International Association for the Study of Popular Music* (Wilford), etc. Cagney is also now co-editor of *The Oxford Companion to Spectral Music* and a contributor to the *Routledge Companion to Musical Modernism*.

We transfer our departmental impact expertise to help our doctoral creative practitioners make their own significant contributions to the economy and society. Our composers have enjoyed particular success. Bailie already has an extensive international composition career. Her orchestral piece *To Be Beside The Seaside* (part of her PhD portfolio) received its world premiere in Glasgow at the Tectonics Festival in May 2015, performed by the BBC SSO. She curated and produced the Cut and Splice festival of experimental music for BBC Radio 3 in 2015 and was awarded a prestigious DAAD Scholarship in 2016; Rodgers was awarded a Daphne Oram Prize in 2018 and also commissioned by Riot Ensemble, leading to the premiere of *Maeshowe* at Nordic Music Days; Lolavar's opera *ID, Please* was premiered at Pittsburgh Opera in 2017, live-streamed via the Carnegie Mellon University website, and performed again as part of the Tête à Tête Opera Festival at The Place in London in July 2017; Higgins' opera, *Schutzwahl* was also performed at RADA as part of the same festival in August 2017. Cole was awarded c.£13k from Arts Council England for his Earth Music workshops, which encourage primary school children living in urban environments to develop connections with nature through music. He also ran workshops in Islington schools as part of our community engagement work.

Achievements by performers are similarly impressive. Antonopoulos has worked alongside his former supervisor Lingas in a variety of settings, including as a fellow scholar-performer in Cappella Romana, and has led his own ensemble Psaltikon at conferences and workshops in Europe and the USA. Pianist Karpeyev has recorded works by Nikolay Medtner (the subject of his thesis) for Chandos Records, curated the First and Second International Medtner Festivals (2016, 2017) and has been appointed Music Curator at Pushkin House, London.

We recognise that only a small proportion of doctoral researchers now move into HE careers, but we provide Graduate Teaching Assistant experience to ensure individuals are well prepared for post-doc and/or permanent positions if desired. Dysers, for example, was awarded a prestigious Fulbright scholarship to undertake research at Columbia University (which will be followed by a further post-doc position at Uppsala funded by the Swedish Research Council), and Wilford has a similar post-doc position at Cambridge. Those moving into permanent positions include Porter (now at Erfurt, Germany), Crowdus (Hanover, Germany), Green (Huddersfield), Simmons (Liverpool) and Sylvanus (Nigeria). Part of our success in this area lies in generating understandings of how doctoral researchers can contribute to the disciplinary base even at an early career stage. Conference organisation provides useful training in this respect. Thus, Wilford was supported to organise a conference on 'Music, Technology and Digital Cultures in the Middle East and North Africa' at City in 2017, attracting c.40 delegates. Dysers was similarly helped to convene the Again and Again conference held at City in 2019, receiving £1k from the department as well as successfully raising external funds from the RMA and SEMPRE, and attracting c.75 delegates. In both cases these conferences were closely connected to their theses and provided significant networking and profile-raising opportunities for the individuals.

Our doctoral researcher community is a vital component of our work and deeply embedded within our overall research environment. The achievements noted demonstrate our ongoing commitment to regenerating the disciplinary base, and our success at doing so, in many different parts of a heterogeneous field.

Equality, Diversity and Inclusion

The music studies field has particular challenges to address in relation to equality, diversity and inclusion (EDI) and we are proactively seeking to improve the status quo. In 2019 we advertised two PhD fee waivers (one supported by a donation re-directed for this purpose) specifically framed to encourage applicants from under-represented groups, successfully awarding one of these within our target group. The same year we invited Chi-Chi Nwanoku—founder of the Chineke! Foundation, which promotes diversity in classical music—to give our distinguished annual lecture on the diversity challenges within both music academia and professional music-making. We hosted a *joint RMA/NAMHE seminar on 'Interrogating Equality, Diversity and Inclusion in Music: BAME routes into and through Higher Education'* in May 2019, which then led to a one-day conference on 'Equality, Diversity and Inclusion in Music Higher Education' again organised at City in January 2020. This was in partnership with all leading UK music HE scholarly organisations and attracted c.70 participants. Nooshin has demonstrated particular leadership in this area, organising two conference panels on musicology and parenting at the BFE and RMA conferences in 2019 as well as giving a keynote talk on EDI issues at the BFE/RMA PGR conference in 2019. *She is the co-founder and co-chair of the Equality, Diversity and Inclusivity in Music Studies Network and chair of the RMA EDI Working Group; she also acts as an advisory panel member for the AHRC/BBC project 'Celebrating the Contribution of Black, Asian and Ethnically Diverse Composers in Classical Music'* and has been invited to take part in the AQA's review of EDI representation in the music specifications of their awards.

3. Income, infrastructure and facilities

Scholarly infrastructure

Research leadership in the department is distributed among several roles, including Head of Research (Lingas), Senior Tutor for Research (Armstrong), chair of the Research and Ethics Committee (Einbond), research seminar organisation (Loya), all overseen by the Head of Department (Pace). These roles have rotated throughout the team over the period, facilitating both refreshed approaches in the different areas as well as opportunities to develop research leadership. These departmental roles are supported at School level by Associate Deans for Research (Mera 2016-19) and Postgraduate Research (Cottrell 2017-20). Since 2019, Mera has also served as Deputy Dean (and for a period as Interim Dean) and Cottrell as Assistant Vice-President leading City's Doctoral College. Music has benefitted from having two members of staff undertaking these senior research-related roles for much of the REF period, since this provides cross-disciplinary insight into research development mechanisms as well as strong links with overarching university and national agendas. Our increased success in external grant capture and the promotion of many staff into more senior roles have in part been underpinned by the more rigorous internal review processes implemented following internal dissemination of this senior experience. All funding bids (internal and external) are subject to peer review within the department by members of the Research and Ethics committee or other appropriate staff.

Applications for external funding must also be submitted to the peer review college that operates within the School.

Specialist support is offered by the School's research office, which comprises a Business Development Manager (facilitating engagement, knowledge exchange and impact) and a Research Impact Officer. A Research Services Support Manager, Support Officer and Finance Manager assist in identifying opportunities for external research funding, application development and submission, peer-review processes, distribution of awards and project management and external reporting. Further assistance is provided at institutional level by the Research and Enterprise Office, which has additional responsibility for research integrity, contracts, intellectual property rights and commercialisation, knowledge transfer, etc. The Publications team, based in the Library, provide staff support and manage City Research Online (CRO), the institutional open access repository for research outputs.

Income

We have more than doubled our HESA-reported grant capture since 2014. Staff in Music have led on 32 bids with a success rate slightly above 28%. Funds awarded reflect the breadth of our activity: interdisciplinary research such as Cottrell's AHRC-funded Big Music Data project; collaborative work exemplified by Einbond's award from the Sasakawa Foundation for a residency project involving UK and Japanese composers; and our impact activities, such as Lingas's award from the Oregon foundation to support his work with Cappella Romana or our use of AHRC cultural engagement funds for our impact work with doctoral researchers.

Staff generating external funding are given additional leave in full when such funds are intended to support this (subject to a minimum of 20% teaching buyout funding being secured). The School also has a notably generous formula to allocate Research Sustainability Funding into a PI account—8% of grant income received plus one third of funding received for PI time—which can be further used to support RA appointments, conference attendance, research equipment purchase, etc.

Nearly 60% of our staff research is embedded in areas of musical practice. External grant capture is arguably more difficult in these fields, particularly in relation to composition, which is often predicated on 'lone scholar' activity. While this has consequences for our overall grant income registered per FTE member of staff, it is more than offset by the extensive and often impact-related non-HESA income streams we generate. Over this REF cycle staff were awarded a total of £357,844 in this category. This breaks down as £189,356 for performance activities directly related to research outputs; £131,700 for broader impact work arising from research, sometimes including commission fees; and £36,788 for commission/installation fees, sometimes including ancillary costs related to first performances. Funders include Arts Council England, Camden Council and The Big Lottery for Rennie's *Walls on Walls* project; APRA AMCOS (Australia) and the RVW Trust for composer commission fees; the Iran Heritage Foundation to support Nooshin's work with Tiny Owl Publishers, and a wide range of festivals and other performance organisations—e.g. Utrecht Early Music Festival, The Art Institute (Chicago), Ultima Festival (Oslo), TRANSIT Festival (Leuven)—as part of the international performance activities of staff.

Ongoing grant capture activity is further reflected in our use of HEIF funds to underpin our impact work. While such funds are awarded after internal rather than external competition, they nevertheless illustrate a continuing commitment across the team to develop research impact using as wide a range of funding streams as possible. 23 awards were made to nine different members of staff, totalling £82,329. Awards sustained an array of projects, including two awards of £5.7k and £5k to Pace to support recordings of the complete piano works of Brian Ferneyhough (2019) and Sam Hayden (2020); £5k to Nooshin to support composition, recording and filmmaking work in relation to *The Phoenix of Persia* project (2018); £4.4k to Armstrong to support production costs of a portrait CD on Hat Hut records (2017); £2k to Einbond to support the costs of staging his site-specific chamber opera *Hidden in Plain Sight* on the streets of Aix-en-Provence (2015); £4k to Mera for work with EXAUDI on performances of new material involving the human voice (2016).

Facilities

The Music estate includes a dedicated concert hall, also appropriate for lecture recitals, which provides the centrepiece for many of our local research-related external engagement activities, especially musical performances. Its adjacency to our recording studio enables a range of performance projects to be recorded, released or streamed, as evidenced by the numerous recordings listed throughout this submission. Our other studio facilities are substantial and well regarded, and attest to our longstanding reputation and ongoing research expertise in this area. These spaces attract a continual flow of composers pursuing different forms of creative practice research. Regular investment ensures that both hardware and software remain appropriate for cutting-edge research. Over the period we have invested £321k in maintaining and refurbishing these studios (including £180k in 2016/17 to build a new one); refurbishment of three studios was planned for summer 2020 but delayed because of Covid-19. In total we have seven recording and composition studios, all of which are equipped to professional standards. The main recording studio has three live rooms and a 36-channel inline desk with Protools HD. The acoustically treated composition studios have 5.1 and 8.1 Genelec surround systems with SSL and Neve inline mixing consoles. Software in most studios includes Protools, Logic, VSL, Native Instruments Komplete, Izotope and Ableton Live. We also have four Mac labs with a total of 39 iMacs running a full range of industry-standard software, including MaxMSP, Supercollider, Adobe Creative Suite and Sibelius. A full-time Technical Director oversees the activities of the electronic music studios and a full-time music technician provides further support. This represents an increase in technical staffing from 1.6 to 2.0 FTE since 2014. These posts, together with our 0.6 performance officer, are crucial for our research activities in composition and performance.

The University subscribes to over 300 music and music-related journals (many of these via JSTOR, Academic Search Complete, etc) as well as six audio/visual streaming databases such as *Naxos Music Library*, *Smithsonian Global Sound* and *Classical Music in Video*. Further resources include scores databases such as *Nkoda* and the *Classical Scores Library*, as well as specific training materials available via *SAGE Research Methods Online* and *LinkedIn Learning*. Total library spend specifically for Music over the period was £122k. Our 2016 accession to the University of London has facilitated direct access to Senate House Library, the extensive music holdings of which are especially noted for collected editions and historical sets and particularly its foreign language holdings, thus facilitating easier access for our researchers to scholarship beyond the Anglo-American traditions. It has also provided additional online resources such as access to *Proquest Dissertations*.

4. Collaboration and contribution to the research base, economy and society**Outputs and esteem**

The continuing vitality of our research culture since 2014 and its international reach and significance may be measured by the eight monographs or scholarly collections written or edited by staff; 33 papers in refereed journals together with 38 other contributory chapters; 75 new compositions written over the period and heard across 54 countries; 14 CDs released of music written by others; and 94 performances of new work or modern reconstructions given across 18 countries. Additionally, we have given 19 keynote presentations and a further 168 papers at international conferences. These wide-ranging activities evidence global research leadership across many areas of a multi-faceted discipline and outstanding 'research power' generated by our 11.8 FTE staff.

The quality of these outputs has been repeatedly recognised by international awards such as the 2014 American Liszt Society's Alan Walker Book Award (Loya), the 2015 AMIS Bessaraboff Prize (Cottrell), the 2016 BFE Book Prize (Nooshin), the 2019 SEM Helen Roberts Prize (Nooshin), and BASCA (2016) and ISCM (2019) composition awards (Molitor). Nooshin also contributed to *Jazz Worlds/World Jazz*, awarded the 2017 Ruth A. Solie Award from the AMS. Lingas's extensive contribution to Byzantine music research has been recognised by the prestigious award of the title of Archon Mousikodidaskalos (Master Music Educator) of the Great Church of Christ from Bartholomew I, Ecumenical Patriarch of Constantinople. In a similar vein, Pace was the subject of a special edition of BBC Radio 3's flagship new music programme *Hear and Now* on 06.10.18, produced to mark his 50th birthday; it remains the only time an entire episode has been devoted to the work of a single performer.

This international eminence means that staff are frequently asked, through widespread reviewing work, to set research benchmarks and sustain the discipline on a global scale. This is evidenced by our work for international review bodies such as the Austrian Science Fund (Cottrell, Nooshin, Pace), the German Academic Exchange Service (DAAD–Armstrong), the Hong Kong Research Grants Council (Armstrong, Cottrell), the Irish Research Council (Cottrell), and the Humanities Research Council of Canada and South Africa National Research Foundation (both Mera). Mera and Nooshin are D33 panel members for REF2020, a noteworthy distinction for a single department. Cottrell and Mera are members of the AHRC Peer Review College, while additional reviews have been undertaken for UK councils including the AHRC, ESRC, British Academy and Leverhulme Trust by Nooshin and Lingas. Other review activities include not only multiple assessments for most major publishers such as OUP, CUP, Routledge, Yale, etc. but also reviews for more than 40 different academic journals, as diverse as *JAMS*, *Ethnomusicology*, *Early Music*, *JRMA*, *Journal of Musicology*, *Organised Sound*, etc. This work has been augmented by the examination of PhD candidates in Australia (Cottrell, Mera, Pace), Canada (Pace), France (Lingas), Ireland (Mera), Spain (Mera), Sweden (Cottrell) and the USA (Lingas). Staff have acted as external examiners on a further 34 occasions within the UK, for all the leading research-intensive institutions. The research expertise that we bring to these assessments, and the regularity with which staff are asked to provide them, reflects core strengths embedded within the department which then shape the discourse of music research internationally.

Contributions to the research base

We further sustain the discipline through our international engagement with journals, scholarly organisations and academic conferences. Editorial work is extensive and again reflects the spread of expertise we can offer. Journals for which staff act on the editorial board include *Music Analysis* (Loya), *JRMA* (Mera), *Ethnomusicology Forum* (Nooshin), *Plainsong and Medieval Music* (Lingas), and most major film music journals including *Music and the Moving Image*, *Music, Sound and the Moving Image*, and the *Journal of Film Music* (Mera). Individuals evidence further research leadership through their committee work with a range of scholarly organisations such as the SMA (Loya, Pace), RMA (Nooshin—VP since Jan 2020), NAMHE (Mera) and RAI (Cottrell). Staff members have been on the scientific committees of, for example, several EuroMAC conferences (Loya), AAWM 2018 (Greece—Nooshin), ‘Tracking the Creative Process in Music’ 2019 (Portugal—Nooshin and Mera), Sound and Music Computing 2014-17 (Armstrong) and the 2020 International Conference on Technologies for Music Notation and Representation (TENOR) (Germany—Einbond).

At home we have leveraged our central London location and our excellent facilities for the benefit of the international research community by hosting a range of high-profile events; these are supported by us logistically through the time invested by many staff and doctoral researchers and, often, financially, through the allocation of monies from our Research and Ethics Committee. Some of these reinforce the areas of research specialism outlined in #1, such as ‘Urban Ethnomusicology’ (2014) and ‘Music, Sound, Space and Place’ (2019), the latter a joint conference between the BFE and the Société française d’ethnomusicologie (both conferences co-convened by Nooshin and Cottrell). Our developing disciplinary leadership in music analysis is evidenced by our hosting of CityMAC2018 (Loya—in association with the SMA) and the scheduled hosting of the TAGS day in April 2020, ultimately postponed because of Covid-19; Pace also led a study day for SMA PGRs on relationships between music analysis and performance in November 2019.

Our international expertise in the relationships between scholarship and practice has been manifested in other conferences, such as ‘Music with the Real’ (2015—funded by the Norwegian Artistic Research Programme and convened by Armstrong); and ‘Michael Finnissy at 70’ (2017—Pace). At many of these conferences we investigate these relationships further by programming concerts that augment or illuminate differently the oral presentations. For example, the City Pierrot Players gave the London premiere of Simeon ten Holt’s *Canto Ostinato* (1976) at the ‘Again and Again’ conference in 2019. Similarly, SPARC organised a sound art concert (curated by post-doc Sam Mackay) for the BFE conference in 2019, thus providing creative practice interrogations of ‘Music, Sound, Space and Place’.

Collaborations

We provide logistical and financial support for other networks and partnerships as needed. For example, Nooshin’s ongoing convening of the Middle East and Central Asia Music Forum has been based at City since 2014. Established by her in 2007 and currently run jointly with SOAS, the Forum is a leading international network that plays an important disciplinary role for both established scholars and doctoral researchers/ECRs working on music in the Middle East and Central Asia. Another marker of successful research collaborations/networks can be seen in the edited volumes that have arisen from them. Cottrell’s co-edited volume on *Desert Island Discs*

(2017) arose from a British Academy conference organised with other researchers (Julie Brown, Nicholas Cook) in 2013. Pace's co-edited volume on *Critical Perspectives on Michael Finnissy* (2019—with Nigel McBride) has its roots in a conference hosted at City in 2017 and he has also collaborated with Christopher Wiley (Surrey) on *Researching and Writing on Contemporary Art and Artists* (2020). Mera's *Routledge Companion to Screen Music and Sound* (2017) similarly has its roots in longstanding collaborations with academic colleagues elsewhere, Ron Sadoff (NYU) and Ben Winters (OU).

Practice-based research collaborations are a particular strength and again demonstrate our international reach. Pace has collaborated with many composers to produce new piano repertoire based on critical scholarly reflection, including—among many others—Brian Ferneyhough, James Dillon, Michael Finnissy, Christopher Fox, Sam Hayden and Walter Zimmermann. Indeed, the occasion of Pace's 50th birthday was marked by new works written for him by 23 composers. Lingas's work as director of Cappella Romana provides a similar example of longstanding, scholarship-led performance collaboration. The group has several ongoing international relationships: with Chaig Utidjian of Charles University, Prague, exploring ties between Greek and Armenian chanting during the late Ottoman period, and especially with Stanford University on the Icons of Sound project, noted above.

Further creative practice collaborations are evidenced by Einbond's ongoing work at IRCAM in Paris, where he participated in a STARTS (Science + Technology + Arts) Residency in 2019-20, supported by the STARTS EU Horizon 2020; and a UPI (Unité Projet Innovation) in 2018, which has led to novel research and compositions for instruments and three-dimensional ambisonic sound, and software tools freely-distributed through the IRCAM Forum. He is also Co-Artistic Director of Qubit New Music Initiative in New York, with whom he has produced sound and new media events since 2014, funded by several US organisations. Molitor's various installations have seen her work with Turner Contemporary, the British Library, the Totally Thames Festival, and Somerset House. Armstrong is the Co-artistic Director, with Juliet Fraser and Mark Knoop, of the record label All That Dust. Releases on the label since it started in 2018 have received widespread critical acclaim, including a nomination in the Preis der Deutschen Schallplatten Kritik, several listings in end-of-year 'Top 10' lists (e.g. BBC Radio 3 'Hear and Now', The Wire), multiple broadcasts (e.g. BBC Radio 3, ORF–Austria, France Musique), and numerous positive reviews. Rennie is the resident composer-performer for the Insectotrópics audio-visual performing arts collective, based in Spain.

Within the university we work closely with a range of professional ensembles, providing concert platforms for them and engaging them with both staff and PGR research. Ensembles with whom we have a particularly close association include Plus-Minus (Armstrong is a member) and EXAUDI. Both regularly premiere works in our concert series. For example, on 25.05.16 EXAUDI gave first performances of works by Armstrong and Mera, before giving premieres of works by Armstrong and Molitor at LSO St Luke's later the same year (23.10.16). Other artists have presented the outputs of staff research as part of our concert activities: for example, Zubin Kanga premiered a multi-media work by Molitor in May 2018, and Einbond has similarly worked closely with visiting US groups such as Yarn/Wire in the performance of new work.

Extending our impact footprint

Our extensive impact work is manifested in other major projects beyond those listed in REF3. Griffiths' research on the music of Leokadiya Kashperova (Stravinsky's piano teacher), financially supported by us, led to the discovery of her long-forgotten symphony. It was performed at St Luke's, London, by the BBC Concert Orchestra on 08.03.18 as part of the BBC/AHRC Forgotten Female Composers project and broadcast live on Radio 3 to celebrate International Women's Day. Nooshin's research into Iranian music culture has similarly benefitted from £17.8k of direct support from the institution in addition to £29k raised from Arts Council England. Collaborating with Tiny Owl publishers, her research facilitated the production of a newly commissioned children's picture book, *The Phoenix of Persia*, with original music created by Iranian musicians. The book was launched at the British Library and the project included 28 educational events and the development of a teacher resource pack, educational website and 25 school library boxes distributed by Tower Hamlets Library Service to school library services nationally and via these to schools across the country. In 2019, the project reached over 5,000 children, families and educators through book sales, online music, events and workshops, as well as an online and media reach of over 350,000. By September 2020 the book had sold 2,736 copies in the UK and 1,130 copies in the USA.

Pace has worked extensively with figures in the legal, psychological and educational fields in his ongoing work on abuse in musical education, for which he was an expert academic witness for the International Inquiry into Child Sexual Abuse (IICSA) in 2019. In addition to writings for *The Daily Telegraph* (20.02.15) and *The Conversation* (24.02.15) he has chronicled and analysed this field in detail on his blog and has appeared on multiple occasions on all major UK broadcast news programmes (e.g. Sky News 09.07.15, BBC News 30.03.16). He has given a range of other media interviews (e.g. Radio 4 *Today* programme 07.07.14) and advised Members of Parliament such as Tom Watson and Lucy Powell. He has also submitted a substantial historical analysis and critique of UK specialist music education and wider cases of abuse in the classical music world to IICSA as part of the ongoing inquiry, which will report in 2021.

Walls on Walls, a collaboration between Rennie and artist Laurie Nouchka, has provided community-building projects involving music and visual art in several public spaces: the Lansbury Estate in Tower Hamlets (in conjunction with the V&A museum), Lismore Circus and Camelot House in Camden (in conjunction with Camden Council), and five other installations. Rennie's research expertise in using environmental sounds for the purpose of artistic expression helps facilitate these site-specific works, albeit that they are conceived, created and authored by local participants. Rennie has been supported with £9k of internal funding towards the project, in addition to £75k raised externally.