

Institution: University of Lincoln

1. Context and mission

The University of Lincoln, named the *Time's Modern University of the Year*, 2021, was established in 2001 on a new campus at the heart of an historic city. Dynamic and rapidly evolving, it has 17,876 students and has grown from £119m income in 2013/14 to £174m in 2019/20. Conceived at the outset as a civic institution, our long-term mission is to be an outstanding small-city anchor institution, equally committed to excellence in teaching, research and knowledge exchange, with deep regional and international engagement. We are committed to broad [civic engagement](#), exemplified by our role as a founding partner of the Greater Lincolnshire LEP, our contribution to the Local Industrial Strategy, our work with local and global employers and with voluntary and public sector bodies. We are the [fifth largest revenue generator in the City](#) and one of the largest organisations in the county. Lincolnshire contains deprived rural, industrial and coastal regions, which has shaped our “local to global” research themes, most notably, a particular focus on global rural challenges.

We have a broad academic portfolio, organised into four Colleges (Arts, Business, Science, Social Sciences); in the last six years Science has expanded significantly with the opening of new Schools in Chemistry, Mathematics and Physics, Geography and (jointly with Nottingham University, 2019) a new Medical School. Reflecting our civic mission, the professions and practice-based subjects are strongly represented across the board. In the census period we have introduced two substantial research Institutes that are structurally distinct from the academic schools.

Our research is highly diverse, encompassing disciplines across the arts, humanities, sciences and social sciences, with a strong (but not exclusive) emphasis on collaborative, interdisciplinary and co-created research.

2. Strategy

The University's strategy (“Thinking Ahead”, 2016-2021) has initiated a process of rapid growth in the scale, breadth and intensity of our research. This is reflected in the increase in category A staff from 177.3 to 383.27 FTE, of whom 51.4 FTE are submitted in five new UoAs (Chemistry, Physics, Mathematical Sciences, Geography and Archaeology). We emphasise a commitment to producing “purposeful research with impact” that is simultaneously relevant to our place and has global significance (“local to global”). We seek to drive economic development and enhance social and cultural life, working with our region as a “living laboratory” to undertake and co-create research. We uphold the academic freedom to pursue curiosity-driven research, including within the “lone scholar” tradition, while facilitating concentration of research around particular themes (Rurality, Health and Well-Being, Sustainability, Digitalisation, Communities, Heritage) and cultivating research focus at various scales, from the broadest to the most specialist. We strongly encourage interdisciplinary and collaborative research, and co-creation with stakeholders, in particular through challenge-led and sector-facing research.

Research Growth

We have prioritised research growth in areas that demonstrate alignment between the strengths and capabilities of the institution, regional needs and priorities, global challenges and societal needs, and government funding and strategy. Channels have included pump-priming, establishing new research units, prioritisation of academic recruitment, encouraging existing academic staff to redirect research activity, and investment in the necessary specialist facilities and infrastructure.

Our new Schools have therefore been established around new research units (e.g. computational physics, functional materials, water and planetary health), which interlock with existing units and reinforce our local to global mission, and around traditional theoretic disciplines where appropriate (e.g. algebra).

Our significant investments in staff and facilities are described in the relevant sections below.

To sustain growth we have targeted increased research income, through selective recruitment of experienced staff, development of ECRs and collaboration, increasing our external research income from £4.2m in 2013/14 to £9.7m in 2019/20 (130% increase; current estimate is £13m for 2020/21 – 209% increase). To enrich the research environment we have also targeted growth in PGR numbers, primarily through attracting external funding and building pipelines through our own PGT programmes or partnerships, plus a small number of University funded scholarships (32), increasing our registered PGR numbers from 414 in 2013/14 to 601 in 2019/20 (45% increase).

Through our IRP system (described below), we encourage staff to focus on the production of high quality outputs. As broad indicators of success, our Scival citation count increased to 1465 in 2020, and our FWCI from 1.18 to 1.44. We have submitted 94 monographs to REF 2020, up from 48 in 2014.

Local to Global

To encourage embedding of the “local to global” principle, all our research units explicitly identify alignment with UN sustainability goals and Local Enterprise Partnership (LEP) priorities.

Our new schools have been co-created with major regional stakeholders, in the health, chemical, industrial and educational sectors, providing a rich set of long-term partnerships that sustain collaborative research. We have also reoriented existing and introduced new specialist units that provide a focus for interdisciplinary local engagement. For example, the National Centre for Food Manufacturing (NCFM), based at the heart of the food manufacturing industry in South Lincolnshire, has increased collaborative industrial research from £0.3m in 2014 to £1.2m in 2019 by working with researchers across the Colleges. The majority of LIAT’s £25m+ research portfolio engages regional partners. The Centre for Culture and Creativity, established 2016, underpins regional arts-based engagement, including support for the biennial Frequency festival (40,000 attendees across 2017-19), and Lincoln One Venues and Transported (an artist practitioner led project focussing on migrations, 34,000 participants 2018-2020).

To develop our global links, we have prioritised recruitment of academic staff with existing international collaborations and supported fractional appointments for professorial staff maintaining major partnerships. Key relationships developed in the census period include the Centre for Water and Planetary Health with Massey University, New Zealand; LIAT with NMBU, Norway; LIIRH with La Trobe, Australia. In 2018 we established the Lincoln Institute of Advanced Studies, which supports internationalisation using thematically-linked visiting fellowships and sandpits (see below). Our level of international collaboration has increased markedly, as demonstrated (in relevant subject areas) by the rise in the proportion of SciVal outputs with international co-authors from 35% in 2014 to 54.8% in 2020.

To intensify focus on key local to global issues we have established two independent institutes, which facilitate University-wide sector-facing interdisciplinary research. The Lincoln Institute for Agrifood Technology (LIAT), established in 2015, building upon the track record of the Lincoln Centre for Adaptive Systems (L-CAS), has secured in excess of £25m in external research funding to date, including £6.4m from Research England’s Expanding Excellence in England (E3) scheme to establish the UK’s first global centre of excellence in agri-robotics, and is home to the new EPSRC Centre for Doctoral Training in Agri-Food Robotics. The recently-founded (2019) Lincoln International Institute for Rural Health (LIIRH) has a core team of two professorial directors and seven researchers, extensive links to international partners and local stakeholders,

and new purpose-built headquarters under construction in the Medical School Building, supported by a £1m grant from the Wolfson Foundation (2021).

Impact

Our approach to impact is integrated with our “local to global” strategy by embedding impact development in research units and maintaining widespread local engagement, supplemented by individual staff development and activity.

Our sector-facing research units have impact “designed in.” For example, LIAT develops IP with commercial research partners (e.g. Saga Robotics), and recently established the [Barclay's Eagle Farm Lab](#), co-located on our Riseholme Campus; NCFM provides collaborative links through to 250 food industry partners; the Community and Health Research Unit (CaHRU) pursues research focused around community health service provision; Lincoln Conservation provides specialist consultancy to the heritage sector.

Our regional engagement includes academic membership of many county organisations' boards, and stakeholder representation in the University. For example, liaison via the University Court initiated our participation in the creation of the International Bomber Command Centre (opened 2018, supported by a £3.1m Heritage Lottery Fund grant). We designed the permanent exhibition and digital archive; the latter has >10,000 items, over 35,000 users and 180,000+ page views to date. Our close collaboration helped to ensure that the IBCC has been enormously successful in addressing issues of great sensitivity; it is identified on TripAdvisor as the number one “visitor attraction” in Lincoln.

We have enhanced individual academic impact activity by providing targeted support through new central units: PEARL for public engagement (2017), and the Lincoln Impact Literacy Institute (LILI, 2018) for impact literacy. We have also enhanced our translational support to inventors including external specialist advice for IP protection and contracts, and providing pump-priming for impact development projects. To enrich the knowledge exchange environment, in 2017 we expanded the Lincoln Science and Innovation Park with the addition of the Boole Building, establishing multiple new collaborative links. These new support units are described under “infrastructure” below.

Research integrity

To enhance research integrity, in 2017 we appointed a specialist Research Governance Manager. In 2018 we introduced a new on-line research ethics system, which provides efficient, supportive centralised review and monitoring of ethics applications. In 2019 we secured a Human Tissue Act license, to support bioscience research, and our Open Data Working Group introduced new policies and procedures to support reproducibility of research including data management plans, training, and a Responsible Metrics policy. We also signed the Concordat to Support Research Integrity and the San Francisco Declaration on Research Assessment (DORA), revising our Code of Practice for Research in 2020 to fully embed their principles. We have upgraded our Institutional Repository system to ensure that research outputs are uploaded in compliance with UKRI requirements, and that research data can be securely preserved, and made externally accessible with a citeable DOI.

Future Strategy

Our strategy for the next five years is a logical continuation of the above: we will continue on a growth trajectory (to approximately 500 FTE category A staff), guided by “local to global” principles, while increasing research intensity and focus. However, the emphasis of the strategy will shift, given our evolving research profile. Growth will be largely within existing disciplines, although we will establish clinical research within the new Medical School.

As we grow, sustainability becomes a bigger issue. We will significantly increase external research income (to £22m), by leveraging our stronger international and regional collaborations, increasing alignment with emerging national funding priorities, and developing staff. Having successfully recruited a strong cohort of ECRs, we will actively support them in developing their funding portfolios, augmented by targeted recruitment at Chair level. Increasing intensity also demands investment in facilities, and we will target external capital funding to support this.

To strengthen the global embedding of our research, we will develop strategic, multi-faceted long-term relationships with key partners, building on existing successful models (e.g. La Trobe), and increase investment in LIAS's fellowship programmes.

Recognising the need to strengthen PGR provision, we will grow registrations from 652 to 950, particularly targeting growth in structured provision including CDTs, DTPs, BGPs, and partnership-based schemes (including with international academic and national industrial partners). We will invest in expanding the Doctoral School.

We aim to deepen a culture of pervasive impact, where impact is a “designed in” aspect of the majority of our purposeful research. We will pursue this aim by a twin path strategy: developing individual academic capacity, and building ‘natural’ pathways to impact. Capacity will be developed by expanding LILI, with a specific mandate focused around impact literacy, organising a structured programme of training, individual mentoring, and pump-priming of signature projects, to enhance and embed understanding. Utilising our researcher/practitioner staffing model, we will build collaborative co-creation models with researchers working with practitioners for knowledge exchange. In parallel, we will establish additional sector-oriented units to mediate external collaborative relationships, across the spectrum of disciplines. Currently active developments include the £5.2m Bridge Lab for advanced materials research and development, adjacent to LSIP and with significant involvement from the Schools of Engineering, Mathematics and Physics, and Chemistry (completion 2021); the £6.6m NCFM Centre of Excellence as the anchor building of the new Holbeach Food Enterprise Zone (completion 2021); and the co-location of the stakeholder organisation the National Centre for Rural Health and Care with LIIRH in our new Medical School Building (completion 2021). Our future plans include Green Energy and Heritage.

3. People

Staffing Strategy

Over the census period our core staffing strategy has been to: a) recruit excellent ECRs and develop their careers; b) expand the professoriate by recruitment and promotion; c) build strong teams around research themes; d) support independent and curiosity driven research.

Major investments include 332 academic staff recruits (including 42 professors) submitted in this exercise. In 2019, for example, we recruited eight “global” professors with interlocking specialisms in robotics, machine learning, rural health, water and global health, green supply chains, and ecological justice, to strengthen specific research units, promote integration across the themes and increase global partnerships.

The University has a distinctive system with two major academic role profiles – teaching and research (TR), and teaching, scholarship and professional practice (TSPP). The latter supports our emphasis on the professions and practice-based disciplines.

All TR staff have clearly identified substantive research duties (therefore submitted as Category A) and are provided with personalised career support. They complete an annual Individual Research Plan (IRP) in discussion with a senior academic mentor, in addition to annual appraisal. This details outputs, grant income, impact and research supervision for the past year, outlines plans for the next, and includes mentoring for career development. IRPs are integrated

into University, College and School planning cycles, to inform research development and staff support/development plans.

Annual promotion rounds include workshops by senior academic staff offering advice on the promotions process, while IRP mentors can assist with drafting applications. During the census period 14 researchers have been promoted to Professor (50% female; 29% BME– cf. staff population: 44% female; 15% BME) and 24 to Associate Professor (54% female; 13% BME). The University's workload model guarantees all TR staff the equivalent of at least one day per week for research; significant further allocations (typically an extra day per week) are provided against specific research objectives (e.g. completion of manuscripts, impact activities, undertaking funded projects or early career activity).

We have achieved the HR Excellence in Research Award and are signatories to the Concordat to Support the Career Development of Researchers. We aim to create a supportive culture and environment that encourages creativity, interaction and collaboration; researchers are integrated into consultation groups to support implementation of the Concordat.

The University's research leave scheme is devolved operationally to College level, providing substantial periods of leave (typically one semester) against identified research objectives. Support for reactive, 'bottom up' research projects includes the centrally-allocated Research Investment Fund (RIF) which has supported 32 PhD studentships (50% female; 28% BAME) and allocated £1.6m to pump prime 63 research projects across the University during the census period (PIs: 44% female; 17% BAME).

Equality and Diversity

Our approach to Equality and Diversity derives from our One Community ethos, intended "to ensure that respectful and inclusive behaviours" are "at the heart of all we do." Since 2014 the University has adopted a new structural and strategic framework to embed this ethos within an inclusive research environment. The Eleanor Glanville Centre (EGC, inaugurated 2017) a unique central department for diversity and inclusion, co-ordinates the Joint EDI (JEDI) partnership which drives, implements and communicates our One Community values. All Schools and Colleges have EDI committees with representatives on JEDI's central forum reporting into the University Inclusion Committee. A number of special interest support networks, developed organically to meet the needs of groups with protected characteristics and/or life challenges (e.g. the Disabilities Staff Network; LGBTQ+ Staff Network; Carers & Parents Club) also feed into the central forum; an annual Inclusion and Diversity Conference offers a further platform for open discussion. These discussions have informed initiatives and policies designed to deliver a more diverse research community. Our recruitment strives to positively encourage candidates from underrepresented groups. Initiatives have included trialling blind selection and diverse interview panels and employing gender-neutral language tool to increase the number of female applicants in STEM. Training is mandatory on matters such as unconscious bias and EDI in Practice and available for issues such as disability and trans awareness. Other relevant policies include phased retirement (enabling our research community to continue to benefit from the input of older colleagues) enhanced maternity leave for all pregnant persons, adoption leave, and flexible working including the right to request reduced FTE due to caring commitments, or time to accommodate religious commitments. We promote a number of positive actions to ensure that researchers with protected characteristics enjoy equal opportunities for career development. The Academic Returners' Research Fund (AR²F) allows STEM staff to sustain research during and after leave of absence including maternity (11 individuals supported since 2014); the Back2Science programme supports researchers returning from longer career breaks (5 Fellowships awarded 2014-15). The Pipeline Inclusive Mentoring Scheme (PIMS), open to all staff, includes 'maternity/long-term leave mentoring', 'cultural challenges' and 'work-life balance' support pathways alongside the more usual career progression tracks (59 female and 2 male staff mentored since 2014). Through these, and our use of management training and leadership programmes for women (Aurora through Advanced HE) and BAME (Inspire) staff, we have achieved a professoriate that is more diverse than the national average (30% female/15%BME as against UK HEI mean of 25%/10%) providing inspirational role models for ECRs. We are committed to inclusive research environments. 93% of our campus facilities are fully accessible

(7%, at Riseholme, comprises the upper floors of Grade II listed buildings). Other initiatives include provision of breast feeding rooms and gender neutral toilets (35% on our main campus). Our multi-faith chaplaincy provides prayer and ablution facilities. We actively promote interdisciplinary research into EDI issues through programmes to mark events such as Black and LGBT+ History Months and our Reimagining Lincoln initiative developed as a response to BLM. We continue to engage with external bodies promoting EDI. Since 2014 we have renewed our Athena Swan Bronze award and achieved 1 silver and 6 gold awards and signed up to the Race Equality Charter. EGC completed an equalities impact assessment on the REF CoP to guarantee it ensures appropriate representation in decision-making bodies, and utilises a clear, objective process of (multiple) output evaluation, scoring and selection to prevent bias.

Research Students

All PGR students undergo a University induction led by the Doctoral School, which co-ordinates a Researcher Development Programme covering research skills, communication, writing and publishing, and career enhancement. The Library offers one-to-one support in academic writing skills, mathematics, statistics and use of digital technology. PGRs enjoy 24/7 access to study spaces, and unlimited usage of Inter-Library Loans. The Doctoral School works with the Students Union to promote its programme of PGR-led research groups, societies, conferences and symposia. The annual PGR Showcase celebrates PGR achievements across the University. PGR students complete an annual Research Development Needs Analysis and develop an individual Research Development Plan. Supervisory team of at least two academics provide individual meetings at least monthly to advise on projects, professional development and ethical approval. Written records and action points are agreed and feed into annual monitoring of progression through College Research Degree Boards. Supervisors undergo mandatory training. We have introduced several structured programmes for PGR students. Seven PGR students have studied through the University Alliance Collaborative Doctoral Training Centre in Biomedicine. Our new £6.6 million EPSRC CDT in Agri-Food Robotics (in partnership with the Universities of East Anglia and Cambridge) will deliver 50 students over eight years (10 at Lincoln), and shares training programme opportunities with 8 – 10 EPSRC DTP studentships.

For PGRs undertaking teaching support, our Graduate Teaching Programme provides experienced teaching mentors to enhance teaching skills. Advanced skills development is optionally available through the Lincoln Academy of Learning and Teaching to achieve Associate Fellowship (D1) of Advance HE (24 students since 2014).

Data from PRES2018 indicates that PGR students are satisfied with their support at Lincoln (2018: 82.2% overall satisfaction compared to sector average 80.4%) with good ratings for supervisory support, research skills and personnel development. Timely completion rates (four years for full time PhD) have increased from 20% in 2014 to approaching 71% in 2019.

4. Income, infrastructure and facilities

Underpinning Infrastructure

The **University Library** provides access to more than 650,000 electronic books, journals databases and specialist collections, with unlimited inter-library loans for all research staff. The main library provides 1126 study spaces and is open 24/7. In the census period six “Library Learning Lounges” have been opened in buildings across campus, plus specialist satellite libraries at NCFM and our new Medical School. Specialist Academic Subject Librarians offer researchers personalised induction and support.

Archives. A partnership with Lincoln Cathedral Library provides access to its unique collections of rare books and manuscripts, supported by a dedicated Special Collections Librarian. The University also hosts the Media Archive for Central England (MACE) a specialist film archive with over 70,000 moving image records of the region. Both have facilitated outputs in UoAs 27 & 28.

The **Lincoln Institute for Advanced Studies (LIAS)**, introduced in 2018, enhances the research environment and culture by promoting thematic interdisciplinarity, developing international research links and showcasing researchers' achievements. Its international fellowship scheme has brought eight prestigious international visitors to the University since 2019. Outcomes include establishing collaborations with Hong Kong Baptist University around Migration and the Arts (subsequently leading to an ICS in UoA 33), and with La Trobe University (Australia) in Rural Health. Its outgoing mobility award scheme has supported 38 visits, resulting in 13 grant applications (totalling £850k) and 16 outputs published or 'in press,' 15 submitted or in preparation. It runs workshops and sandpits to stimulate interdisciplinary research; the three major events in 2019-20 (Harnessing Digital Futures, Environmental Justice, Health and Wellbeing) resulted in several interdisciplinary research networks, and seven funding applications (£1.7m). It also hosts monthly inaugural professorial lectures open to members of both the University and the local community.

The **Research & Enterprise** Office provides integrated expert support for all aspects of research development. It supports the Doctoral School and LIAS, coordinating academic training and development with both. Intellectual Property protection is provided by a dedicated internal team and external consultancy (Prospect IP), and supports governance including ethics. The research and industrial partnerships team assists with costing, awareness-raising, workshops with funding bodies, grant authoring and horizon scanning, and provides writing workshops and sandpits. It organises 'Research FIRST,' a tri-annual week-long event aimed at ECRs with advice from external speakers and peer-review college members to demystify the bidding process. It also manages Knowledge Exchange activities, brokering links into regional stakeholders, and supporting impact development, including through funded KE schemes and enterprise support packages.

The **Eleanor Glanville Centre** undertakes and supports EDI research. Research outcomes inform and influence evidence-based policy and best-practice both within and beyond the University. It houses 'Inclusion Matters', a £510k EPSRC ASPIRE (Advanced Strategic Platform for Inclusive Research Environments) project to develop nationally-available toolkits to guide and evaluate initiatives and meaningful indicators of impact. During the census period researchers associated with the Centre have *inter alia* organised the *Transitional States* exhibition which opened in Lincoln before touring internationally, worked with UK Government's *Equali-teas* initiative to address gender inequalities in politics, and organised the *Interdisciplinary Perspectives on Intersex (IPI2019)* international conference. Its PMS, AR²F and back2science schemes help support protected groups in developing research funding.

PEARL (Public engagement for all in research at Lincoln) was established in 2017. Led by the University's Chair in Public Engagement, PEARL supports broad academic engagement with the public through small project grants (31), an annual conference, resources, guidance and training. It supports national initiatives such as Pint of Science, Being Human and Café Scientifique. Pearl's activities also underpin ICS submitted in UoA 15 and UoA 32.

The **Lincoln Centre for Culture and Creativity**, established in 2016, is at the heart of publicly engaged cultural activities in regional, national and international communities, underpinned by our research, with impact on places, people, policy and practice. The centre fosters collaboration between researchers, artists, community participants, and creative entrepreneurs. It has enabled arts-led interventions including Transported, and Lincolnshire One Venues and Mansions of the Future (external funding £2m).

The **Lincoln Impact Literacy Institute**, established 2018, provides external impact consultancy and horizon-scanning, impact literacy training and ICS development support. As described in "future strategy" above, we plan to expand it with ambitious targets to deepen the development of a pervasive impact culture.

Research investment schemes

The University makes strategic investments to support specific research initiatives, matched against external funding, provides core resources for the research institutes, pump-primes funding into new areas (including for academic staff recruitment), purchases research equipment and supports PhD studentships. The total investment is approximately £9m during the census period. Examples include £300k of equipment match-funding to the EPSRC Centre for Doctoral Training in Agri-Food Robotics, 32 centrally funded PhD studentships, £500k in matched capital refurbishment costs for the Research England “E3” funded Lincoln Agri-Food Robotics Centre, and £1.6m through the “RIF” small project pump-priming scheme.

Specialist facilities development

Since 2014 we have made significant investments (internally and externally funded) in high-quality research facilities. Notable developments include:

The £12.7m Joseph Banks Laboratories (2015) include 1500m² of laboratory facilities for molecular biology, tissue culture, CAT22 microbiology and chemistry. The £4m equipment investment included a 500 MHz NMR, X-ray diffractometers, microscopy and imaging, spectroscopy and flow cytometry. The adjacent Minster House has 630m² of animal cognition and welfare research laboratories including behaviour clinic, cold-blooded vertebrate, invertebrate and fish facilities. These facilities support 220+ researchers.

The £30m Isaac Newton Building, (2017) includes computational and engineering laboratories, including a vehicle controls laboratory, biofuels, robotics and automation, laser technology, simulation, EMC pre-compliance testing, vibration analysis, semi-anechoic chamber, extensive computer laboratories including HPC, and a 100m² mechanical workshop. There is also access to Siemens industrial turbomachinery training and simulation facilities.

The £18.5m Sarah Swift Building (2017), includes research facilities for Health & Social Care and Psychology. The 22 specialised research labs include body imaging, VR, functional imaging, Baby lab, human tissue processing and sleep lab.

The **Lincoln Institute for Agrifood Technology** (2020), has a 200 hectare farm, office accommodation for 23 researchers, agroforestry and water catchment analysis, robotics laboratories, glass-houses including automated fruit farm, refrigerated storage simulation, phenotyping, HPC, 5G outdoor test bed, and co-located Barclays Eagle Farm Lab.

The Lincoln Science and Innovation Park (LSIP), a joint venture between the University and the Lincolnshire Cooperative, opened its new Boole Building (2908m²) in 2017, providing technical and laboratory space to fourteen companies (full capacity), including nine start-ups. It has created 100+ jobs, and supported tenants to raise over £10m in external finance. All established tenants have some collaborative relationship with the University, including graduate employment, internships, business support and collaborative research programmes.

EDI and Accessibility

Accessibility is a key principle in the design of our new research facilities, all of which at least meet DDA compliance levels. In the census period we secured £125k in grants from the South Nottingham Centre Fund to exceed DDA compliance levels in the new Joseph Banks Laboratories and Isaac Newton Building, including enhanced accessibility, safety equipment and specialised laboratory furniture and workstations.