Libraries and the Research Culture Lens at the Universities of Glasgow and Leeds

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Research culture encompasses the **behaviours, values, expectations, attitudes and norms** of our research communities. It influences researchers’ career paths and determines the way that research is conducted and communicated.

[https://royalsociety.org/topics-policy/projects/research-culture/](https://royalsociety.org/topics-policy/projects/research-culture/)
Who does research culture apply to?

People and culture are fundamental to research and innovation because they drive the creative and dynamic system that we need to support the community to thrive.

Positive cultures support not just researchers and innovators but also the entire ecosystem which supports the research and innovation endeavour.

We strive to foster a system where everyone is appreciated and valued, that works for everyone, by everyone.

https://www.ukri.org/what-we-offer/supporting-healthy-research-and-innovation-culture/research-and-innovation-culture
Why do we need to look at research culture?

We want to help build a better research culture – one that is creative, inclusive and honest. **Current practices prioritise outputs at almost any cost.** This is damaging people’s wellbeing and undermining the quality of research. We can all help to **reimagine** how research is conducted.

[https://wellcome.org/what-we-do/our-work/research-culture](https://wellcome.org/what-we-do/our-work/research-culture)
Wellcome Trust survey findings

**Words that researchers would use to describe research culture**

Survey, n = 2839 – research community, UK and international.

Research Culture at University of Glasgow

RESEARCH CULTURE

At the University of Glasgow we are creating an environment that produces research of the highest quality. Good research happens within a community that supports, incentivises and rewards a positive research culture.

At the University of Glasgow, we define a positive culture as one in which colleagues

- are recognised and valued for their varied contributions to research
- support each other to succeed
- are supported to produce work that meets the highest standards of academic rigour

All of our actions are aligned to advancing these three key priorities, but a positive culture cannot be achieved in a single step.

Our approach is to focus on a series of actions to further key values, such as research integrity, open research, recognition for varied contributions to research, fair approaches to evaluation and collegiality. These values are now embedded in our promotions and individual performance criteria.

Our aim is to recognise not just what research is done but also how it is done.
Research Culture at University of Glasgow (2)

- **Research Culture Action Plan**
  - Our 2020-2025 institutional strategic priorities to promote a positive research culture

- **Research Culture Statement**
  - What we are doing to promote and support a positive culture

- **Research Culture Awards**
  - Research Culture Award Winners

- **Lab for Academic Culture**
  - Launched in 2020, the Lab aims to enhance research and teaching culture

- **Research Culture and Careers Group**
  - Key contacts in Colleges and Services for research culture projects

- **Research Culture Survey**
  - Learn more about our 2019 and 2021 Research Culture Surveys
Research culture statement

Our University Strategy, Universal Values, Global Change: University of Leeds Strategy 2020 to 2030, provides a blueprint for a values-driven university that harnesses its expertise in research and education to help shape a better future, working through collaboration to tackle inequalities, achieve societal impact and drive change.

Focusing on three core themes – Community, Culture, and Impact – it sets out our ambition to offer a collaborative, supportive and safe environment for the entire University community and emphasises the importance of teamwork and diversity. Our Statement on Research Culture reflects these values. Our research culture initiatives – starting formally in 2021 – will be key to delivering the University strategy.
Research Culture at University of Leeds (2)

A collegiate and supportive environment

Personal development, reward and recognition

Responsible research and innovation

Equality, diversity and inclusion in research

Open research and impact
LIBER and RLUK ADN Survey findings

1. Does your institution have a Research Culture statement?
   - Yes: 2
   - No: 4

2. Was the Library involved in the creation of the Research Culture Statement?
   - Yes: 1
   - No: 5
3. What areas of Research Culture does the Library support?

- Open Research: Repositories ... 6
- Open Research: Research Dat... 6
- Open Research: Publishing (e.... 5
- Open Research: Generic Supp... 2
- Responsible Metrics 4
- Institutional Research Key Per... 2
- CASRAI CRedit Taxonomy 0
- Public Engagement 0
- Equality, Diversity and Inclusion 2
- Personal & Professional Devel... 3
- Reward and Recognition 2
- Research Impact & Knowledg... 4
- Measures of Professional Este... 0
- Author Identifiers (e.g. ORCID) 3
- Other 0
Areas of research culture

<table>
<thead>
<tr>
<th>Initiatives to Promote and Support a Positive Research Culture</th>
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<tbody>
<tr>
<td>Collegiality</td>
</tr>
<tr>
<td>Career development</td>
</tr>
<tr>
<td>Research recognition</td>
</tr>
<tr>
<td>Open research</td>
</tr>
<tr>
<td>Research integrity</td>
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</tbody>
</table>
Open Research

Supporting transparency, rigour, and reproducibility by facilitating early sharing of e.g. research data, software, code, and materials to a wider audience. Valuing different research output types.

What we have done:

- **Research data management.** Our research data management team provides advice, training, data storage, and support for depositing data in public repositories, including our own. Data records are given a DOI and linked to publications as appropriate. Datasets are visible on staff webpages alongside other outputs (e.g. see this example).

- **Open access.** Provided one-step support for making publications open access, as a result of which Glasgow is the institution with the highest proportion of open access outputs worldwide, among institutions with >10K outputs (Leiden Ranking, 2014–2017).

What we will do:

- Help researchers to enhance their digital footprint (e.g. through the Research Jigsaw seminar series), thus enhancing the visibility of research and researchers.

- Embed planning and costing for data management, storage and sharing at grant submission stage.

- Identify open research stewards with defined job role to provide leadership.
## CWTS Leiden 2022 OA Rankings

### Time period, field, and region/country
- **Time period:** 2017-2020
- **Field:** All sciences
- **Region/country:** World
- **Min. publication output:** 100

### Indicators
- **Type of indicators:** Open access
- **Indicators:** P, P2OA, PP2OA
- **Order by:** PP2OA

### University Rankings

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## Responsible Research Metrics

### Research metrics

**Metrics in recruitment and promotion**

| CONTENTS |
|-----------------------------|---------------------------------|
| 1. Responsible research metrics |
| 2. Bibliometric measures     |
| 3. Altmetrics               |
| 4. Metrics to assess your own work |
| 5. Metrics for research leaders |
| 6. Metrics in recruitment and promotion |

The University of Leeds position clearly states that expert judgement is the primary way to assess the contribution to knowledge that a piece of research provides. As a member of a recruitment or promotion panel you may be thinking about using research metrics to analyse the research outputs of a candidate.
Responsible Research Metrics (2)

- Responsible Research Metrics
- Reward and Recognition
- Key Performance Indicators
- Planning
Research Community and CRediT

-- Career development

We aspire to support colleagues to succeed in their chosen career path – not only academic paths. This pillar is especially relevant to Research-only staff, in line with the objectives of The Concordat to Support the Career Development of Researchers; however, the processes developed to support the Concordat (e.g. tracking destinations) will benefit other staff and student groups.

What we have done:

- **Specialist career tracks.** To support collegiality and recognise the contributions of different career paths to a research endeavour, we created job tracks for Research Scientists and for Technologists. The initiative has been commended by The Academy of Medical Sciences.

- **Authorship.** Embedded the CASRAI CRediT taxonomy in our institutional outputs repository (Enlighten), allowing authors to record publicly their contribution to a publication. The CRediT taxonomy had been included in our institutional policy on good research practice since 2017. Glasgow is the only institution to be a formal signatory to CRediT.

- **Institutional coordination.** Established a University-level Research Culture and Careers Group, to support the University’s ongoing aspirations to strengthen its positive research culture, and lead on consultation.
Design and optimization of 1.55 μm AlGaInAs MQW polarization mode controllers


Abstract

A 1.55 μm AlGaInAs multi-quantum-well (MQW) ridge waveguide polarization mode controller (PMC) is proposed. The design is based on an asymmetric half-ridge waveguide structure in which the ridge is shallow etched on one side and has a deeply etched mesa structure on the other side. The Finite-Element Method (FEM) was used to simulate the PMC and optimize its structural parameters comprehensively. Furthermore, the fabrication tolerances were also investigated in detail. The optimized PMC has a polarization conversion efficiency (PCE) of around 92.5% with a half beam length of 1120 μm. When the PMC length was fixed at 1250 μm, to achieve a PCE deviation less than 8%, the tolerances for the ridge waveguide width and shallow etch height were ±0.6 μm to ±1.5 μm and ±2.5 μm to ±3.5 μm, respectively. In order to reduce interband gap absorption loss, the quantum well intermixing (QWI) technique was used in the model to realize a blueshift (200 nm) in the PMC. QWI is a simple, flexible, and low-cost technique for fabricating a PMC integrated with a laser diode and reduces parasitic reflections, which would otherwise degrade the overall performance. QWI also eliminates MQW material anisotropy and alleviates the birefringence effect without the need for regrowth, achieving nearly uniform properties as a bulk material.

Creator Roles

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Glasgow Author/Enlighten ID

Ye, Dr Shengwei and Liu, Professor Xiaofeng and Sun, Xiao and Marsh, Professor John and Hou, Dr Liaping

Sun, X. - Data curation, Investigation, Software, Writing – original draft
Yu, S. - Investigation
Qiu, B. - Conceptualization
Xiong, L. - Conceptualization, Writing – review and editing
Liu, X. - Conceptualization
Marsh, J. - Conceptualization, Writing – review and editing
Hou, L. - Conceptualization, Writing – review and editing

Edit item: Design and optimization of 1.55 μm AlGaInAs MQW polarization mode controllers
Technician's Commitment

Research libraries make it happen: RLUK statement of support for the Technician Commitment
Engagement with Research
Research Impact and Knowledge Exchange
Measures of Professional Esteem

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https://orcid.org/0000-0001-6643-0618

+ Research interests
+ Publications
+ Professional activities & recognition

Prizes, awards & distinctions
- 2021: Highly-Cited Researcher (Web of Science)
- 2021: Quantum Electronics Award (IEEE Photonics Society)
- 2021: Quantum Electronics and Optics Prize (European Physical Society)
- 2020: Highly-Cited Researcher (Web of Science)
- 2020: Optics and Photonics Prize (Institute of Physics)
- 2020: OBE (for services to Science) (UK Govt)
- 2019: Highly-Cited Researcher (Web of Science)
- 2019: Rumford Medal (Royal Society)

Miles Padgett on Twitter
Thank you Anton for stopping by our exhibit - finding (and fixing) the source of those methane leaks will be a joy.
https://twitter.com/MP_lightguru

Managing Profile and Esteem

Please use the fields below to record your measures of esteem. Be selective when making your entries: include measures of esteem since 2014, and the most prestigious measures from previous years. Use "Save and Return" to complete your entries. These entries will be posted to your personal profile as "Professional activities and recognition". Further guidance on how to add esteem data.

Estee

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Conclusion
Thanks and Questions