THE UNIVERSITY *of* EDINBURGH
Centre for Data, Culture & Society

DCS

CDCS
ANNUAL
REPORT

2021-2022

Nil habet infelix Paupertas durius in se
Quem quod ridiculos homines facit-----Juven.

2021–2022

THREE
YEARS OF
PROGRESS.

HELLO!

WELCOME TO THE THIRD ANNUAL REPORT FROM THE EDINBURGH CENTRE FOR DATA, CULTURE & SOCIETY (CDCS), DRAWING TOGETHER THE RANGE OF ACTIVITIES WE'VE BEEN UP TO DURING THE LAST YEAR, SINCE MAY 2021.

Although the CDCS team has continued to grapple with the twists and turns of the pandemic, we've got a lot to celebrate from the past three years, and I'm proud of the hard work, and agile efforts, that have gone into supporting researchers across the Arts, Humanities, and Social Sciences at Edinburgh with data-led approaches to both research and teaching. Our report focusses on the good things that have happened over the last three years, as well as looking forward to the centre's future.

Highlights of this year include our multifarious and well attended seminar series, featuring a range of fascinating international speakers, and our second annual lecture, given by Dr Keolu Fox from the Indigenous Futures Lab at the University of California, San Diego. We'll be organising our next annual lecture soon (and would always welcome suggestions of speakers we could be hosting). We've also trained hundreds of staff and students in specific digital research methods, and hosted our first summer school, which will be repeated and expanded this summer.

We've supported various small research grants, and work by PhD students, helping university members navigate the fairly complex and diverse support structures on offer at Edinburgh. We've

launched our first Digital Research Prizes, and are looking forward to learning more about the questions our communities have been posing, the methods used, and the results that have emerged. We're doing more and more with the Edinburgh Futures Institute team, and are looking forward to the year ahead when we should start to think about moving into the Old Royal Infirmary building, in real life.

CDCS is about community, and as we all continue to figure out what a post-covid, hybrid-working university looks like, we aim to support staff and students in data-led approaches to research. If we can be of help at all, please be in touch, and we look forward to the positive outcomes that will no doubt emerge from our networks over the next year.

This range of activity is not possible without the hard work of a great team, and in particular I'd like to thank the CDCS centre manager Dr Lisa Otty for expertly steering this shape-shifting ship across changeable seas. Dr Lucia Michielin has rapidly brought the training programme up to speed, liaising with many tutors who are paid to deliver specific training from across the University of Edinburgh. Our centre administrators, Cathy Naughton and Róisín O'Brien, helped grow our online

presence while also working the levers behind the scenes to provide high production values on our many, many events. Cathy and Róisín have now progressed to other, more senior, roles, and we are pleased to have supported them in their career development. CDCS has recently been joined by administrative assistant Likando Kumoyo, and we're looking forward to benefitting from the wealth of ideas she brings.

Throughout the last three years we have benefitted from the support, insight and encouragement of Professor Dorothy Miell, the Chair of our Steering Group, who steps down this year: we wish her all the best going forward.

We thank the Core Team of CDCS for providing input from across CAHSS, Library and University Collections, and Information Services: we are dependent on these networks to support the wider community. Ann Harrison from the Digital Innovation Team has continued to supply us with punchy and intelligent graphic design, and we're proud to showcase this here. EFI itself has given us support, particularly for the summer school, and this link is continuing to grow.

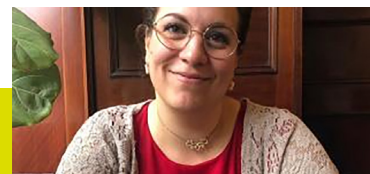**PROFESSOR MELISSA TERRAS**
Director

CDCS PEOPLE

MELISSA TERRAS
CENTRE DIRECTOR
Professor of Digital Cultural Heritage

LISA OTTY
Centre Manager

LUCIA MICHELIN
Digital Research Skills Training Manager

LIKANDO KUMOYO
Centre Administrative Assistant

ED MACKENZIE
Research Technologist
Digital Innovation Team

ARIANNA ANDREANGELI
CDCS Stakeholder Forum Chair

PHIL SHEAIL
Moray House School of Education and Sport

GALINA ANDREEVA
Business School

BEVERLEY HOOD
Edinburgh College of Art

JON HENDERSON
School of History, Classics and Archaeology

BEATRICE ALEX
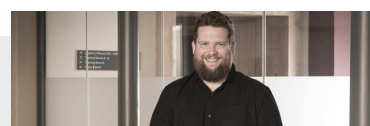Edinburgh Futures Institute & School of Languages, Literatures and Cultures

KENNY SMITH
School of Philosophy, Psychology and Language Sciences

MICHAEL FULLER
School of Divinity

ROBIN HILL
School of Informatics

LACHLAN URQUHART
Edinburgh Law School

DIEGO BATTISON
School of Economics

IANTHE SUTHERLAND
Digital Library

MORGAN CURRIE
School of Social and Political Science

NEW PHD AFFILIATES

NAOMI KORN

Naomi is working towards a PhD in Literatures, Languages and Culture. She is looking at the impact of Brexit on the management of copyright works by UK cultural heritage organisations.

FRANCISCA ANITA ADOM-OPARE

Francisca is a PhD student in School of Social and Political Science. Her research critically examines the conceptualisation, framings and practicalities of disability inclusion in Ghana.

AYÇA ATABEY

Ayça is a second-year PhD candidate in Law. Her research explores fairness by design and focuses on protecting vulnerable data subjects in their involvement with AI-driven technologies.

PHD AFFILIATES

AGANA-NSIIRE AGANA
School of Divinity

SUZANNE BLACK
School of Literatures, Languages and Cultures

ELEANOR CAPALDI
Moray House School of Education and Sport

ANNA COUTURIER
School of Social and Political Science

VICTORIA EVANS
Edinburgh College of Art

ELLEN FRANK DELGADO
School of Social and Political Science

LUCY HAVENS
School of Informatics

JUSTIN HO
School of Social and Political Science

ASAD KHAN
Edinburgh College of Art

WENLONG LI
Edinburgh Law School

YI LI
School of Literatures, Languages and Cultures

ANDREW MCLEAN
School of History, Classics and Archaeology

NICK MOLS
Edinburgh College of Art

YAZMIN MORLET CORTI
School of Social and Political Science

JOSEPH NOCKELS
School of Literatures, Languages and Cultures

ROBYN PRITZKER
School of Literatures, Languages and Cultures

MATJAZ VIDMAR
School of Social and Political Science

ENRIC MARTORELL
School of Economics

ADAM FERRON
School of Literatures, Languages and Cultures

ROXANNE GUILFORD
School of History, Classics and Archaeology

RESEARCH AFFILIATES

FRANCESCA SAGGINI
Marie Skłodowska-Curie Actions Fellow
Università degli Studi della Tuscia

DAVID BEAVAN
Principal Research Software Engineer, The Alan Turing Institute

ADAM CRYMBLE
Lecturer in Digital Humanities, University College London

GEORGE OATES
Executive Director & Founder of The Flickr Foundation.

KEVIN GLYNN
Associate Professor in Geography & Environmental Sciences at Northumbria University.

EVENTS

ONLINE, IN PERSON & HYBRID.

Our approach to events over the last year has been shaped in dialogue with the world around us. We have continued to host events predominantly online and, as restrictions waxed and waned, we've experimented with hybrid formats that will allow both in-person and remote attendance. In autumn 2021, we held our first ever themed seminar series: we brought together historians, artists, social scientists, financial analysts and humanists to share their work on climate data and digital research into environmental issues, with the aim of amplifying the discussions taking place at COP26. We've also used this year to think carefully about what our post-pandemic events policy will look like, and set out our aim to run a diverse, inclusive and low carbon programme going forwards.

EVENTS

DATA AS POWER: THE NEXT 100 GENERATIONS OF INDIGENOUS DATA SOVEREIGNTY

Dr Keolu Fox

Our second annual lecture was delivered by anthropologist and activist Professor Keolu Fox (University of California, San Diego). Exploring how genomic health data from Indigenous communities can be harnessed and put to the service of those communities, Keolu discussed new tools to enable equitable Indigenous data futures and how in Indigenous Data Sovereignty (IDS), circular economic systems, and place-based innovation can provide means to achieving a more equitable future. Over 100 people attended, joining the lecture from around the world.

COLLABORATIVE EVENTS

YOUR COMPUTER IS ON FIRE \
A seminar with Mar Hicks and Kavita Philip, hosted by the Digital Social Science Cluster

GREENING DH \
with the University of Southampton Digital Humanities, the Sussex Humanities Lab, and the Humanities & Data Science Turing interest group.

CURATR WORKSHOP \
We worked with University College Dublin to host a workshop on the CURATR tool they have developed for searching the British Library books collection.

ARCHIVE OF TOMORROW \
A workshop on web archiving hosted as part of the Archive of Tomorrow project, involving University of Edinburgh colleagues and the National Library.

GROUNDED SPECULATION \
Professor Tracy Ireland gave a talk for the Digital Cultural Heritage Cluster.

SELFIE DEMOCRACY \
A talk by Professor Elizabeth Losh, hosted by the Digital Social Science cluster.

FIKAS & SOCIALS

We love to get together with our community, and providing opportunities for researchers to network is important to the kind of development work we do. As we are all aware, this has been harder than ever to facilitate with the move online in the last couple of years, so we are delighted to have been able to hold a few in-person fikas and socials, as restrictions have permitted. They provide an excellent opportunity to meet other researchers working with digital methods and to say hi to the CDCS team.

OUR THEMED SEMINAR SERIES

Computation at the Service of Social Sciences: Investigating IPCC Leadership through Network Analysis and Machine Learning
Tommaso Venturini

Analysing Climate Change Narratives Past and Present
Amy Coombs, Robert Suits and Jo Guildi

Using Climate Data in Financial Decision Making
Matthew Brander and Atreya Dey

Digital Materialities / Digital Imaginaries
Heba Y. Amin, Helen V. Pritchard, Nathan Ensmenger and Wilko Graf von Hardenberg

Data Citizens and the Right to Data
Jennifer Gabrys

A Migrant's Story: Designing Against Unconscious Bias in Digitised Historical Archives
Adam Crymble

Cruising, Curious & Casual? What user studies can tell us about the use of Digital Cultural Heritage Collections
Claire Bailey Ross

From the CNN Effect to the SNN Effect
Kate Wright

Heritage-based tribalism in big data ecologies and the role of 'experts'
Chiara Bonacchi

NFTs and Museums: Current Uses and Debates
Foteini Valeonti

Platform Monopolisation: Inside the Permissive Mobile Ecosystem
Jennifer Pybus

The Being and Becoming of Rhizomatic Digital Humanities in Majority Worlds
Dibyadyuti Roy

Working without a map: Co-production as a driver of research pathways in the Digital Humanities and beyond
Seth Mehl

Poetic Computation: Improvisation and Social Praxis
Victor Peterson II

REGISTRATIONS BY COUNTRY

- **1-10 REGISTRATIONS BY COUNTRY**
- **10-100 REGISTRATIONS BY COUNTRY**
- **100-200 REGISTRATIONS BY COUNTRY**
- **200+ REGISTRATIONS BY COUNTRY**

REGISTRATIONS BY CONTINENT

- 11 / AFRICA
- 62 / ASIA
- 16 / AUSTRALASIA
- 1061 / EUROPE
- 171 / NORTH AMERICA
- 11 / SOUTH AMERICA
- 11 / MIDDLE EAST
- 121 / UNKNOWN

"I THOROUGHLY ENJOYED THE VARIETY OF APPROACHES PRESENTED BY THE PANELLISTS. THE MODERATOR'S QUESTIONS WERE PERFECT."
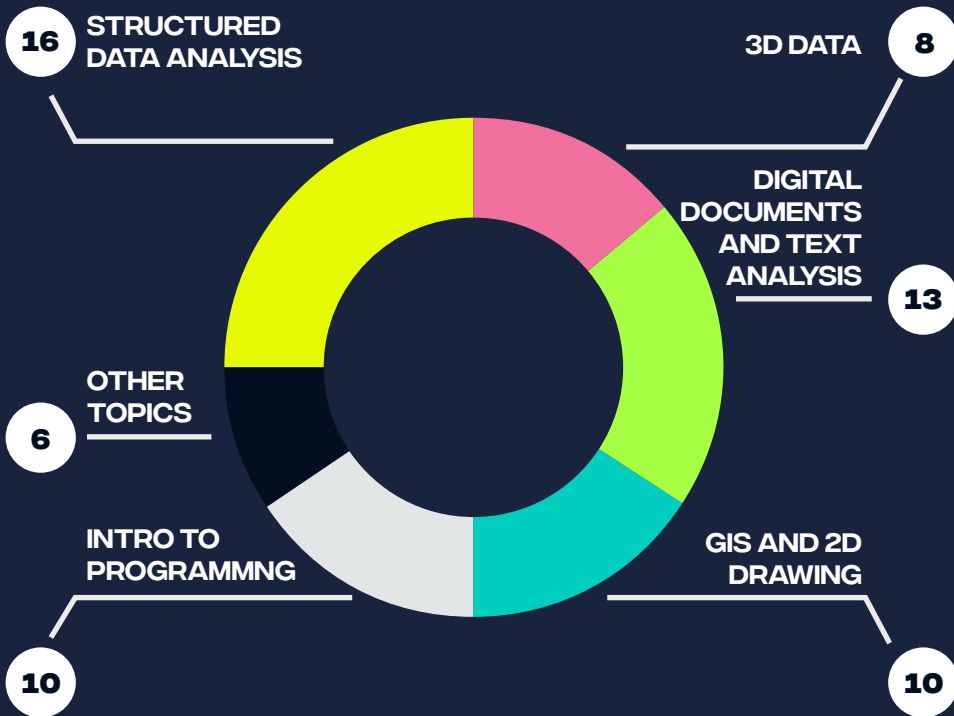SEMINAR ATTENDEE

TRAINING

BUILDING DATA SKILLS.

This year saw our training team triple in size as our two returning Training Fellows were joined by six new colleagues from across the College, each bringing their specialisms and expertise to the programme. We were delighted to be able to broaden the range of topics offered across our programme as a result, and despite having to continue to work fully online, this year's programme featured a wide array of skills and methods courses in a number of different formats. We also introduced a new Data Surgery, where researchers can book time to discuss their own projects with our training fellows. Over the summer we delivered our first ever CDCS Summer School, focused on text and data analysis. The enthusiastic feedback we received prompted us to plan a second Summer School this coming year, which we are looking forward to hosting in June 2022.
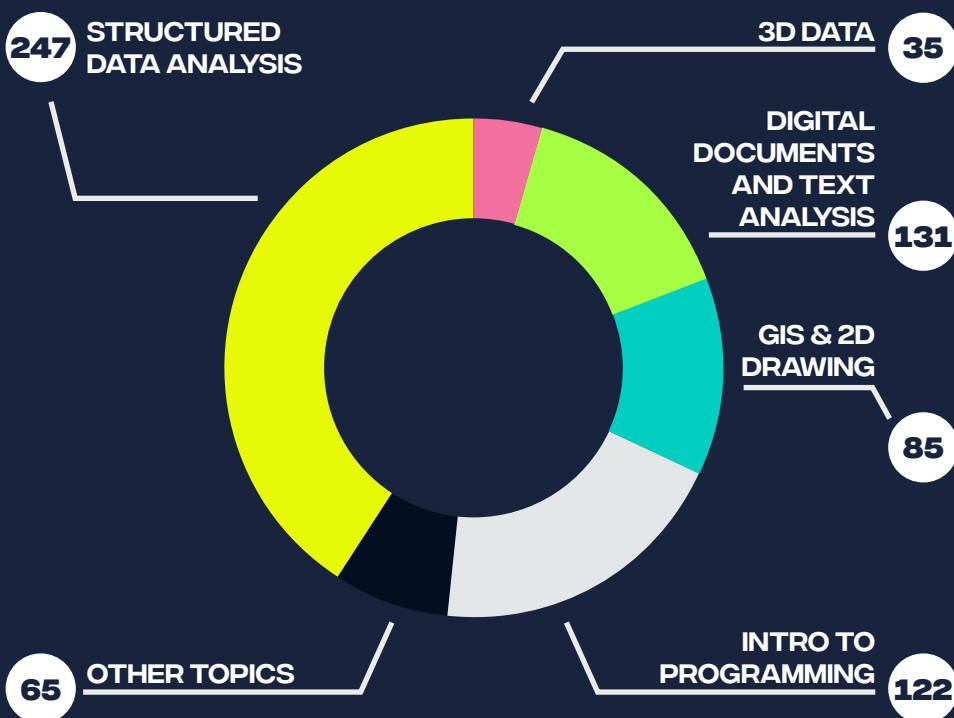
CDCS TRAINING COURSES: 63

16 STRUCTURED DATA ANALYSIS

8 3D DATA

13 DIGITAL DOCUMENTS AND TEXT ANALYSIS

6 OTHER TOPICS

10 INTRO TO PROGRAMMNG

10 GIS AND 2D DRAWING

CDCS TRAINING REGISTRATIONS: 685

247 STRUCTURED DATA ANALYSIS

35 3D DATA

131 DIGITAL DOCUMENTS AND TEXT ANALYSIS

85 GIS & 2D DRAWING

65 OTHER TOPICS

122 INTRO TO PROGRAMMING

TRAINING PROGRAMME

We continue to have strong attendance across our courses with over 600 staff and students upskilling with us this year and participating in over 60 courses on topics ranging from structured and unstructured data analysis, programming, and GIS, to digital drawing and 3D data. We were able to achieve this by drawing on the expertise of our Training Fellows and colleagues from EDINA, Library, University Collections, and UCreate Studio.

NEW TRAINING PATHWAYS

We are committed to helping researchers orient themselves and learn new methods, that's why we have developed even more Training Pathways.

This year's additions cover the topics of Statistical Analysis and Text Analysis. Two new pathways on Managing Digitised Documents and Analysing Geographical Data are currently under development.

WORKSHOP SERIES

We kicked off the second semester with a new type of training: the workshop series. These are interconnected training events that focus on different aspects of the same topic. Attendees can book all of the associated workshops or just individual workshops.

The first four series covered: Copyright, Recording 3D data, Digitised Documents and Statistics.

DATA SURGERIES

The Data Surgeries meetings are a new initiative this year. These one-to-one meetings with our training fellows can be booked by CAHSS researchers looking for help with the application of data and digital-driven techniques. After attending training, researchers can sometimes struggle to apply their learning to real-world data: this format provides a chance to get advice on how to process data, how to troubleshoot issues and how to find further information and training options.

CDCS TRAINING FELLOWS

JAMES BESSE

James is a PhD student in Science, Technology and Innovation Studies. His research concerns the implementation of e-ID systems, specifically looking at the EU Settlement Scheme. He uses text mining alongside social surveys and interviews to understand user experience with the EUSS.

STEFANO BORDONI

Stefano has recently completed a PhD in Architectural Archaeology at the School of History, Classics and Archaeology. In his thesis, he turned the building materials used in medieval Umbria into quantitative data, in order to identify patterns. Through this, he is knowledgeable in photogrammetric surveying, AutoCAD vector drawing, QGIS geoprocessing, RStudio data management and visualisation.

LUCY HAVENS

Lucy is a PhD student based in the School of Informatics, and she researches bias in cultural heritage metadata. Using a collection of case studies within cultural heritage collections (such as the Archives at the University of Edinburgh), she combines natural language processing and data visualisation technologies to identify and classify the bias present in the language of cultural heritage catalogues.
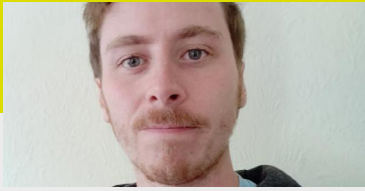
ANDREW MCLEAN

Andrew is finishing his PhD at the School of History, Classics and Archaeology. As an archaeologist with research interests currently focused on the economy of the Roman Adriatic, his methodological approaches include GIS and statistical analysis, particularly expanding on traditional Least Cost Path (LCP) analysis by using circuit theory to model maritime movement.

ENRIC MARTORELL TOLEDANO

Enric is a PhD researcher at the School of Economics, focusing on macroeconomics and inequality. His research is based on quantitative heterogeneous agent models estimated using cross-sectional and longitudinal household-level data, which he uses in order to identify the effect of different macroeconomic policies on consumption, wealth, and income inequality.

DANIEL WHEELDON

Daniel holds a PhD degree in musicology. He has worked with museums and private collections in the UK, Germany, and USA, using traditional and digital technologies to extract information from original art objects. As a Chester Dale fellow at the Metropolitan Museum of Art (NY), he also took part in a project investigating the efficacy of photogrammetry in studying museum objects.

FANG JACKSON-YANG

Fang is a PhD student at the School of Philosophy, Psychology, and Language Sciences. Her project investigates how speakers encode prominent information in simulated conversations and how listeners predict upcoming utterances in comprehension. She works with both laboratory and corpus data. She conducts data analyses in R using multivariate statistical tools such as mixed-effects models.

TEXT & DATA ANALYSIS SUMMER SCHOOL 2021

We held our first summer school last June. Delivered online and with support from the Scottish Graduate School for Social Sciences, it was attended by academic researchers and professionals from across Scotland. Participants were able to choose between ten blocks of teaching, tailoring their own pathway, while also being given a choice between R and Python as coding languages.

It was funded by the Data-Driven Innovation Initiative as part of their 'Building Back Better' open funding programme, and supported by the Scottish Funding Council Covid-19 Recovery funding to the University of Edinburgh.

"THIS WAS BY FAR THE MOST RELEVANT, WELL-ORGANISED AND INTERESTING TRAINING THAT I HAVE EVER ATTENDED."

**PARTICIPANT \
TEXT & DATA ANALYSIS
SUMMER SCHOOL 2021**

16
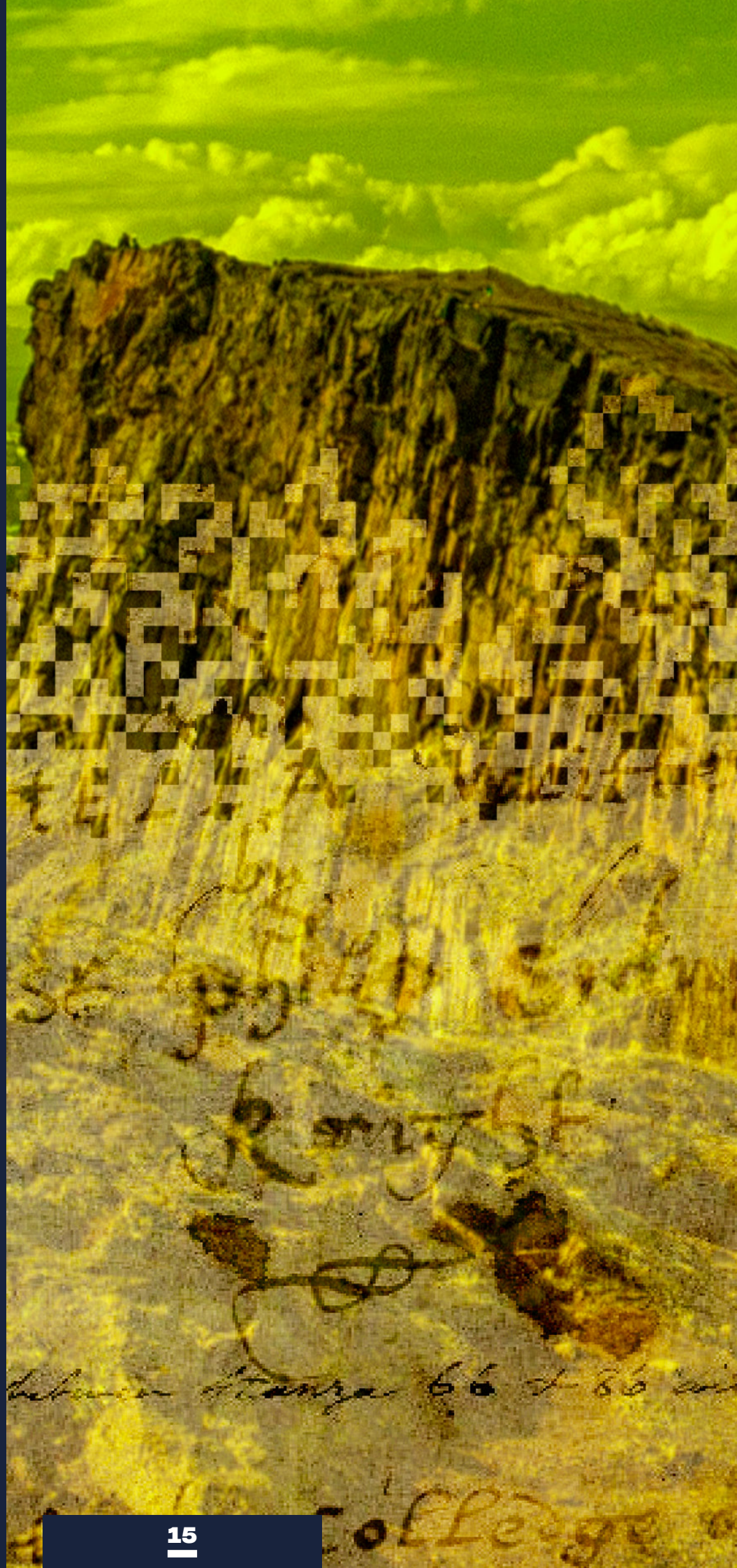
DATA

OUR YEAR IN NUMBERS

After significant growth last year, our numbers have held steady this year despite the ups and downs of the world around us. It has been challenging to maintain our programmes throughout repeated lockdowns, and in the face of zoom fatigue and the general exhaustion felt by many after two years of turbulence. We've delivered fewer seminars, but more training courses, with an incredible 2149 people registering for our events and workshops. We've seen another successful grant this year, too, and are looking forward to the outputs of research we have helped to fund. We're proud to have kept delivering, and the data below reflects our determination to be there for our community and keep delivering opportunities for engagement, learning and research development.
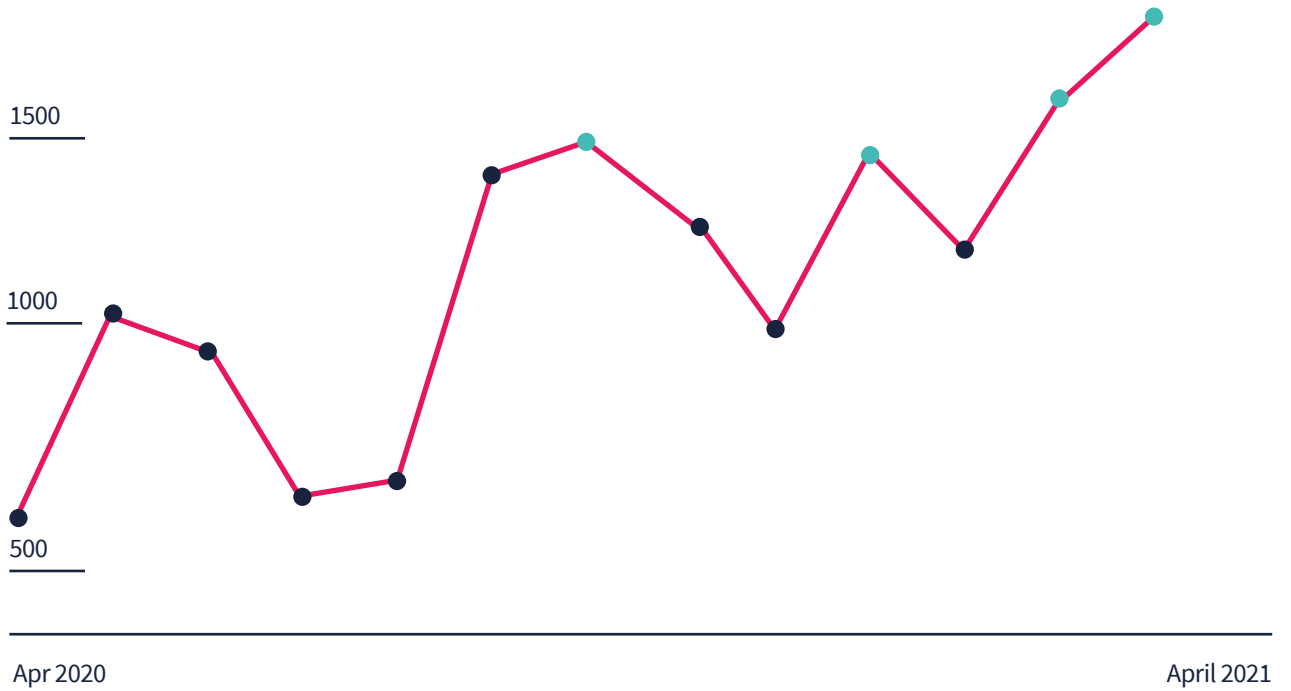
AUDIENCE

- ● Philippines 2.5%
- ● India 3.8%
- ● China 5.4%
- ● US 9.4%
- ● UK 48.2% (Edinburgh 17%)
- ○ Unidentified 30.9%
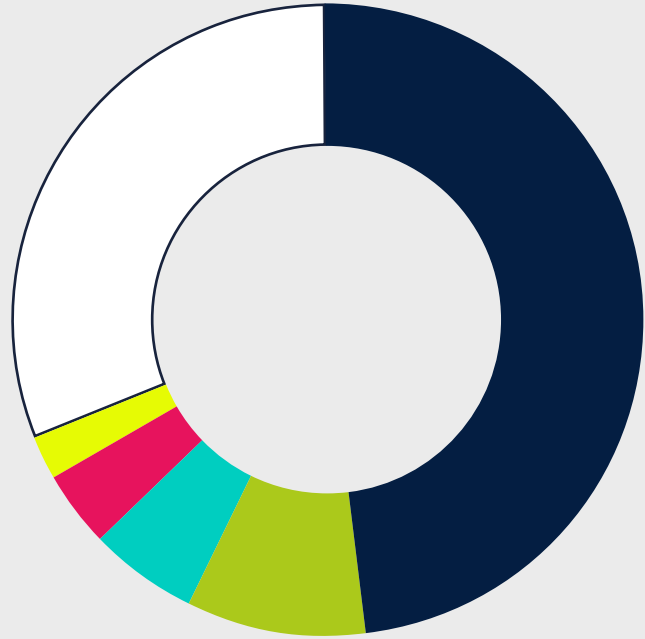
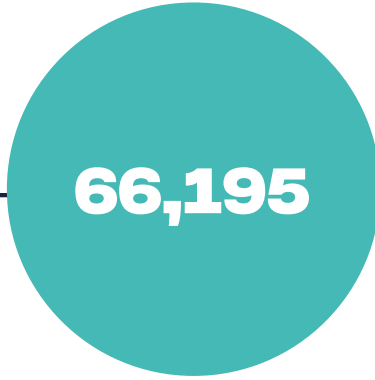Breakdown of the top geographic locations
of our web audience

WEBSITE

1500

1000

500

Apr 2020

April 2021

Recorded visits to the website, showing spikes of 1400+
in September, October and April

VISITORS

17,516

Total number of visitors

66,195

Total number of page views
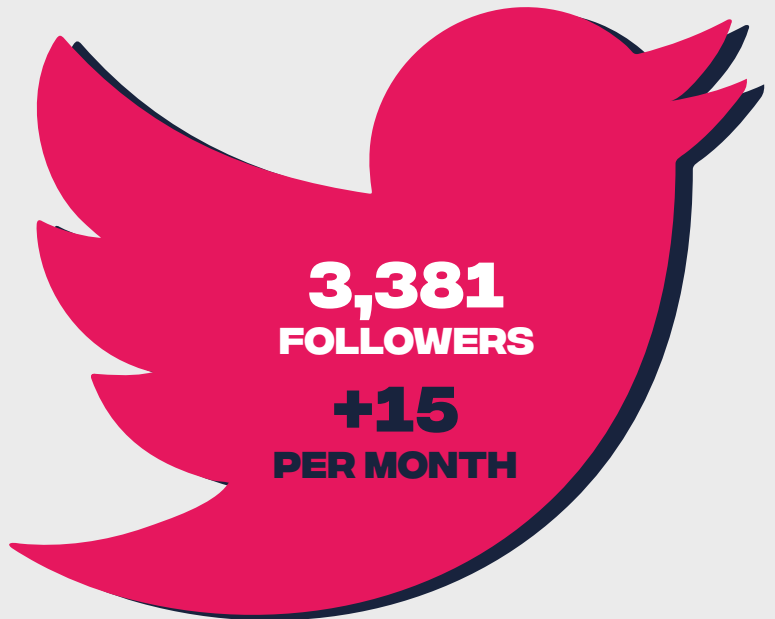
12,697

Unique visitors to website

3,074

Returning visitors to website (a huge 15.2%!)

SOCIALS

5,085
PROFILE VIEWS
PER MONTH

+43.5K
IMPRESSIONS
PER MONTH

1.9%
ENGAGEMENT
RATE

3,381
FOLLOWERS

+15
PER MONTH

RESEARCH

OUR RAISON D'ÊTRE.

We've been delighted to be able to support a wide range of projects again this year. As well as supporting a significant new grant, which explores the potential of large scale cultural analytics, we've enabled a few research projects to take key steps forward and offered small scale funding to a number of PhD students through an open call. We've also continued to focus energy and resources on facilitating research in text and data mining and enabling the use of high performance computing, both areas of strategic focus for CDCS.

Our clusters bring together networks of researchers with shared interests from across the College of Arts, Humanities and Social Sciences to explore potential collaborations, develop interdisciplinary projects, and consolidate expertise in specific areas. This year we've been delighted to add two new clusters to our list, Game Worlds and Data-Driven Thriving in the Academic Community, which both launched in early 2022. They join our more established clusters, which continue to grow and develop in exciting and sometimes surprising directions.

RESEARCH CLUSTERS

GAME WORLDS
Leads: Tom Bolyston & Merlin Seller

This interdisciplinary group is dedicated to exploring games and play in their broadest social context and supporting research into any aspect of games (especially but not only digital games), and also in asking how critical playfulness might open new possibilities for research, teaching, and general intellectual conviviality.

The cluster has already held an online conference, Affecting Game Space, in September 2021 and is currently planning a joint event with the Serious_Play Collaboratory, University of Wisconsin-Milwaukee.

DATA-DRIVEN THRIVING IN THE ACADEMIC COMMUNITY
Lead: Mark Hoelterhoff

This new cluster aims to provide leadership and empower capacity for thriving in academic communities by fostering interdisciplinary research collaboration and networking among academic, support and professional services. With members from across the University's academic and professional communities, the cluster is currently developing a graduate award, working on a collaboration with Queens University and hosting the Thrive network, which focuses on student and staff well-bring in higher education.

DIGITAL SOCIAL SCIENCE

The Digital Social Science cluster has had a busy year with several events and a new PhD Studentship in partnership with the University of Copenhagen. In October, they held a two day Digital Worker Enquiry workshop showcasing worker-led data projects in collaboration with several partners and with support from the Workers' Observatory, which led to a publication. In the same month they hosted Working on/with Industry: A Collaborative Conversation and in April they hosted a talk by Professor Liz Losh.

DIGITAL CULTURAL HERITAGE

This year a number of cluster members have been involved with the development of a new joint PhD in cultural heritage and other activities with the Una Europa consortium of universities. Tanja Romankiewicz and cluster co-lead Jen Ross are now also leads for one of the College of Arts, Humanities and Social Sciences Research Themes, bringing their interests in digital cultural heritage and digital engagement to the work of the 'Cultural Heritage' group.

MEDIA & COMMUNICATIONS

Cluster members have been involved with many impactful projects this year, including the exhibition Telling Tales of Engagement: Poetic Expressions of Smart Donations with Oxfam, created in response to Chris Speed's OxChain project, a new film by Itandehui Jansen, Signs and Gestures which received the Audience Award for Best Short Film at the Cambria Film Festival, and cluster lead Kate Wright's work on how media influences government allocation of humanitarian aid. The findings of this project have been presented to several UN agencies, as well as the International Committee of the Red Cross, European Civil Protection and Humanitarian Aid Operations and the Norwegian Refugee Council.

DIGITAL GLOBAL DEVELOPMENT

The Digital Global Development cluster focuses on the role of digital technology in the context of international development and humanitarianism. As well as hosting informal research sharing and networking events for cluster members, over the last year cluster lead Andreas Hackl has been collaborating with the International Labour Organization and UNHCR in a project that seeks to improve working conditions and reduce risks for refugees in the online gig economy.

FINTECH & FINANCIAL SERVICES

This year has seen FinTech and Financial Services host a major international conference Economics of Financial Technology (May 2022) and grow their PhD in Financial Technology programme which now has six fully-funded studentships, each either fully or co-sponsored by an industry partner. The cluster has also been instrumental to negotiating the newly announced £7.5M UoE-abrdn partnership to establish the Centre for Investing Innovation, which will be hosted by EFI.

TOURISM, TECHNOLOGY & DATA

The Tourism, Technology & Data Cluster focuses on the strategic application of technologies in tourism and hospitality, and data analytics. This year they are a partner in the AHRC-funded project Towards Large-scale Cultural Analytics in the Arts and Humanities, among other projects.

GROWING OUR TEXT MINING CAPACITY

As part of our second Text Mining Lab in the summer of 2021, we supported six researchers to develop questions based on their interests, and then to use defoe to run queries against a variety of datasets. An exciting range of research questions emerged, ranging from testing conformity of company constitutional documents, to how the economy has been framed in newspaper discourse, to shifts in public perception of Kashmir, to the reception of Latin poetry in British publications. Researchers were supported in exploring these questions by our colleagues at the Edinburgh Parallel Computing Centre. This year we have also been trialling the use of ProQuest's TDM Studio, a workspace in which researchers have been able to explore and analyse ProQuest data.

We're also thrilled to have recruited a new team member this year: Dr Jessica Witte will take up an EFI Postdoctoral Fellowship in Text Mining in June and, alongside her own project, she has a remit to work with CDCS to help others get started with these exciting methods. To complement this support, we've also been looking at how we can increase the range of materials that researchers in the arts and humanities can access for computational analysis. We've purchased a large set of newspaper data from ProQuest, including titles from Britain and the United States published over the course of the Nineteenth and early Twentieth Centuries. We've also sponsored digitisation of more of the University's collections in partnership with colleagues in Library and University Collections. Together we're aiming to build up an impressive collection of historical digitised materials which could underpin a huge range of research topics.

TOWARDS LARGE-SCALE CULTURAL ANALYTICS IN THE ARTS AND HUMANITIES

With funding from the UK's Arts and Humanities Research Council and in partnership with Data Thistle, CDCS Director Melissa Terras is leading a project that explores how data generated by the tens of thousands of cultural events that happen across the UK every week - from theatre to comedy, and festivals to exhibitions - can be made accessible to researchers interested in the UK's cultural and creative economy. The CDCS Tourism, Technology & Data cluster is one of several partners on this project, which involves an interdisciplinary team from the universities of Edinburgh and St Andrews.

IT'S ALL ABOUT THE FEELINGS...

We were delighted to be able to support a new performance project which looks at AI and emotion and innovative digital strategies for performance distribution. Sentiment recognition systems use face recognition to map facial expressions, with natural language processing and biometrics, to systematically identify users' affective states, i.e. emotion. However, AI systems are not without bias and problematic standardisation, which potentially reinforce privileges and inequalities, racism, sexism, ageism and western cultural bias. Funding from CDCS will be used to develop new web materials as an online hub for the project.

REVEALING THE WATERS BELOW THE SULTAN'S PALACE

Led by Professor James Crow, this project saw PhD student Stefano Bordoni build a GIS based 3D digital terrain model of the Topkapı Saray in Istanbul. Since the late 15th Century this was the palace of the Ottoman Sultans and within its four courts are the remains of the Byzantine First Hill and a unique sequence of large cisterns, which have the potential to shed light on the functioning of the Byzantine and Ottoman water supply. The model will make it possible to create new visualisations of the famous palace and its subsurface heritage for future public display and publications, revealing a new unrecognised aspect of the city's long-term history and insights into past technological achievements. The project is a collaboration between the University of Edinburgh, Northumberland University, the Technical University of Istanbul and the British Institute at Ankara.

MUSIC STREAMING AS GLOBAL CULTURAL DIFFUSION

We've been pleased to assist this project, led by Tod Van Gunten, develop from an idea shared at one of our Stakeholder forums to a pilot project funded by Creative Informatics. The project uses daily global rankings data from the music platform Spotify to analyse patterns of cultural diffusion in the music arena. As of late 2021, Spotify was available in 69 countries and reported having more than 400 million users. Daily rankings data (the top 200 most-streamed songs) are available for each country since 2017, enabling Tod and his team to examine patterns of global cultural diffusion, that is, the spread of cultural objects (songs) around the world.

A SUMMARY

36
COOL
THINGS.

It's been an incredible three years since CDCS was launched. When we began to build the Centre up from scratch in 2019, we couldn't have foreseen the kinds of things that would happen in the coming years: on one hand, the unprecedented events on the world stage, and on the other, the many smaller moments, happenings, and outcomes both personal and professional that delighted us and made us proud. Here are some of those cool things that happened in our first 36 months!

TRUTH and PEACE:

RECOMMENDED:

OR,

Some Examination of, and Observations upon
a Pamphlet entitled, *Peace and Unity re-
commended:* Or, a Method proposed for
compromifing the Difference and coalefcing
the two reformed ____ In
a Lett ____ Glaf-
gow.

Th

By

Zech. viii. 19.----*Therefore love the truth and peace.*
Ver. 17.----*Love no falfe oath: for all thefe are
things that I hate, faith the Lord.*
Ifaiah viii. 13. *Say ye not, A confederacy, to all them,
to whom this peop ____ confederacy. Ver.*

36 COOL THINGS

#1 CDCS FEATURED AS AN IMPLEMENTATION STORY IN THE EUROPEAN COMMISSION FUNDED FAIRSFAIR PROJECT

#2 WE HELPED PILOT A PROJECT WHICH WENT ON TO BE AWARDED A HUGE AHRC GRANT

#3 WE CO-FOUNDED THE DIGITAL HUMANITIES CLIMATE COALITION

#7 WE WERE THANKED IN THE PHD SUBMITTED BY NIC MOLS, WHO ACKNOWLEDGED OUR SUPPORT AND HELP WITH HIS PROJECT

#8 OUR PHD AFFILIATES USED LIDAR SCANNERS TO CREATE BEAUTIFUL 3D IMAGES OF THE COLLECTIONS INSIDE THE NATIONAL LIBRARY OF SCOTLAND

#9 OUR DIGITAL SOCIAL SCIENCE CLUSTER LEADS WERE APPROACHED BY PUBLISHERS WHO WANTED TO COMMISSION A TEXT BOOK

#13 WE TURNED A CHALLENGE INTO AN OPPORTUNITY AND HOSTED THE CANCELLED CONFERENCE CONFERENCE IN MAY 2020

#14 WE PARTNERED WITH THE CRC TO EXPLORE THE INFLUENCE OF ADAM SMITH BY TEXT MINING THE THESES COLLECTION

#15 IMPROVBOT, BUILT WITH OUR SUPPORT, USED AI TO AUTO-GENERATE ENTIRELY FEASIBLE SHOW TITLES FROM OLD FRINGE FESTIVAL LISTINGS

#19 WE WERE INVITED TO CONTRIBUTE TO SUMMER SCHOOLS RUN BY THE ALAN TURING INSTITUTE

#20 WE HELPED TO RESCUE AND ENSURE THE SECURITY OF DATA FROM UKRANIAN CULTURAL ORGANISATIONS

#21 WE WAVED GOODBYE TO CATHY AND ROISIN WHO GOT THE SKILLS AND EXPERIENCE THEY NEEDED TO LAND GREAT NEW OPPORTUNITIES

#25 WE HELPED GET THE BYZANTINE PROPOSOGRAPHY PROJECT BACK ON ITS FEET AGAIN

#26 WE WORKED WITH THE CRC AND THE NLS TO OFFER TRAINING IN LIBRARY CARPENTRY

#27 OUR AFFILIATE YAZMIN CONCIEVED, BUILT AND PUBLISHED A COMPUTER GAME WITH OUR HELP

#31 OUR WEBSITE HAS OVER 3000 RETURNING VISITORS

#32 WE BECAME THE HOME OF TEI-BY-EXAMPLE

#33 WE HIT OUR 3-YEAR KPIS IN THE FIRST YEAR

#4 WE INTRODUCED AT LEAST FOUR RESEARCHERS TO NEW COLLEAGUES THAT THEY WOULD GO ON TO COLLABORATE WITH

#5 AFTER ONE OF OUR SEMINARS, THE SPEAKER WAS APPROACHED BY THE BRITISH LIBRARY ABOUT A POTENTIAL COLLABORATION

#6 WE BECAME INSTITUTIONAL PARTNERS OF THE PROGRAMMING HISTORIAN

#10 OUR EVENTS HAVE GENERATED INTEREST WAY BEYOND HIGHER EDUCATION, WITH MANY ATTENDEES WORKING IN OTHER SECTORS

#11 WE SEED-FUNDED A TEXT MINING COURSE THAT BECAME THE FIRST PILOT HYBRID COURSE AT THE EDINBURGH FUTURES INSTITUTE

#12 WE WISHED MELE KALIKIMAKA TO KEOLU FOX, A MAORI GENETIC SCIENTIST, WHO GAVE OUR 2021 CHRISTMAS LECTURE

#16 WE SUPPORTED A MEETING OF EGYPTOLOGISTS WHO ARE WORKING TO STOP ONLINE TRAFFICKING OF ANTIQUITIES

#17 WE MASHED UP THE UNIVERSITY'S IMAGE COLLECTIONS TO CREATE BRANDING THAT PUTS WOMEN FROM THE ARCHIVES UP FRONT

#18 WE WATCHED OUR PHD AFFILIATES MOVE ON TO POSTDOCS AND LECTURESHIPS ACROSS THE UK AND BEYOND

#22 OUR TEAM OF TRAINING FELLOWS HELPED US TRAIN UP OVER 900 STAFF AND STUDENTS

#23 MEDIA & COMMS CLUSTER LEAD KATE WRIGHT WAS INVITED TO PRESENT HER WORK TO THE UN

#24 WE WATCHED THE SUN SET IN ZIMBABWE AS REMOTE IASH FELLOW TINASHE MUSHAKAVANHU GAVE AN ONLINE SEMINAR FOR US

#28 OUR TWITTER ACCOUNT HIT 3K FOLLOWERS

#29 WE ATE CDCS CUPCAKES TO CELEBRATE OUR LAUNCH

#30 OUR GUIDANCE ON REMOTE AND ONLINE RESEARCH METHODS HAS BEEN DOWNLOADED BY OVER 130 PEOPLE

#34 WE LAUNCHED A NEW DIGITISATION INTERNSHIP IN PARTNERSHIP WITH COLLEAGUES IN LUC

#35 WE WORKED WITH THE EPCC TO HELP RESEARCHERS EXPERIMENT WITH TEXT MINING HISTORIC DATA

#36 WE LAUNCHED OUR NEW DIGITAL RESEARCH PRIZES TO CELEBRATE OUR COMMUNITY

COMMUNITY

BRINGING PEOPLE TOGETHER.

Supporting our community is central to our mission. As the world adjusted to life with Covid-19, we produced a series of guidance documents for researchers working in areas severely impacted by social restrictions and, as the vaccine roll out made in-person events possible again, we provided much-missed social and networking opportunities for our PhD community. Responding to the COP26 conference in Glasgow, we worked with partners at other UK organisations to support advocacy for climate change action in data-led research. We were also pleased to be able to provide bursaries and fellowships, for both online and in-person activities, and to welcome new fellows and affiliates to the CDCS community.

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COMMUNITY

IASH FELLOWSHIPS

INSTITUTE FOR ADVANCED STUDIES IN THE HUMANITIES

We partner with IASH to offer funded Digital Scholarship Visiting Fellowships and Digital Scholarship Postdoctoral Fellowships each year.

VISITING RESEARCH FELLOW 2021–2022

DR JENNIFER GUILIANO

Jennifer Guiliano is Associate Professor in the Department of History and affiliated faculty in both Native American and Indigenous Studies and American Studies at IUPUI in Indianapolis, Indiana. As part of her Decolonizing Knowledge Production through Linked Open Data project she will spend two months exploring knowledge production as it relates to the Scottish context of Indigenous data.

POSTDOCTORAL FELLOW
DR MALLIKA LEUZINGER

Mallika Leuzinger is a visiting researcher at Humboldt University in Berlin. Her project Archival Imaginaries and the Politics of History in South Asia looks at the rise of digital crowdsourced platforms dealing in histories of the Indian subcontinent. It asks how, why and for whom these platforms constitute 'archives'. It examines the affective, material, visual and geopolitical registers they deploy and conjure, situating them in relation to institutional and/or stubbornly analogue collections; activist media projects; and popular history initiatives in Africa and the Middle East.

PARTNERS

GREENING DH & DIGITAL HUMANITIES CLIMATE COALITION

In November, we hosted a public discussion and community workshop focused on Greening DH, to explore how researchers could collaborate to lower the environmental impact of their digital work. Bringing together representatives of centres and research groups from universities across the UK, as well as other research organisations and funders, the workshop led to the formation of a series of working groups under the banner of the Digital Humanities Climate Coalition. We're proud to be supporting this work which has just delivered its first outcome - A Researcher Guide to Writing a Climate Justice-Oriented Data Management Plan.

INSTITUTIONAL PARTNER OF THE PROGRAMMING HISTORIAN

We're delighted to be renewing our partnership with the Programming Historian again this year, and using their wonderful tutorials in our training programme. As a partner, CDCS is supporting the growth and sustainability of the PH website, and helping to ensure that the materials they publish remain open and accessible.

DIGITAL LIBRARY INTERNSHIP

We've partnered with the Digital Library team to offer two internships this year with the aim of developing skills and supporting the creation of digital collections. PhD students Ash Charlton and Vesna Curlic are working with us to digitise the University's student newspaper, and to develop a training pathway on digitisation, OCR and working with digitised documents.

INVESTMENT

SUPPORTING ACCESS TO PROQUEST TDM STUDIO

This year we have also invested in ProQuest's TDM Studio, a workspace in which researchers have been able to explore and analyse ProQuest data. The service consists of a cloud-based platform on Amazon Web Services with examples of Jupyter notebooks that can be used to process the collections of papers. By making services like this available to our community, we aim to ensure they have all the tools they need to adopt data-led methods.

SUPPORT

FUTURE CULTURE EDINBURGH

We were delighted to be able to support PhD researcher Vikki Jones to hold Future Culture Edinburgh, a hybrid workshop intended to inspire creative thinking and collective action towards a more equitable and inclusive future of culture in the city. Held in Leith Theatre, this event was simultaneously broadcast on Zoom. Following provocations from invited speakers, there were workshop activities using the whiteboard tool Miro, and breakouts to establish collective solutions-based approaches to addressing challenges and seizing opportunities for the benefit of Edinburgh's cultural ecosystem.

RESEARCH ADAPTATION GUIDANCE

The second year of the global Covid-19 pandemic has seen the introduction of vaccines and a corresponding decline in social distancing and travel restrictions. However, throughout much of this year, researchers have still had to work online and at a remove from their subjects and audiences. In Summer 2021, CDCS produced a series of guides designed specifically for researchers within the College, with advice on services, tools and remote research methods.

ARCHIVES, COLLECTIONS & ACCESS

PARTICIPATORY, OBSERVATION & FACE TO FACE RESEARCH METHODS

PUBLIC ENGAGEMENT, EVENTS & EXHIBITIONS

SOCIAL MEDIA RESEARCH: ETHICAL GUIDANCE
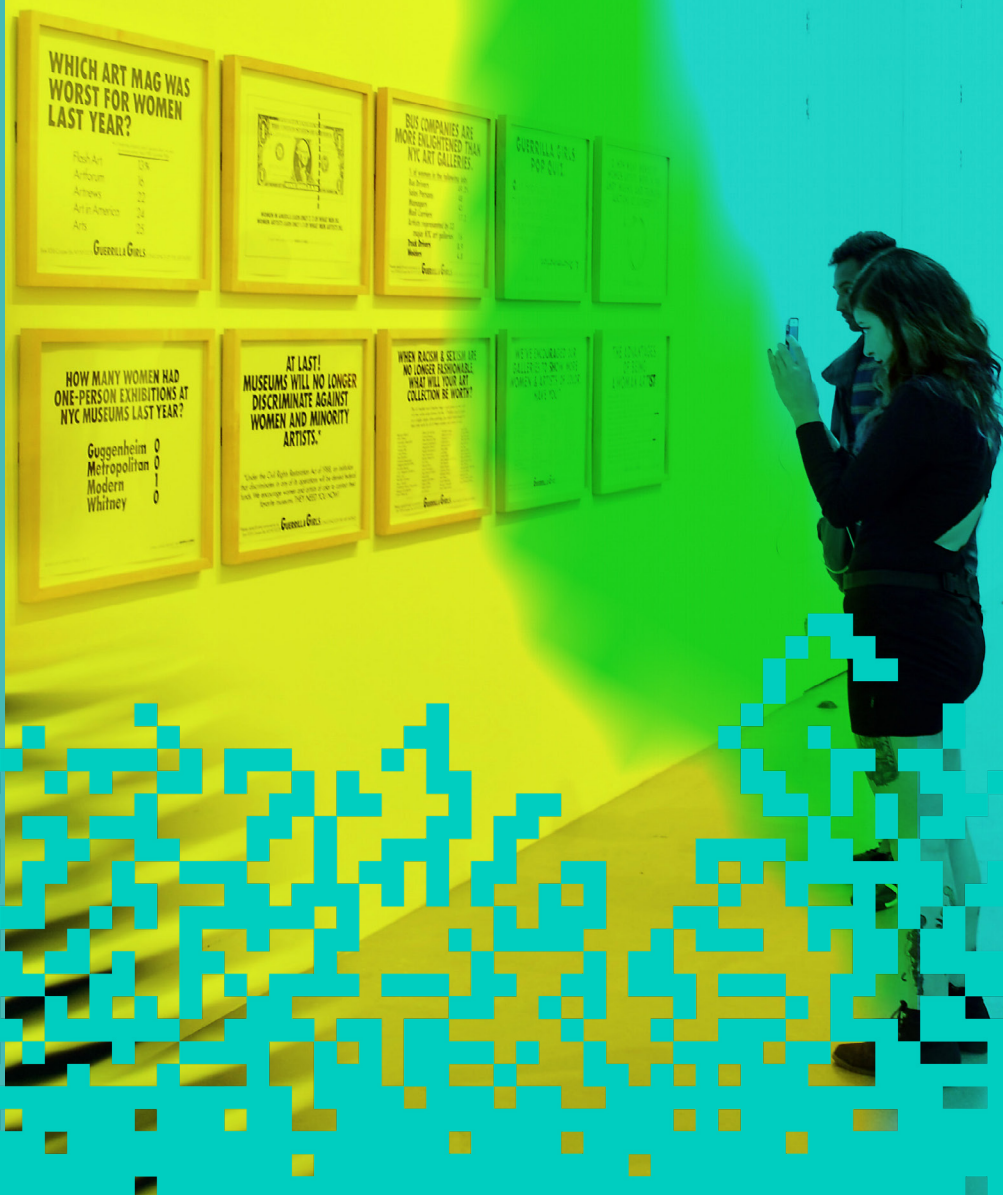
"IT'S GREAT TO BE BUILDING PARTNERSHIPS WITH PLACES LIKE CDCS THAT ARE TAKING OPEN AND JUSTICE-LED APPROACHES TO GRAND CHALLENGES."
JAMES BAKER, DIRECTOR OF DIGITAL HUMANITIES AT SOUTHAMPTON, CO-FOUNDER OF DHCC

REWARDING RESEARCH EXCELLENCE

To celebrate the amazing research that we see around us, this year we set up the CDCS Digital Research Prizes. We invited nominations from our community, asking them to put forward data-led projects and activities that show creativity, excellence and impact and which model best practice in the use and sharing of data. We're thrilled to share the winning projects here, and delighted at the range of disciplines, methods and approaches they represent. We couldn't be prouder of our community!

DIGITAL RESEARCH PRIZES

BEST SMALL DATA-DRIVEN PROJECT

WINNER

THE FESTIVALS & COMMUNITIES MAP

Morgan Currie

"The Festivals & Communities Map has created a clear, intuitive, interactive map that can be used for years to come!"

"A culturally important and brilliant project that utilises an interesting visual bricolage to address issues around socio-economic and cultural access in Edinburgh. The foresight to do this and the socially-conscious care it reflects are irresistible features."

"A great bringing together of different spatial data about Edinburgh's culture, into an interface that lets users explore and learn about the sociological factors affecting cultural consumption in the city."

Highly Commended

Feeling Moved Means Feeling Connected? Investigating Prosocial Kama Muta.

Ian Hajnosz & Sarah Stanton

Commended

Covid, Furlough and Creative Businesses

Orian Brook

BEST IMPACT FROM A DATA-LED PROJECT

JOINT WINNER

'WORKER DATA SCIENCE' CAN TEACH US HOW TO FIX THE GIG ECONOMY / DIGITAL WORKER INQUIRY

Karen Gregory

"Fixing the gig economy is one of the big tasks of our time. This project is a bold and unapologetic stab at an issue that entails several dimensions including workers rights and conditions and the uncertainty of labour in a post-digital future. It has rightly won notice around the world and deserved recognition here as well."

"The Worker Data Science project has an impressive breadth of influence, spanning gig workers and unions, policy development, and the ethics surrounding 'big data!'"

JOINT WINNER

THE SCOTTISH ELECTION STUDY

Ailsa Henderson

"The Scottish Election Study has achieved an impressive breadth of influence on political parties, political broadcasting and the Scottish public."

"Scottish Election Study has had a clear influence on the way both the people of Scotland and the media understand politics today."

BEST DATA VISUALISATION

WINNER

DOODLING WITH THE EYES WHILE LOOKING AT THE BEDROOM CEILING

Matthew Attard

"Attard's images are evocative and, given the amount of time many of us have spent at home in the last two years, emotionally resonant."

"A creative visualisation of an utterly dull and very human experience, of staring at the ceiling. Great use of eye-tracking technology to tell a very new story of the mundane."

"I like the simplicity and creativity of the idea. It speaks to a side of ourselves that we are often not highly aware of except in reflective phases. Having some form of record of these 'zoned out' moments adds to the complexity of the narrative of self-identity. The visual representation is quite immersive, but the basic inspiration is even more moving."

Highly Commended

Searching Racism after George Floyd

Chris Barrie

BEST DATA-DRIVEN RESEARCH PUBLICATION

WINNER

NAILING DOWN VOLATILE TEMPERATURES: EXAMINING THEIR EFFECTS ON ASSET PRICES

Atreya Dey (Bortolan, Dey & Taschini)

"Although a work in progress, it is clearly written, and presenting a valuable new metric: this work shows a commitment to open research which is commendable."

"Communicates a clear objective and clarifies the data - city temperatures from the US National Oceanic and Atmostphere Administration and daily temperatures in 1-degree latitute by 1-degree longitude areas from the Berkeley Earth Surface Temperatures -very well.".

BEST DATA-FOCUSED COURSE

WINNER

DIGITAL HUMANITIES FOR LITERARY STUDIES

Anouk Lang & Beatrice Alex

"An exemplary course that scored highly in all of the criteria and has led to some very impressive outputs by the students who have taken it. I wish I had been able to take it as a postgraduate student!"

"This project has strong historical, literary, and postcolonial functions. It also helps to make accessible resources that would otherwise not be to visitors of the blog. It is presented in very accessible format and the blend of visual, textual, and map formats makes it a rich experience."

Commended

Computational Text Analysis

Chris Barrie

BEST DATASET

WINNER

MULTI-TISSUE AND MULTI-ISOTOPE (δ13C, δ15N, δ18O AND 87/86SR) DATA FOR EARLY MEDIEVAL HUMAN AND ANIMAL PALAEOECOLOGY

Sam Leggett

"This is an excellently presented dataset that combines robust documentation, adherence to the FAIR principles (Findability, Accessibility, Interoperability and Reuse), and makes a strong case for its research value."

"A great commitment to interdisciplinary open science, of use across a range of fields."

"This entry is highly practical and incredibly valuable. The dataset shines in its simplicity and comprehensiveness. The ingenuity of the dataset as a solution to the lack of data in the field is to be commended. It is a fantastic example of how digital tools can complement and enhance work in old disciplines."
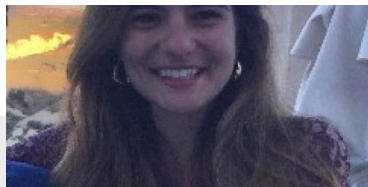
INVESTMENT

MONEY WELL SPENT.

The Centre for Data, Culture & Society is financed by the College of Arts, Humanities and Social Sciences at the University of Edinburgh. We spend the majority of our budget on staff, training and research events and projects. We use what remains to support research by responding to the needs of our community.

TRAINING BURSARIES AWARDED

AYÇA ATABEY
Social Research Association Online Courses in Depth Interviewing Skills and Analysis of Qualitative Data, Summer 2021.

ELIF BUSE DOYURAN
Digital Methods Winter School, University of Amsterdam (online), January 2022.

> " **THE FUNDING WE GOT ALLOWED ME TO MANAGE ARCHAEOLOGICAL DATA FROM PREVIOUS RESEARCH ON THE WATER SYSTEM OF ISTANBUL, MERGING THEM TOGETHER IN A GIS PLATFORM. THIS CONTRIBUTION HAS BEEN ESSENTIAL FOR THE TEAM IN ORDER TO VISUALISE, ANALYSE AND COMPREHEND CONSTANTINOPLE'S WATER NETWORK AND ITS COMPLEX RAMIFICATIONS.** "
>
> **STEFANO BORDONI, PHD IN THE SCHOOL OF HISTORY, CLASSICS AND ARCHAEOLOGY**

PHD COMMUNITY FUNDING CALL 2021

ANNA-VIKTORIA VITTINGHOFF
Anna was able to purchase an OCR software licence to assist her project 'Yonezu Tomoko, ūman ribu and the disabled movement - Radical intersectional feminism in Japan in the 1970s'.

CHAD LANCE HEMADY
We helped Chad get the right analysis tools for his project 'Intergenerational Transmission of Adversity using the Evidence for Better Lives Study'.

JIANG YUHAN
Our help enabled Jiang to use Atlas.ti software for fieldwork for her work on The Jazz Field in China.
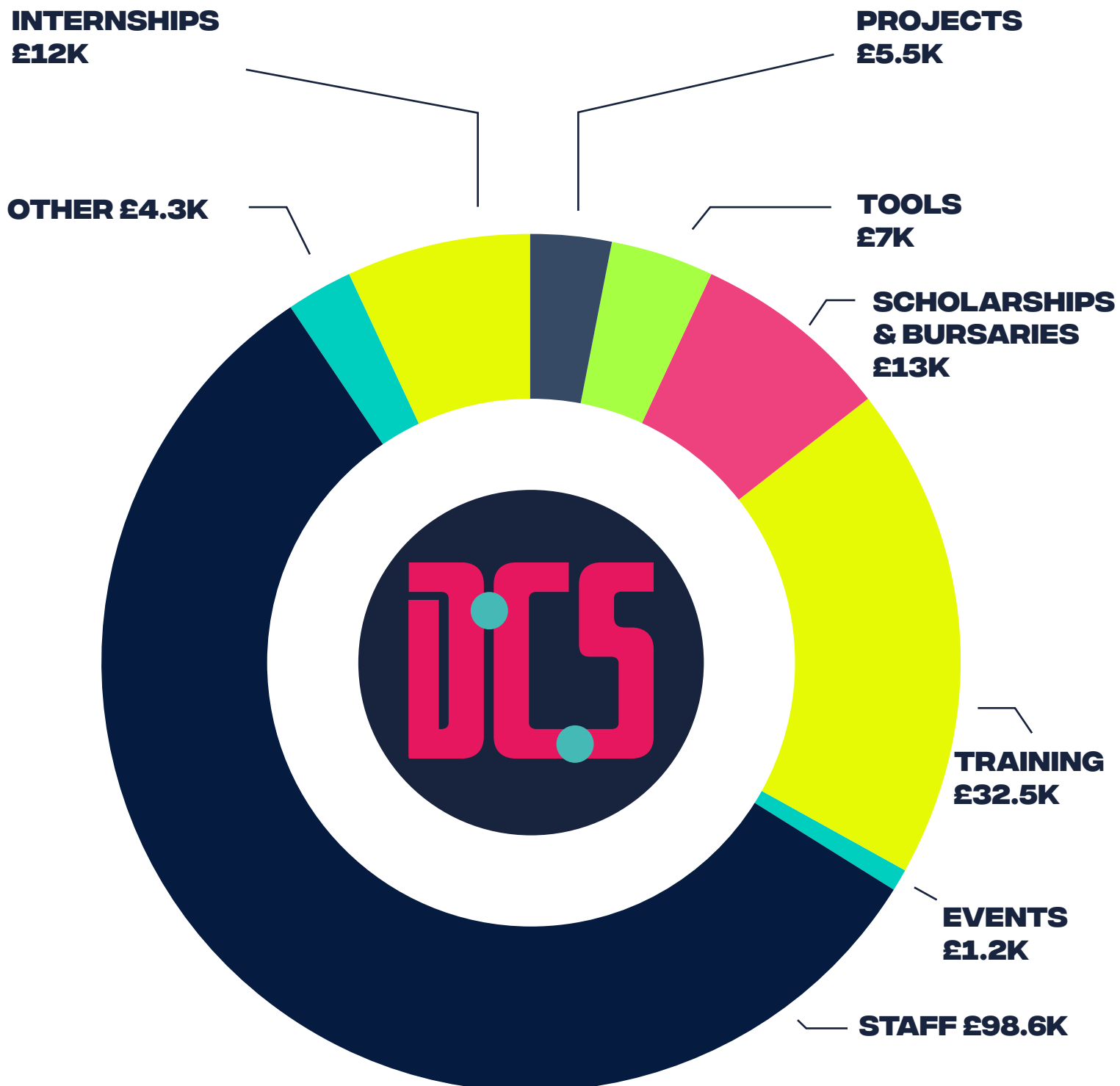
LUCIE WOELLENSTEIN
Our support enabled Lucie to access the National Data Safe Haven for her work 'Using Predictive Modelling to Evaluate the Effectiveness of Homelessness Prevention Tools for Those Experiencing Multiple Exclusion Homelessness in Scotland'.

PAUL ABBOTT
Paul was able to purchase specialist software for his Creative Music PhD.

INVESTMENT BUDGET OVERVIEW

BUDGET MAY 2021 / APRIL 2022 BREAKDOWN

TOTAL SPEND £174,100

INTERNSHIPS
£12K

PROJECTS
£5.5K

OTHER £4.3K

TOOLS
£7K

SCHOLARSHIPS
& BURSARIES
£13K

TRAINING
£32.5K

EVENTS
£1.2K

STAFF £98.6K

2022-2023

WE'VE GOT PLANS.

Next year our focus will be on:

GROWING OUR CLUSTERS AND HELPING THEM TO ACHIEVE THEIR AIMS

BUILDING RELATIONSHIPS WITH PARTNER ORGANISATIONS AND EXPANDING OUR NETWORK

CONSOLIDATING OUR SUMMER SCHOOL AND TRAINING PROGRAMME

WORKING WITH OUR NEW COLLEAGUE, EFI POSTDOCTORAL RESEARCH FELLOW DR JESSICA WITTE, TO SUPPORT MORE TEXT MINING PROJECTS ACROSS CAHSS

MOVING INTO OUR NEW HOME IN THE EDINBURGH FUTURES INSTITUTE

THE UNIVERSITY *of* EDINBURGH
Centre for Data, Culture & Society