



# iPres 2022

12—16 September 2022, Glasgow, Scotland  
Report to the DPC Representative Council  
December 2022



**iPRES 2022**  
GLASGOW

18th International Conference  
On Digital Preservation



## Introduction

It is a pleasure to present iPres 2022, the eighteenth International Conference on Digital Preservation hosted by the Digital Preservation Coalition (DPC) in Glasgow, Scotland from the 12<sup>th</sup>-16<sup>th</sup> September 2022.

2022 is the twentieth anniversary of the Digital Preservation DPC. Its mission has remained constant over those two decades, a recognition that digital preservation is not only a technical challenge but a human one too. As iPres has shown over the years, the maintenance and renewal of technical infrastructures are a familiar topic in this community but they are oriented towards a socio-technical challenge. Long term success demands renewal and support of the social infrastructures too. As the posters around Glasgow almost said at the time of the conference, 'People make digital preservation'.

Also constant through the work of the DPC has been the hospitality and generosity of colleagues and partners around the world. On this twentieth anniversary of its foundation the DPC sought to repay that generosity, renew those friendships, and welcome delegates from all over the world to our home city of Glasgow. The result was a conference much larger and much more diverse than could have been anticipated, with 649 delegates joining in-person and online (Figure 1).

In-person vs Online delegates

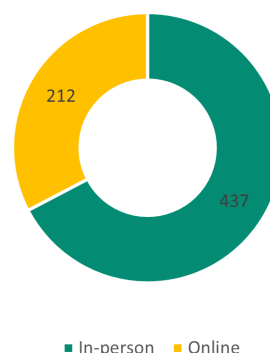


Figure 1: iPres 2022 offered a substantial online offering which was enjoyed by one third of delegates

First time attendees

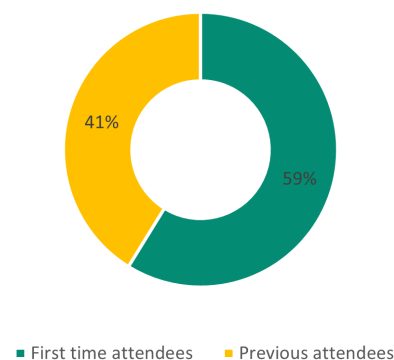
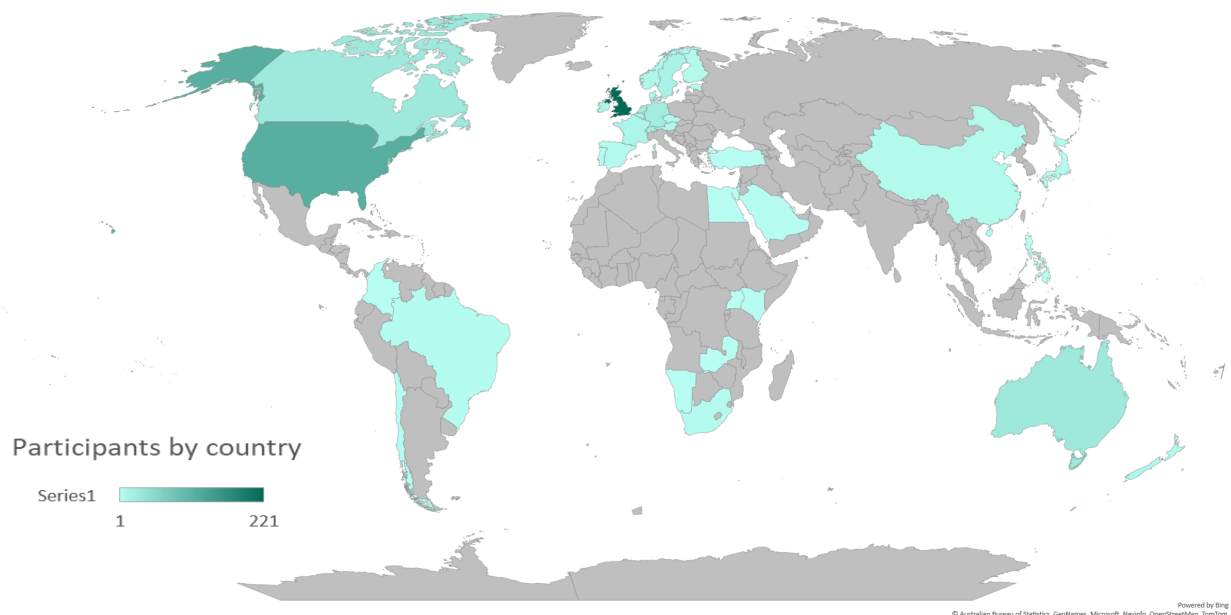


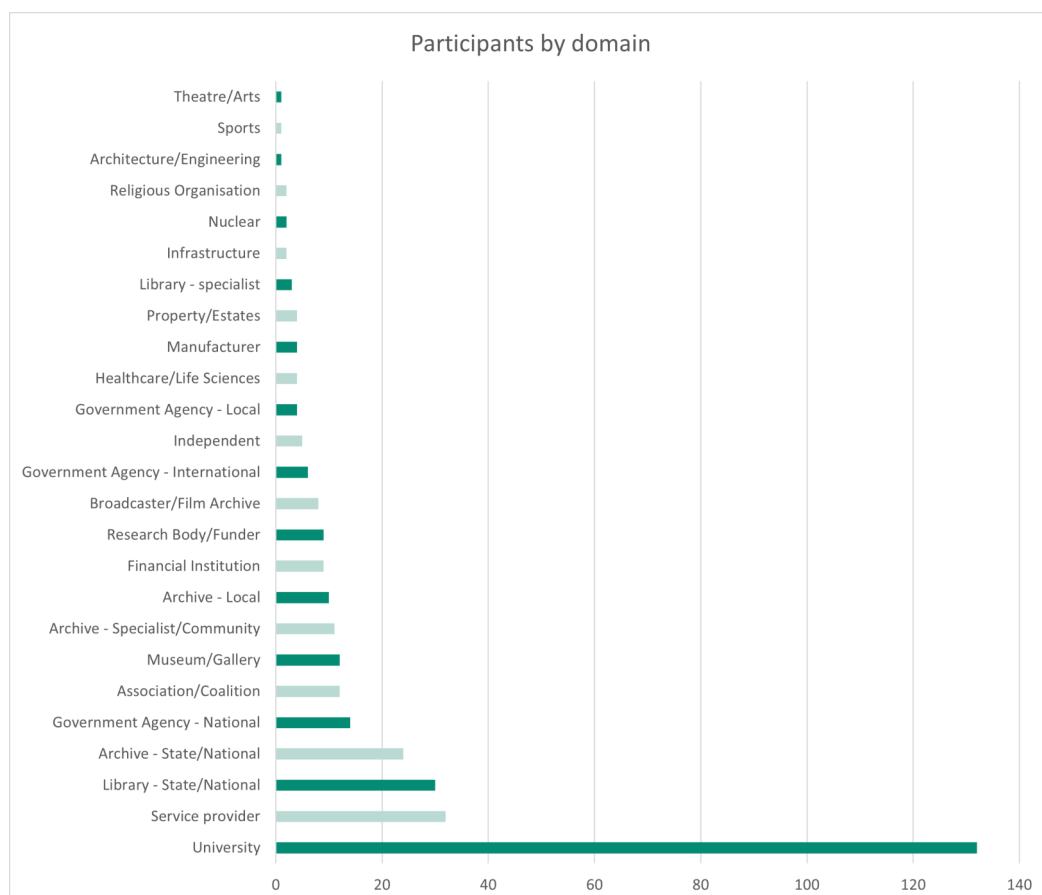
Figure 2: More than half of the iPres 2022 delegates were first-time attendees



*Figure 3: Delegates travelled to iPres 2022 from 38 countries around the world.*

Every continent except Antarctica was represented (Figure 3), as well as many professional sectors and

career stages (Figure 4). More than half of the delegates were first time attendees (Figure 2).



*Figure 4: iPres 2022 welcomed digital preservation professionals from a broad range of sectors, demonstrating a diversification of the community.*



iPres 2022 saw an unprecedented commitment to accessibility and inclusion. This is most evident in the policy of welcome and inclusion which framed the conference. Reviewers were instructed on the inclusion policy at the outset and reminded of our promise that, anyone generous enough to offer a contribution would be rewarded with supportive comments, even if their contribution was not accepted. Reviewers were not able to make so called 'confidential remarks' and reviewers were informed that all the comments received would be shared with contributors.

The commitment to inclusion was also online participation which has not only allowed us to provide free access to all relevant sessions afterwards; an effort which also allowed the Local Organizing Committee to experiment with subtitling and translation which have not been available at iPres before.

The Local Organizing Committee also oversaw the largest program of grant support and scholarships in the history of iPres: which meant a total of 128 delegates were sponsored or subsidized to attend through the following means:

- DPC supported the participation of 62 delegates at the conference from its Member Fund
- DPC further supported travel, subsistence and registration for 14 more delegates from its Career Development Fund
- Portico sponsored travel, subsistence and registration for 3 delegates from low-middle income countries (none of these were able to complete the immigration process and the sponsorship was returned)
- DPC sponsored travel, subsistence and registration for 3 delegates from low-middle income countries from its member fund (only one delegate completed the immigration process)
- 37 members of the Program Committee members were offered complimentary registration in return for their work
- 10 early career professionals and students were given complimentary places in return for volunteering





As everyone has been, the iPres community was profoundly affected by the Covid 19 pandemic, a fact which helps make sense of the planning, the constraints and the innovations in the program. The organizers of iPres 2021 faced enormous difficulties in bringing their postponed conference to a successful conclusion, holding firm to the idea that digital preservation is fundamentally collaborative. So too the 'Friends of iPres', many of whom were present in Glasgow, accomplished an amazing feat of logistics and planning to deliver the #wemissipres festival in September 2020.

There was a sense that iPres 2022 was always going to be something out of the ordinary because of the moment in global history that it occupied. It convened at a significant moment in local history too, specifically the death of Queen Elizabeth on the eve of the conference. A book of remembrance was established in the foyer of the conference venue, allowing delegates to pay respects collectively and in person.

There is a traditional saying on the death of the monarch: 'The Queen is Dead; Long live the King.' A great deal is packed into these eight words. It is a phrase entirely in the present tense and immediately relevant at iPres 2022. But it also looks to the future and speaks significantly of the past. It more than implies continuity between today, yesterday and tomorrow. 'Today yesterday and tomorrow' could be a subtitle of every single paper in the volume that follows. The digital age, and digital preservation in particular spell this out:

Continuity means a commitment to change; and change means a commitment to learning; and learning means openness to others.

This was the first iPres to have an explicit environmental policy which stated measures taken to limit our carbon footprint; including working with the venue to procure locally sourced food, placing recycling bins around the venue and employing the services of a local printer for all of our branded signage (which used vegetable based inks). The iPres App also allowed us to dispense with the conference bag or booklet or pack: live updates, poster videos, program notes, abstracts, posters and all manner of networking were handled via the App; and conference gifts which could be used for many years to come were favoured over single use giveaways.

Despite all of these measures, travel to the conference was always going to have a significant environmental impact. iPres 2022 completed a benchmarking exercise on carbon consumption which has found that based on transport alone we created a carbon footprint of 346 tonnes (Figure 5).



### Mode of transport

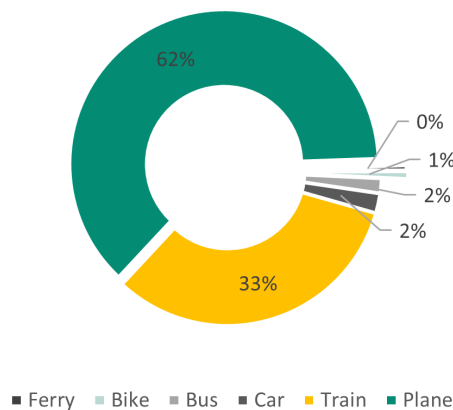


Figure 5: iPres is an international conference which meant that the majority of delegates travelled to Glasgow by plane, significantly contributing to the carbon footprint.

iPres 2022 met under the heading ‘Data for all, for good and for ever’. The call for contributions invited reflection and debate about how digital preservation can support flourishing communities, ecologies, economies and ideas, and it framed these around moments and ideas from the history of the city. It also adapted the motto of our host city, ‘Let Glasgow Flourish’ with the subtitle ‘Let digits flourish.’

The name ‘Glasgow’ means literally the ‘Dear Green Place’: a place to consider the ethical and ecological context of our work. Glasgow is ‘The Workers’ City’: a place therefore to build sustainable communities of practice and professional exchange. Adam Smith wrote ‘The Wealth of Nations’ in Glasgow: a place therefore to model, measure and expand an emerging digital economy, open to all with common purpose for the common good. Glasgow is a ‘city of revolutions’, industrial and otherwise: a place therefore for innovation and radical disruptions. Glasgow is ‘Clyde-Built’, an idiom that means ‘built to last’: a place therefore to engineer for the harshest of conditions, enduring whatever comes.

These five themes are expressed in the main headings of the conference: *Community, Environment, Exchange, Innovation, and Resilience*. Every paper and contribution which follows adapts and interprets these themes, with no shortage of insight, care and creativity. So, while the conference title encouraged delegates to ‘let digits flourish’, this volume demonstrates, through every page and every paper, that iPres is flourishing too.

## Keynotes

### Amina Shah

Amina Shah is the National Librarian and Chief Executive of the National Library of Scotland. She has more than 25 years’ experience across the library and cultural sector, including both public and academic libraries. Shah has a strong interest in the role libraries, education, literature and culture play in empowering individuals and communities and how organizations can work collaboratively and creatively to maximize their impact and reach.

The mission of the National Library of Scotland is to collect, preserve and make available diverse materials that represent the lives and memories of Scotland’s people. This keynote discusses some of the wonders of those collections and some of the challenges the Library faces in adapting collection and preservation within the context of a rapidly and ever-changing world.



The recording of the presentation ‘Video Killed the Radio Star: preserving a nation’s memory’ has been published on the YouTube Channel of the Digital Preservation Coalition: <https://youtu.be/n00yOiMKFYc>.



## Tamar Evangelestia-Dougherty

Tamar Evangelestia-Dougherty is the director of the Smithsonian Libraries and Archives. In addition to her extensive work with rare and distinctive collections, Evangelestia-Dougherty is a published author and public speaker who has presented nationally on topics of inclusivity and equity in bibliography, administration, and primary-source literacy. Her keynote highlighted socio-economic challenges in community archives, calling for more robust digital preservation collaborations to create meaningful pathways toward a holistic digital ecosystem.



Drawing on her own experience as community archives advocate and case studies in North America, Tamar Evangelestia-Dougherty explored socially-engaged techniques to facilitate collaboration and effectively center digital equity and inclusion structures in your engagement efforts to implement multi-stakeholder digital preservation strategies with community archives.

The recording of the presentation 'Digital Ties That Bind: Effectively Engaging With Communities For Equitable Digital Preservation Ecosystems' has been published on the YouTube Channel of the Digital Preservation Coalition: <https://youtu.be/IDEWqey559M>

## Steven Gonzalez Monserrate

Steven Gonzalez Monserrate is a PhD Candidate in the History, Anthropology, Science, Technology & Society (HASTS) program at the Massachusetts Institute of Technology. He is an ethnographer of data centers and his dissertation surveys the diverse ecological impacts of computing and digital data storage in New England, Arizona, Puerto Rico, and Iceland.

Gonzalez Monserrate is also a speculative fiction writer and filmmaker. This keynote surveys a range of data centers of the future, thinking with artists, futurists, speculative fiction writers and engineers to sketch what sustainable data storage might look like at the end of the decade and beyond. Topics include proposed underwater or extra-terrestrial data centers, 5d memory crystals, data gardens powered by synthetic DNA storage capabilities, and emerging quantum computing technologies.

The recording of the presentation 'After the Cloud: Rethinking Data Ecologies through Anthropology & Speculative Fiction' has been published on the YouTube Channel of the Digital Preservation Coalition: <https://youtu.be/pFCqgmLgqzg>.





## Peer Reviewed Program

The conference program included sessions of paper presentations, panels, posters and bake-off demonstrations, preceded by workshops and tutorials.

The conference program consisted of up to four concurrent strands each day. One of the strands was hosted entirely on-line and screened in the conference venue. Two strands were webcast from the venue. The fourth was recorded for playback later. The recordings were available to delegates on the platform and will ultimately be available under mostly open access thereafter.

Monday involved Tutorials and Workshops as well as the Digital Preservation Awards. Tuesday and Wednesday

opened with a keynote speaker followed by concurrent strands in sessions of 90 minutes. On Thursday the order was reversed with the keynote at the end of the day. Posters were displayed in two batches on Wednesday and Thursday; and ad hoc activities including the Games Room and the Great Digital Preservation Bake Off carried on throughout.

Following a peer review process iPres 2022 was able to accept a total of 128 submissions, a breakdown of which is shown in the graph at Figure 5 below.

Collaboration is an important theme for the DPC and this continues to be reflected in the conference submissions. The 128 accepted peer reviewed submissions were the work of 331 authors, and the majority of accepted submissions have multiple authors: in some cases up to 12 (Figure 6).

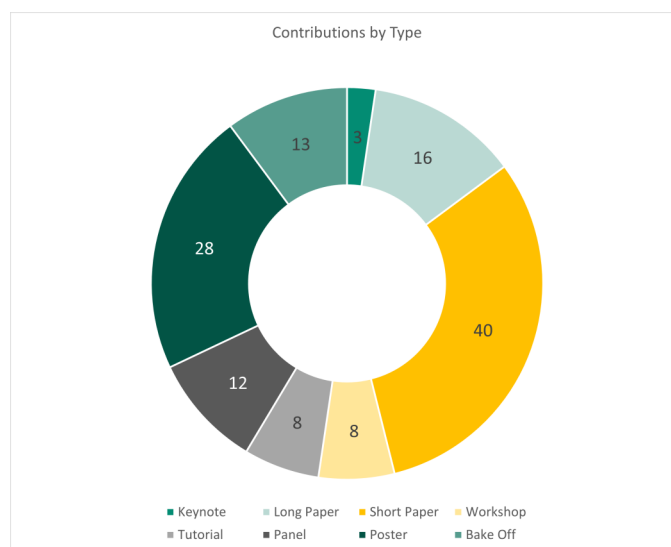


Figure 5: iPres 2022 saw a diverse range of contribution types, with a preference for short papers and posters



Figure 6: The majority of authors chose to collaborate with others on their iPres 2022 submissions



## Ad Hoc Program

In addition to the peer reviewed program, iPres 2022 also had a non-peer reviewed program which saw the return of the popular *Digital Preservation Bake Off* on Wednesday, Games and Lightning Talks on the Tuesday and Wednesday, and Professional Visits on the Friday.

### The Digital Preservation Bake-Off

Following its debut at iPres 2019 in Amsterdam, the Digital Preservation Bake Off returned to Glasgow this year. The Digital Preservation Bake Off Challenge is an open, light-hearted competition in which solution providers, developers and coders can demonstrate their products and tools while allowing participants to observe the process and verify the claims they make.

Twelve solution providers or ‘bakers’ demonstrated preservation tools and implementations of tools and services in front of a critical audience in a fine setting surrounded by baked goods. Vendors demonstrated their solutions based on a test data-set the conference organizers created for them. By providing a test data-set, demonstrations became more comparable.

### Lightning Talks

The Lightning Talks made a welcome return in 2022 with 23 short presentations of three to five minutes each.

### Games

Seven digital preservation games were presented by their inventors and played by the delegates, both in person and online.

### Career Development

In a new addition to the Ad Hoc program, and in response to calls from the iPres community, the conference offered informal Career Development mentoring. Seven new professionals were paired with experienced members of the community to meet throughout the week and chat together, discuss questions, and share experiences.

### Professional Visits

Following the main conference attendees were invited to attend one of 14 professional visits to institutions across Scotland. This Program allowed all iPres 2022 attendees to visit and build relationships with professionals in a range of digital preservation facilities in Scotland. The visits were fully subscribed and attendees reported benefits of practical insights and new partnerships.



Figure 7: Five delegates visited the University of St Andrews (Photo courtesy of @SeanRippington)

## Social Program



The Social Program saw gatherings and celebrations long overdue. On Monday evening there was a reception and presentation of the Digital Preservation Awards 2022 celebrating those who have served and supported the community with their work over twenty years and more. The Local Organizing Committee also arranged seven social dinners around Glasgow on Monday evening, which proved to be a great and informal way for delegates to meet before the conference got under way. Tuesday saw a more formal civic reception welcoming delegates to the city and marking twenty years of the DPC. On Wednesday all delegates were invited to the conference dinner and ceilidh at the Grand Central Hotel Glasgow. For first time attendees, the Program Committee organized several social events such as pre-conference meet-ups and a virtual coffee corner, and conversation starters like bingo cards and buttons with '1st time attendee'.



## Online Sessions

iPres 2022 offered a substantial online program, with delegates participating remotely and in person. Involvement in previous hybrid conferences encouraged the organizers to experiment with a number of features to enhance the experience of online delegates. These innovations were proposed and tested as part of the iPres community consultation in November 2021. Online delegates are typically disadvantaged in two ways: they are less able to network and join the informal discussions on the fringes of the conference venue; and time differences mean they are forced to attend at anti-social times. So, even if a session is webcast they may nonetheless be entirely impractical. To counter this iPres 2022 introduced the following innovations to the online program:

**Red Carpet Sessions:** brief interviews immediately before and after the keynotes with delegates arriving for the conference, sharing their views on the program and themes.

**Sunrise Sessions:** a set of 5 90-minute conference sessions at 0730 (local time) each day of the conference for delegates in time zones east (Australasia and Asia) allowing delegates to select and playback the best sessions from the day before and discuss them live as a group, supplemented with commentary from delegates at the venue and a small number of live presentations to be played back at the venue later in the day.

**Late Show:** a set of 4 90-minute conference sessions at 0800-1930 (local time) for the first 4 days of the conference for delegates in the Americas, playing core content from the previous day, especially keynotes supplemented with commentary from delegates at the venue.

**Virtual Coffee Breaks:** each day of the conference included an informal 30-minute 'virtual coffee break' between sessions where delegates were invited to chat and introduce themselves, and discuss themes of the conference and share their own insights and discussion points.

**Virtual Visits:** in addition to in person visits we had hoped to offer 'virtual visits' for delegates online. In the end there was only one offered, and that had to be withdrawn for operational reasons. So despite our efforts, online delegates were not able to participate in the professional visits.

**Radio iPres:** DPC has an active global community especially in Australasia. The DPC office in Melbourne therefore hosted 'Radio iPres' four days of the conference during the middle of the day (Melbourne time), intended as an informal conversation about digital preservation themes. This was freely available using a different web-conference platform. Allowing us to amplify the messages and themes of the conference to the widest possible audience.



## iPres 2022 Prizes

Following iPres conference tradition, iPres 2022 took the opportunity to recognize outstanding contributions and to celebrate these in a set of conference prizes.

This year there were four prizes awarded for: Best Paper, Best Poster, best Contribution by a Newcomer and the Angela Dappert Memorial Award. iPres 2022 recognizes the following outstanding contributions:

### **Best Paper of iPres 2022 sponsored by nestor**

The Best Paper Prize goes to 'Green Goes with Anything: Decreasing Environmental Impact of Digital Libraries at Virginia Tech' by Alex Kinnaman and Alan Munshower of Virginia Tech.

### **Best Poster of iPres 2022 sponsored by the Digital Repository of Ireland**

The Best Poster Prize goes to: 'The CO2 Emissions of Storage and Use of Digital Objects and Data' by Tamara

van Zwol, Lotte Wijsman, Robert Gillesse and Arie Groen of the Dutch Digital Heritage Network.

### **Best First Time Contribution to iPres 2022 sponsored by the Digital Preservation Coalition**

The Best First Time Contribution Award goes to Elisa Rodenburg of the Vrije Universiteit Amsterdam for the game "The Data Horror and Open Science Escape Rooms".

### **Best combination of research and practice in digital preservation at iPres 2022 sponsored by Adam Farquhar**

The Angela Dappert Memorial Prize goes to Andrew Jackson of the British Library for his work on 'Design Patterns in Digital Preservation – Understanding Information Flows.'



**The DPC is very grateful to the following individuals who contributed their time to support the organization of the iPres 2022 Conference**

The iPres 2022 Program Committee was about 50% larger than in previous years, with the explicit purpose of including a new generation of leaders.

The Committee was helped by a huge army of reviewers; and they have in turn worked through a massive outpouring of contributions and proposals; and for this we are very grateful.

## Conference Organization

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**Holly Wright**, Archaeology Data Service

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**Elizabeth Kata**, International Atomic Energy Agency

**Hannah Smith**, Historic Environment Scotland

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**Alina Karlos**, University of Namibia

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**Ruby Martinez**, University of Illinois

**Kai Naumann**, State Archives of Baden-Württemberg

**David Underdown**, The National Archives UK

#### Executive Board

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(\*Indicates additional membership of the iPres Steering Conference Group)



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**Sharon McMeekin**, DPC  
**Sarah Middleton**, DPC  
**Ellie O’Leary**, DPC  
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**Santhilata Kuppli Venkata**, The National Archives (UK)  
**Richard Lehane**, International Atomic Energy Agency  
**Micky Lindlar**, TIB - German National Library of Science and Technology  
**Rowena Loo**, National Archives of Australia  
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**Kieran O'Leary**, National Library of Ireland  
**Jack O'Sullivan**, Preservica  
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**Kevin Wong**, National Archives of Singapore  
**Holly Wright**, Archaeology Data Service  
**Zhenxin Wu**, National Science Library, Chinese Academy of Sciences  
**Zhongming Zhu**, National Science Library, Chinese Academy of Sciences  
**Eld Zierau**, Royal Danish Library





**iPRES 2022**  
GLASGOW

Technology & Innovation Centre  
12–16 SEPTEMBER 2022

The DPC is very grateful to the following organizations who sponsored iPres 2022



国家数字科技文献资源长期保存体系  
National Digital Preservation Program





iPres 2022 was proudly hosted by the Digital Preservation Coalition (DPC)



## Proceedings of the 18th International Conference on Digital Preservation 2022.

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All external links were active at the time of publication unless otherwise stated.

These proceedings contain the published and peer-reviewed submissions of the 18th International Conference on Digital Preservation. All other materials of the conference will be published on the Open Science Framework (OSF) iPres 2022 Conference pages: <http://doi.org/10.7207/ipres2022-resources>

The OSF proceedings contain all submitted papers, panels, posters, workshops, tutorials, ad-hoc proposals, Digital Preservation Bake Off Challenge contributions, as well as presenters' slides, optional additions and the collaborative notes taken during the conference.

The majority of the presentations at iPres 2022 have been recorded and the three iPres 2022 Keynote presentations have been published on World Digital Preservation Day 2022. They are now available on: <http://doi.org/10.7207/ipres2022-recordings>.

The remaining recordings will be made public in January 2023 and will be accessible on the same page.

The Conference Photo albums are available on Flickr: <https://www.flickr.com/photos/dpconflickr/albums>



# Contributions

## Long Papers

**It Takes a Whole Village to Define a Preservation Strategy: Formalizing Policies on Data Formats Normalization at the National Library of France**

Mr Bertrand Caron, Alix Bruys, Thomas Ledoux, Jordan de La Houssaye

**Useable Software Forever. The Emulation as a Service Infrastructure (EaaS) Program of Work**

Euan Cochrane, Dr Klaus Rechert, Jurek Oberhauser, Seth Anderson, Claire Fox, Ethan Gates

**How do users discover digital preservation tools? Report on a survey of professionals**

Dr Amber Cushing, Tess Burchmore, Sarah Conroy, Phoebe Doyle, Niamh Hegarty, Rebecca Kelly, Payton Kufeldt, Morgan McGann, Cian Ormond, Gerard Quine, Martina Reba, Ronan Woods

**Appraisal and Selection on a Long-term Preservation Repository? Can you repeat that, please?**

Luis Faria, Miguel Guimarães, Miguel Ferreira

**A Generic Emulator Interface for Digital Preservation --- Towards a Collaborative Distributed Emulator Registry**

Rafael Gieschke, Klaus Rechert

**Preservation Strategies for New Forms of Scholarship**

Deb Verhoff, Karen Hanson, Jonathan Greenberg

**Green Goes with Anything: Decreasing Environmental Impact of Digital Libraries at Virginia Tech**

Alex Kinnaman, Alan Munshower

**Ain't No Mountain High Enough: Developing a New Skills Framework for Digital Preservation**

Sharon McMeekin, Dr Amy Currie

**Resilience of Internet Art Supported by Executable Archive Principles Case-study of Flash & VMRL Artwork**

Dr Natasa Milic-Frayling, Michael Takeo Magruder

**“We’re all doing the best we can with what we’ve got”: Preservation practices of Data Curation Network members**

Hoa Luong, Mikala Narlock, Jon Petters

**Feasible, Adaptable and Shared: A call for a community framework for implementing ML and AI**

Dr Meghan Ferriter, Abigail Potter, Eileen Jakeway Manchester, Jaime Mears



### **A Digital Preservation Wikibase**

Dr Katherine Thornton, Kenneth Seals-Nutt

### **Metadata Quality in Digital Libraries: An Analysis of Survey Response Data**

Hannah Tarver, Meredith Hale, Rachel White, Steven Gentry, Madison Chartier, Rachel Wittmann

### **Making Risk Modeling Accessible With DiAGRAM**

David Underdown, Alexandra Leigh, Pauline Descheemaeker

### **E-ARK, Ten years and still going strong: Results, Use Cases and Benefits.**

Carl Wilson, Janet Anderson, Dr David Anderson, Dr Jaime Kaminski, Dr Diogo Proença, István Alföldi

### **Construction of a Benchmark Model for Long-Term Preservation Value Evaluation of Academic Information on Social Media**

Liu Hui, Zhang Dongrong





## Short Papers

**Cultivating the Scientific Data of the Morrow Plots: Visualization and Data Curation for a Long-term Agricultural Experiment**

Bethany Anderson, Sandi Caldrone, Joshua Henry, Heidi Imker, Hoa Luong, Kelli Trei, Sarah Williams

**It Takes a Village in Practice: Growing Communities During a Pandemic**

Megan Forbes, Laurie Arp

**Vault: Building an Extensible, Affordable Digital Preservation & Repository Service**

Jefferson Bailey

**Repository Speed Dating A methodology for narrowing the field**

Sven Schlarb, Karin Bredenberg, Carl Wilson

**OAIS-compliant digital archiving of research and patrimonial data in DNA**

Pierre-yves Burgi, Jan Krause, Linda Meiser, Dina Andriamahady, Hugues Cazeaux, Lamia Friha, Basma Makhoul Shabou

**DNA Data storage for long term digital preservation**

Euan Cochrane, Daniel Chadash

**The design and implementation of a necessary and sufficient system for the long-term archival retention of digital documents**

Dr Viv Cothey, Claire Collins

**EMA: Brazilian Cultural Heritage Image Dataset - Towards AI-based metadata annotation of digital collections**

Vagner Inácio de Oliveira, Paula Dornhofer Paro Costa, Dalton Martins

**Optimizing Memory for Legacy DOS Systems**

Dr Denise de Vries

**Metadata Encoding and Transmission Standard (METS) Version 2**

Karin Bredenberg, Aaron Elkiss, Inge Hofsink, Juha Lehtonen, Andreas Nef, Tobias Steinke, Robin Wendler

**Access Quality Metrics for Net Art**

Dragan Espenschied, Lyndsey Moulds, Xiao Ma

**Digital Preservation Pipeline for Data Storage Media At The Cinémathèque Suisse**

Robin François, Rebecca Rochat

**Data curation and agroecology: examining data requirements for short supply chains**

Dr Sarah Higgins, Christopher I. Higgins

**Design Patterns in Digital Preservation**

Dr Andrew Jackson



**Passive Digital Preservation on Paper in Practice**

Vincent Joguín, Jean-Noël Dumont

**Robustifying Links with Zotero**

Martin Klein, Shawn M. Jones

**Evaluating Digital Preservation Capability with Large at-risk Collections: Lessons learnt from preserving the NVA Archive**

Emma Yan, Dr Leo Konstantelos, Clare Paterson

**Archivematica-EPrints Integration: Developing digital preservation capacity for open repositories**

Tomasz Neugebauer, Sarah Lake

**Mapping the Landscape of Digital Preservation Networks The nestor Digital Preservation Community survey**

Micky Lindlar, Svenia Pohlkamp, Monika Zarnitz, Thomas Bähr, Stefan Strathmann

**Developing an approach for archiving Digital Audio Workstation projects: A pilot study**

Valerie Love, Dr Michael Brown

**Going for Gold or Good Enough? Observations on three years of benchmarking with DPC RAM**

Jenny Mitcham, Paul Wheatley

**Monitoring Bodleian Libraries' Repositories with Micro Services**

Edith Halvarsson, James Mooney, Sebastian Lange

**From Ray Cats TO DPC RAM: How Best to Preserve a Digital Memory of the Nuclear Decommissioning Process**

Michael Popham, Jenny Mitcham

**Caring for Born Digital Video Camera Original Formats: Considering Intentional Change**

Crystal Sanchez

**Do We Really Know Our Data? Assessing File Format Policy Compliance and Digital Preservation Tenability via a New Software Tool**

Tom Smyth

**The 2022 Revision of the PREMIS Rights Entity**

Marjolein Steeman, Karin Bredenberg, Bertrand Caron, Leslie Johnston, Michelle Lindlar, Jack O'Sullivan, Sarah Romkey

**"...provide a lasting legacy for Glasgow and the nation" Two years of transferring Scottish Cabinet records to National Records of Scotland**

Garth Stewart

**Seeking Sustainability: Developing a Modern Distributed Digital Preservation System**

Nathan Tallman, Hannah Wang



**"A Tartan Rather Than a Plain Cloth": Building a Shared Workflow to Preserve the Regional Ethnology of Scotland Project Archive**

Sara Day Thomson

**Vanished: Preserving the Carmichael Watson Project Website Offline Using Webrecorder**

Anisa Hawes, Sara Day Thomson

**Macintosh Resource Forks - Choosing File Formats for Preservation**

Tyler Thorsted

**A Decade of Trustworthy Digital Repository Certification: Yet There Was One**

Jessica Tieman, David Walls, Lisa LaPlant

**Act Now, Late or Never: Make Digital Objects (more) archivable early in their life cycle?**

Yvonne Tunnat, Katharina Markus

**These Crawls can Talk. Context Information for Web Collections.**

Susanne van den Eijkel, Daniel Steinmeier

**The CO2 Emissions of Storage and use of Digital Objects and Data. Exploring Climate Actions.**

Robert Gillisse, Arie Groen, Eva Van Den Hurk - Van't Klooster, Tamara van Zwol, Lotte Wijsman

**Improving the archiving and contextualization of electronic messaging in French**

Dr Bénédicte Grailles, Dr Touria El Mekki, Dr Édouard Vasseur

**From Outpost to Community: Strengthening support for the Australasian digital preservation community through regional presence**

Jaye Weatherburn, Alexis Tindall, Michaela Hart

**Preservation Watch: Working Towards A Supra-Organizational Preservation Watch Function Within The Dutch Digital Heritage Network**

Tamara van Zwol, Eva Van Den Hurk - Van't Klooster, Lotte Wijsman

**Open Access Books and Digital Preservation**

Dr Alicia Wise, Dr Mikael Laakso, Dr Ronald Snijder

**Evaluating a Taxonomy for Video Game Development Artifacts: Archival Taxonomies in Highly Innovative Domains**

Dr Marc Schmalz, Kylie Snyder, Corey Cherrington, Lidia Morris, Tara Disher, Dr Jin Ha Lee



## Panels

### **ARCHIVER: Sustainable Preservation of Scientific Data**

Matthew Addis, Teo Redondo, João Fernandes

### **How can bringing together the workflows of publishing and preservation lead to better, longer-term solutions that benefit both?: A panel with COPIM Work Package 7, the Embedding Preservability in New Forms of Scholarship Project (NYU), and Project JASPER**

Dr Miranda Barnes, Karen Hanson, Dr Alicia Wise

### **A Labor of Language: Building The Global Preservation Community Through Funded Translation Projects**

Rebecca Fraimow, Lorena Ramírez-López, Juana Suárez, Pamela Vizner

### **Right Click to Preserve: Preservation, NFTs, and Distributed Ledgers**

John Bell, Regina Harsanyi, Jon Ippolito

### **CoreTrustSeal v3.0 In a Preservation and Community Context**

Dr. Jonthan Crabtree, Hervé L'Hours, Ingrid Dillo

### **Digital Storytelling as Preservation: A Screening and Panel Discussion**

Syreeta Gates, Jamie A. Lee, Dr James Lowry

### **'Practical' Vs. 'Exemplary' Sustainability: Is There a Right Way to Archive Email?**

Christopher Lee, Christopher Prom, Ruby Martinez

### **Lessons Learned During the Implementation of a Digital Preservation Project: Experiences from Europe, USA, and Asia**

Teo Redondo, Nathan Tallman, Jessica Knight, Mark Hobbs, Mui Huay Ho, Driek Heesakkers

### **It's All Important of Course, But...**

Paul Stokes, Tamsin Burland

### **Computational Access to Digital Material: Exploring topics around engagement, ethics and resources**

Leontien Talboom, Jenny Mitcham, James Baker, Sonia Ranade

### **Will DNA form the Fabric of our Digital Preservation Storage? DNA Data Storage: A Panel Discussion**

Paul Wheatley, Daniel Chadash, Sibyl Schaefer, Euan Cochrane

### **2021 NDSA Staffing Survey: Digital Preservation Intent vs Reality**

Lauren Work, Elizabeth England, Sharon McMeekin, Shira Peltzman, Juana Suárez



## Posters

**Keeping Up With the Data: Reflections on Fixity and Data Visualizations**

Angela Beking

**Supporting Preservation of Veteran Personal Archives: A Workshop on the Use of the Virtual Footlocker Project Curriculum**

Dr Edward Benoit III, Dr Allan Martell

**Exploring Software, Tools and Methods used in Web Archive Research**

Katharina Schmid, Sharon Healy, Helena Byrne

**Towards a Collections Model for Preservation Planning at the British Library**

Michael Day, Maureen Pennock

**Digital Preservation In A Lunchbox: Launching a community of practice**

Émilie Fortin, Mireille Nappert

**AIA/Oliver Witte Collection: A digital preservation workflow**

Elisabeth Genest

**Incorporating Digital Preservation and Access Maturity Models into Wider Assessment Programmes: Archive Service Accreditation and the Levels of Digital Preservation and Born-Digital Access**

Dr Melinda Haunton

**Preserving Collections On Tape At The National Library Of Scotland: From Business Case To Bytes**

Lee Hibberd, Alistair Bell, Alan Russell

**Fostering a Data Infrastructure for the Humanities and Social Sciences: A Case Study in Japan**

Dr Ui Ikeuchi, Shinsuke Ito, Yukio Maeda, Kiyonori Nagasaki, Takeshi Hiromatsu

**Leveraging AI for Video Appraisal: A Case Study at the World Bank Group**

Jeanne Kramer-Smyth, Paloma Beneito Arias

**Progress to Participatory Digital Preservation with Geopark: A Case Study of How Gold Museum in Taiwan Participates in Shui-Chin-Chiu Geopark to Engage with Local Communities**

Yi-Ting Lin

**Strength in Numbers**

Laura Peurt, Rachel MacGregor

**Research Weeks**

Peter May

**Upscaling the MPT**

Peter May, Kevin Davies

**Bringing Transparency and Permeability to Organizational Silos: Improving Workflow and Culture**

Daniel Noonan, Sue Beck



**LIBNOVA Consortium: A successful community project**

Teo Redondo, Miquel Tèrmens, Fernando Aguilar, David Giaretta, Julia Thiele, Ciprian Abaseaca, Mikel Rufian

**Preserving Electronic Theses at the University of St Andrews Libraries and Museums**

Sean Rippington, Janet Aucock

**Preserving Photogrammetry Outputs: A case study at the University of St Andrews Libraries and Museums**

Sean Rippington

**Quality Assurance For Born-Digital Interactive Narratives: The New Media Writing Prize Collection As A Case Study**

Giulia Carla Rossi, Tegan Pyke

**Digital Preservation Capabilities of Universities: Survey in the Light of DPC RAM**

Dr Özhan Sağlık

**Creating Workflows to Scale Out Large Open Access E-book Acquisitions at the Library of Congress**

Kristy Darby, Lauren Seroka, Camille Salas, Andrew Cassidy-Amstutz, Elizabeth Holdzkorn

**Behind the Scenes. 3 Decades of Digital Preservation**

Barbara Sierman

**Concept Model for Development of Preservation Plans**

Asbjørn Skødt

**What does Data Loss Really Cost?**

Paul Stokes, Tamsin Burland, Sarah Middleton

**The CO2 Emissions of Storage and Use of Digital Objects and Data**

Lotte Wijsman, Tamara van Zwol, Robert Gillisse, Arie Groen

**Community Archives and Digital Sustainability**

Audrey Wilson, John Pelan, Sean Rippington

**Lessons from the National Archives of Singapore's Journey Developing a Digital Preservation System for Public Records**

Kevin Wong

**Bit Preservation Using the Open Source BITREPOSITORY.ORG Framework**

Eld Zierau, Mathias Jensen, Rasmus Kristensen



## Workshops

### **Preserving Complex Digital Objects Revisited**

Patricia Falcao, Caylin Smith, Sara Day Thomson

### **Changing Curriculums for a Changing World? Living in Interesting Times: Digital Preservation Education, Pedagogy and Skills**

Prof. Ann Gow, Dr Paul Gooding, Zoe Bartliff, Dr Yunhyong Kim, Dr Kathryn Simpson

### **Welcome to Fedora 6.0: Features, Migration Support & Integrations for Community Use Cases**

Arran Griffith, Daniel Bernstein

### **The Climate Crisis and New Paradigms For Digital Access**

Rachel MacGregor, Anna McNally, Dr James Baker

### **The Bits In The Bytes: Understanding File Format Identification**

Francesca Mackenzie, Andrea Hricikova, Andrey Kotov, Kathryn Phelps

### **Eternalize DBs Workshop: Exchange on sustainability and re-use of database content**

Dr Kai Naumann, Kevin McMahon

### **The Value of Catastrophic Data Loss**

Paul Stokes, Tamsin Burland, Sarah Middleton

### **Registering our preservation intentions: A collaborative workshop on digital preservation registries**

Paul Wheatley, Ross Spencer, Euan Cochrane, Kate Murray, Andrew Jackson, Francesca Mackenzie





## Tutorials

### **Understanding and Implementing PREMIS: A Tutorial**

Karin Bredenberg, Eld Zierau, Micky Lindlar

### **Cyber Resilience**

Greg Hewitson

### **Writing Binary by Hand**

Martin Hoppenheit

### **Scalable Curation of Email with Open-Source Tools: Review, Appraisal, and Triage of Mail (RATOM)**

Christopher Lee, Kam Woods

### **LABDRIVE Tutorial: A Research Data Management and Digital Preservation Platform**

Teo Redondo, Antonio Guillermo Martinez Largo, Maria Fuertes

### **Continuous Improvement Tools for Developing Capacity and Skills**

Sharon McMeekin, Jenny Mitcham, Dr Amy Currie

### **Using ePADD for Email Preservation: Implementing the ePADD+ Project Enhancements**

Sally DeBauche, Paul Carlyle, Tricia Patterson

### **Automated Topic Modelling in Archives Portal Europe**

Dr Marta Musso, Kerstin Arnold, Konstantinos Stamatidis

