Data and Specialized Services (DSS) Annual Report, FY18

Data and Specialized Services (DSS) services and programs focus on technology-intensive data types, including images, geospatial data, and research data. Department roles include community consultation and instruction, support for information management resources, and content creation and description. Many key service metrics increased in FY18, particularly instructional attendance.

In FY18, DSS launched a new version of GeoWeb; selected a new Archnet vendor; designed a new GIS and Data Lab; secured an institutional license for Overleaf; and signed a partnership agreement with the Open Science Framework. The Campus Research Network Project was launched; AKDC acquired significant new archival collections; GIS advanced service experiments with drone data collection and virtual reality technology. DSS collectively developed DISJ goal areas that informed individual goal development for the FY18 & FY19 review periods.

The coming year has DSS poised to make substantial contributions to the Libraries’ strategic priorities. The new GIS and Data Lab in Rotch Library will co-locate all DSS direct reports, upgrade our lab capabilities, and address issues with staff work space. Program-level accomplishments, priorities and challenges are summarized below, with program-specific details outlined in Appendix 4.

FY18 Highlights

**Data and Specialized Services (DSS):** Completed planning for new GIS and Data Lab with expanded computing capabilities, and experimental programming related to virtual reality and data visualization. Established a framework of DISJ priorities aligned with DSS program areas.

- **Aga Khan Documentation Center (AKDC):** Selected a new host and developer for Archnet. Acquired Besim Hakim and Michel Ecchord archives. Expanded access to AKDC collections via digitization, development of finding aids, and improved discoverability of Archnet content.

- **Citation Management and Writing Tools (CMWT):** Overhauled team-supported LibGuides. Acquired Overleaf for the MIT community. Worked with Harvard development team to determine our institutional support of the perma.cc web citation platform.

- **Data Management Services (DMS):** Introduced new workshops and open office hours. There was a substantial increase in workshop participation. The Campus Research Data Network Project was launched. DMS contributed to DLS technology project planning and initial project work.

- **Digital Scholarship:** Drafted priority recommendations that informed the strategic planning process. A subset of DSWG formed a strategic priority goal team. DSGW members joined an Ivy Plus Digital Scholarship Affinity Group inaugural meeting.

- **GIS and Statistical Software:** Planning for our future GIS and Data Lab. Brought up GeoBlacklight version of GeoWeb. Expanded and refined our workshop offerings. Extended our experimental work with drones and Virtual Reality (VR).

FY19 Priorities

**Data and Specialized Services:** Moving to the new Rotch GIS and Data Lab presents opportunities for a new lab set-up and instructional methods. The new space will expand the use of the lab beyond to include data management, text mining, VR, and other software experiments. Continue efforts to incorporate DSS participation into Digital Scholarship program development.

DSS Annual Report – FY18
• **AKDC**: Migrate Archnet to new vendor. Transition Center’s leadership to new program head. Address Center’s space needs for staff and collections.

• **CMWT**: Roll out Overleaf and perma.cc as a fully-supported tools. Implement a prioritization and workflow for the assessment of citation management & writing tools and increase pace of assessment of potential tools.

• **DMS**: Build team’s capacity to support data management. Enhance accessibility of educational content. Contribute to organizational efforts to develop infrastructure to support RDM. Partner with organizational colleagues in outreach and service development.

• **Digital Scholarship**: The DS priority goal team develops roadmap. Informal information sharing efforts will continue among interested DSWG team members. There are organization-wide opportunities to engage with the emerging SHASS DH program.

• **GIS and Statistical Software**: We will load a large number of new layers into Geoweb. Incorporate new teaching methods into workshops, including data literacy concepts, critical thinking skills, and group work.

### Challenges and Unmet Needs

**AKDC** has unmet needs in the realm of digital preservation and storage. **CMWT** has a bandwidth challenge for a team members committed to only ~2 hours/week limits which can delay project execution. **DMS**: deals with the limitations of our repository infrastructure. There is a need to develop connections between DMS areas of expertise and other Libraries efforts. **DS** had DSWG go on hiatus in January 2018 as it was unable to reconcile conflicting visions and priorities. **GIS and Statistical Software**’s dependence on TS3 and DLE delayed the transition to the GeoBlacklight version of Geoweb.
Appendix 1: Organization Charts

Data & Specialized Services

Reporting Lines

Howard Silver
Head of Data & Specialized Services

Joanne Samuelson
Admin Assis.

Sharon Smith
Program Head, Aga Khan Documentation Center
DSS 70%; LIRS 30%

Matthew Sabo
Visual Resources Librarian
for Islamic Architecture

Michael Toler
Archivist, Content Manager

Elizabeth Baldwin
Collections Archivist

Jennie Murack
MSS Data Librarian and Specialist

Madeline Wrable
GIS Specialist

Anne Graham
LIS Librarian, DSS 25%, LIRS 75%

Amy Nurnberger
Data Management Services Program Head

Christine Malinowski
Research Data Librarian

Courtney Crummett
Coassess, Librarian
DSS 20%, LIRS 80%

Phoebe Ayers
Recs Librarian, DSS 50%, LIRS 50%

Color Key

Manager

Direct Report

Indirect
Data & Specialized Services
Programs
Appendix 2: DSS Personnel

DSS was fortunate to be fully staffed in FY18. One member with a contributing role, Joe Hankins, retired in August, 2017.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Assignments – FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phoebe Ayers</td>
<td>Librarian for Electrical Engineering &amp; Computer Science</td>
<td>Contributing role (30%)</td>
</tr>
<tr>
<td>Betsy Baldwin</td>
<td>Collections Archivist</td>
<td>Archivist for Collections Search Committee</td>
</tr>
<tr>
<td>Courtney Crummett</td>
<td>Biosciences Librarian</td>
<td>Contributing role (30%)</td>
</tr>
<tr>
<td>Anne Graham</td>
<td>Civil and Environmental Engineering Librarian &amp; GIS Liaison</td>
<td>Contributing role (25%)</td>
</tr>
<tr>
<td>Joseph Hankins</td>
<td>Access Services Associate</td>
<td>Contributing role (20%)</td>
</tr>
<tr>
<td>Christine Malinowski</td>
<td>Research Data Librarian</td>
<td>Digital Archivist Search Committee, OA Hackathon Planning Committee, Campus Research Data Network, Mentoring Taskforce, Communications &amp; Collaborations Project Feedback Group, Libraries Survey Analysis Team, Data Visualization Interest Group (convener), Tableau meetup group (convener)</td>
</tr>
<tr>
<td>Jennie Murack</td>
<td>Geospatial Data Librarian &amp; Statistics Specialist</td>
<td>Teaching &amp; Learning Team, SSM CoP, DUSP team, Strategic Goal Team A2b, chat, Ask Us</td>
</tr>
<tr>
<td>Amy Nurnberger</td>
<td>Data Management Services Program Head</td>
<td>Rewards &amp; Recognition, Active RDM Technology Planning Team, Strategic Goal Team A2a, Campus Research Data Network</td>
</tr>
<tr>
<td>Mathew Saba</td>
<td>Visual Resources Librarian for Islamic Architecture</td>
<td>Metadata Advisory Group</td>
</tr>
<tr>
<td>Daniel Sheehan</td>
<td>GIS Program Head and Senior GIS Specialist</td>
<td>Hayden Space Planning team, 12.115/12.482 staff during IAP</td>
</tr>
<tr>
<td>Howard Silver</td>
<td>Head of Data and Specialized Services</td>
<td>Library Council, ACE Leadership, Joint Leadership Team, S&amp;E CoP, Priorities Champion Teams.</td>
</tr>
<tr>
<td>Sharon Smith</td>
<td>Program Head, Aga Khan Documentation Center</td>
<td>A&amp;H CoP</td>
</tr>
<tr>
<td>Michael Toler</td>
<td>Archnet Content Manager</td>
<td>Committee for Promotion of Diversity and Inclusion,</td>
</tr>
<tr>
<td>Madeline Wrable</td>
<td>GIS Specialist</td>
<td>Service Operations Team; Hayden Space Planning Team</td>
</tr>
</tbody>
</table>

Personnel Changes
- **Departures:** Joe Hankins retired, August, 2017
### Appendix 3: Selected Program Metrics

**Aga Khan Documentation Center FY15-18**

<table>
<thead>
<tr>
<th></th>
<th>FY 15</th>
<th>FY 16</th>
<th>FY 17</th>
<th>FY 18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Archnet Additions</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>331 sites</td>
<td>262 sites</td>
<td>392 sites</td>
<td>303 sites</td>
</tr>
<tr>
<td></td>
<td>6,388 images</td>
<td>7942 images</td>
<td>238 publications</td>
<td>5,777 images</td>
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<tr>
<td></td>
<td>314 publications</td>
<td>359 publications</td>
<td>46 videos</td>
<td>245 publications</td>
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<tr>
<td></td>
<td>32 video/audio</td>
<td>94 video/audio</td>
<td></td>
<td>46 videos</td>
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<tr>
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<td>files</td>
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<td></td>
<td>300,000 users</td>
<td>589,685 sessions</td>
<td>697,810 sessions</td>
<td>731,697 sessions</td>
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<td></td>
<td></td>
<td>408,829 users</td>
<td>484,635 users</td>
<td>499,983 users</td>
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<td><strong>Digitized images</strong></td>
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**Citation Management and Writing Tools, FY14-FY18**

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<th>FY18</th>
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<tr>
<td>Instruction sessions</td>
<td>17</td>
<td>13</td>
<td>10</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Instruction attendance</td>
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<td>153</td>
<td>111</td>
<td>128</td>
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<tr>
<td>Questions and consultations</td>
<td>62</td>
<td>59</td>
<td>60</td>
<td>64</td>
<td>60</td>
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**Data Management Services, FY14-FY18**

<table>
<thead>
<tr>
<th></th>
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<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction sessions</td>
<td>4</td>
<td>10</td>
<td>15</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Instruction attendance</td>
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</tr>
<tr>
<td>Questions and consultations</td>
<td>12</td>
<td>32</td>
<td>16</td>
<td>32</td>
<td>32</td>
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<tr>
<td>DMPTool Users - cumulative</td>
<td>-</td>
<td>-</td>
<td>71</td>
<td>126</td>
<td>209</td>
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**GIS and Statistical Software Services FY14-FY18**

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<tr>
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<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction sessions</td>
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<td>38</td>
<td>39</td>
<td>38</td>
<td>43</td>
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<tr>
<td>Instruction attendance</td>
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<td>654</td>
<td>771</td>
<td>874</td>
<td>929</td>
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<tr>
<td>Questions and consultations</td>
<td>1015</td>
<td>836</td>
<td>598</td>
<td>750</td>
<td>848</td>
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</tbody>
</table>
Appendix 4: Annual reports by program

Aga Khan Documentation Center

Submitted by Sharon C. Smith, Ph.D., 8 July 2018

This report was prepared with the assistance and input of AKDC staff: Michael Toler, Betsy Baldwin, and Matt Saba. As Program Head, I commend AKDC staff for their continued commitment and dedication to our users and stakeholders, our materials, and our field.

Staff: Betsy Baldwin, Mathew Saba, Sharon Smith (Head), Michael Toler.

Departures: none

Staffing notes:
- The Center utilized interns, students, and temporary appointments on a project basis.
- Program Head, Sharon C. Smith, submitted her resignation, and is leaving MIT on 2 August 2018.
  Michael Toler will assume post of interim Program Head.

Highlights

Much of FY18 has been dedicated to finding a new host and developer for Archnet. As Program Head, I initiated the process by reviewing a narrowed-down list of five firms. Three finalists were brought to campus for on-site interviews and Performant was selected as the new host and developer.

Visitors to and reference consultations with the AKDC, staff and materials, continued at a strong pace in FY18. Some numbers can be found below in Archives and Visual Resources sections; however, that represents only a fraction of this work. Examples include donors, vendors, students (MIT and elsewhere), scholars, authors, publishers, and colleagues specific to other Aga Khan Development Network and their initiatives.

This year, as with past years, AKDC@MIT staff and services have been called upon to participate, support, and guide several international initiatives and programs. In addition, I and other AKDC staff, have lectured widely this year on all aspects of our Center, topics concerning documenting cultural heritage, and in the field of Islamic art and architecture.

The LayerCake project remains active, with James Yamada leading programming and designing, hosted on Heroku, and the beginning of user testing for public platform (all funded through AKDC). Of note, two scholars from University of Leuven (KU Leuven), Belgium, initiated a cross-discipline, multi-location (school, country) grant in partnership with AKDC LayerCake team for “Raising Cultural Awareness and Sensitivity through Interactive Data Visualization”.

Acquisitions

The Center funds acquisitions of visual and printed documentation on the visual and material cultures of Muslim society. The Program Head has developed acquisition and collection policies driven by the needs of the Aga Khan Program teaching faculty, Aga Khan Fellows, and AKPIA students. To this end, the Program Head, serving as bibliographer and selector, continues to seek and purchase relevant materials including books, films, maps, and planning documents for the MIT Libraries, in all languages.
AKDC was the recipient of major gifts from noted scholars and practitioners in the field of Islamic art and architecture as well as those documenting visual culture in Muslim societies. Of particular significance was the archive of pan-Mediterranean urban planner and author, Besim Hakim. There is a continuing flow of born-digital images from throughout the Muslim world from Daniel C. Waugh, Professor Emeritus at the University of Washington, Seattle. Negotiations for the remainder of the Michel Ecochard Archive from the Aga Khan Award for Architecture were completed (to arrive 11 July 2018).

Archnet
Working collaboratively with the co-directors, a new collections page has been developed and implemented. The new design allows users to see all the major collections of Archnet on a single page or to sort by category. An events timeline, originally developed for the Ismaili Heritage database and co-funded by the Aga Khan Trust for Culture and the Aga Khan Documentation Center, is complete and allow users to see events associated with a site or authority in a clear, linear format.

The pace at which records are catalogued for Archnet has increased considerably, thanks primarily to our Visual Resources Librarian and a combination of temporary, project based, workers. The table below provides a quantified view by category for FY18:

<table>
<thead>
<tr>
<th>Archnet Content additions</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>%change FY17-FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites</td>
<td>331</td>
<td>262</td>
<td>392</td>
<td>303</td>
<td>-22%</td>
</tr>
<tr>
<td>Publications</td>
<td>314</td>
<td>359</td>
<td>238</td>
<td>245</td>
<td>3%</td>
</tr>
<tr>
<td>Videos</td>
<td>32</td>
<td>94</td>
<td>46</td>
<td>46</td>
<td>-%</td>
</tr>
<tr>
<td>Images</td>
<td>6,388</td>
<td>7,942</td>
<td>6,873</td>
<td>5,777</td>
<td>-16%</td>
</tr>
<tr>
<td>Authority records</td>
<td>-</td>
<td>2,704</td>
<td>228</td>
<td>613</td>
<td>169% (483 unpublished)</td>
</tr>
<tr>
<td>Total</td>
<td>7,065</td>
<td>12,793</td>
<td>7,897</td>
<td>6,984</td>
<td>-12%</td>
</tr>
</tbody>
</table>

Statistics from Google Analytics:
The number of Archnet users continues to rise, but the total number of pages viewed has decreased slightly. This is expected, and is probably attributable to the fact that Archnet is now an established, authoritative, scholarly resource, and well indexed by search engines. Because of this, references on syllabi, social media, reading lists, and such are more likely to take people directly to the resource they need, resulting in less browsing or searching to find material.

A quick analysis of user acquisitions through Google searches supports this explanation. Users taken directly from their search to a specific publication, image, video or archived message were much more likely to drop off after a single page than those taken to a collection, site, timeline or the homepage. Nonetheless, we shall investigate ways to keep users engaged, even if they are taken by a link of search directly to the resource they need.
## Archnet Use Analytics

<table>
<thead>
<tr>
<th></th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>% change FY17-FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sessions</td>
<td>443,372</td>
<td>587,924</td>
<td>697,810</td>
<td>731,697</td>
<td>3%</td>
</tr>
<tr>
<td>Users</td>
<td>300,000</td>
<td>398,831</td>
<td>484,635</td>
<td>499,983</td>
<td>3%</td>
</tr>
<tr>
<td>Page views</td>
<td>1,900,000</td>
<td>2,642,493</td>
<td>2,852,287</td>
<td>2,709,350</td>
<td>-6%</td>
</tr>
<tr>
<td>Pages per session</td>
<td>4.3</td>
<td>4.6</td>
<td>4.1</td>
<td>4.0</td>
<td>-9%</td>
</tr>
</tbody>
</table>

## AKDC Archives

**New Archive:** Besim Hakim Archive of urban planning and architectural development primarily in Tunis and other North African communities. The Archive includes maps, drawings, books, and study material.

**Processed and Documented Archives**

Archives being prepared for description and digitization include:
- Kamil and Rifat Chadirji Photographic Archive
- Rifat Chadirji Archive
- Ali Tayar Archive

Finding aids have been made available for all three archives and are under further development.

## Researchers

- We had 9 researchers visit us from several countries over 25 days to consult several archives including the Kamil and Rifat Chadirji Photographic, the Rifat Chadirji, and the Mohamed Makiya.
- An appraiser visited to study the Williams Archive on 6 days in October and November, 2017.

## Digitization

We digitized and processed 1150 items (slides, negatives, drawings, single photographs, and groups of photographs) from the Kamil and Rifat Chadirji Photographic Archive and Rifat Chadirji Archive. We digitized and processed another 1151 items from all other sources, including photographs, slides, maps, and items from Beirut, India, Iran, Iraq, Pakistan, Persia, and Turkey.

## Archival Developments/Outreach

- A new collection of reports called “Notes from the Archives” has been published on Archnet to introduce people to our collections and highlights our work progress and plans.
- The collection Finding Aids/Inventories: “Notes from the Archives” also serves as a way for our archives documentation to be accessed, and provides an overview of our physical collections.

## Visual Resources

**Cataloging**

In FY18 my main goal was to work on a number of digitization projects for recently acquired material. These included images from Aleppo and Damascus in the Yasser Tabbaa Archive, born-digital images of Iran, Turkey, and Syria from Daniel Waugh, images from Syria and Iraq in the Marilyn Jenkins-Madina Archive, and architectural drawings and anthropological photographs from the Kamil and Rifat Chadirji Photographic Archive.

**Cataloging statistics:**
- 3127 new image records were published between June 1, 2017 and May 31, 2018.
These include a group of 460 Tabbaa images.

- 110 new site records published, including architectural descriptions and bibliography
- 42 new associated name records of significant historical figures published with biographical information
- 50 new publication records added

Several groups of material deserve to be mentioned, as they enrich the extant content of Archnet. The online collection from the Kamil and Rifat Chadirji Photographic Archive now includes approximately 700 photos, organized into sections to make them easier to browse (https://archnet.org/collections/17).

Several projects expanded the geographical and chronological parameters of Archnet. These include 900 images from medieval Islamic monuments in Eastern Turkey from the collection of Daniel Waugh; 400 images from the city of Ahmedabad in Gujarat from the collection of Rajagopalan Palamadai; and 100 images of Khuzistan, including Sasanian waterworks, from the collection of Daniel Waugh (https://archnet.org/sites/18176).

As a part of these cataloging projects, and updating extant standards several projects to update and expand the descriptive metadata standards we use in cataloguing have been implemented. One goal for FY19 is to continue this work by applying the updated standards to select groups of records.

- **Keyword cleanup**: Creating a controlled vocabulary of keywords which included their metadata (linked open data and/or published source, definition). 89 new keywords were added to Archnet.

- **Bibliography**: Expanding bibliographic references on the site and associated name records to include standard scholarly sources if I found lacunas (https://archnet.org/sites/3838). Project will continue next year with sources in the local language for select groups of material.

- **Alternate names**: Formalized some rules and standards regarding alternate names on both site and associated name records (e.g., records for Mughal Emperors, https://archnet.org/authorities/2642).

- **Reference and image services**: Received, triaged, and either completed or forwarded 62 separate requests for images from scholars and students around the world. The total number of images served in these requests was over 150. Requests included use in books, articles, Websites, and exhibitions. One large group of images (30+) was served to a digital humanities project called “Travel Timeline” undertaken by a consortium in Turkey, Italy, and Poland.

**Outreach, Instruction, and Collaborations (select):**

As with every year, AKDC continues to sponsor outreach events that extend to the larger MIT community and beyond.

- For the fourth year, AKDC@MIT and Center for Arabic Culture (CAC) co-sponsored a film series and speakers program held at CAC office in Somerville, MA.

- Betsy Baldwin, Collections Archivist, welcomed an Islamic architecture class from Northeastern University, taught by Christian Hedrick, Ph.D.. She presented drawings of various materials from several buildings designed or built by Mohamed Makiya and Rifat Chadirji.

- In a collaborative and shared cost event between AKDC and AKTC, Dr. Toby Musgrave was brought to MIT to make the beginning of the overdue “Gardens Collection” for Archnet. Michael Toler filmed four presentations for the collection currently under development.

- Program Head, Sharon Smith, Shiraz Allibhai of AKTC, and Raj Isar, new Head of the Aga Khan Programme for Education, worked collaboratively to further develop the Pedagogy project on Archnet. In particular, ADKC and the Programme for Education commissioned scholarly work such as “Designing Education: The Role of Architecture in Aga Khan Award Winning Schools”, by MIT AKPIA
Ph.D., Christian Hedrick; several lectures by past AKDC collaborator, Professor Soumyen Bandyopadhyay (ArCHIAM, University of Liverpool); and others for inclusion on Archnet.

- Parham Karimi, an Iranian-Canadian architect and researcher is working with the Archnet Content Manager to establish his collection on line. Karimi’s first contribution, “Handicraft Cooperatives and Workspaces in the MENA Region: Tourism, Experience Economy, and Women’s Empowerment” documents a project based on his research in Iran and Morocco.

- Through a collaboration between AKDC@MIT and University of Texas Press, negotiated by Sharon C. Smith, Archnet will host supplemental media for the book Music, Sound, and Architecture in Islam. Materials are currently being integrated, with Chapter 14 on the Iranian Zurkhaneh online.

- Michael Toler and Sharon Smith organized and led a workshop and seminar on “Digital Documentation of the Cultural Heritage of Northern Morocco”. Participants included representatives of academic institutions, libraries, museums, and heritage organizations in Morocco. The workshop and seminar was held at the Tangier American Legation Institute for Moroccan Studies (TALIM) building in Tangier, Morocco. The both events were sponsored in partnership with TALIM, the Office Cherifien des Phosphates, and the Aga Khan Documentation Center at MIT.

- Sharon Smith and Michael Toler toured education and cultural heritage organizations in Northern Morocco. During this time, Michael Toler presented “Documenting the Cultural Heritage of Morocco During Periods of Transition” to graduate students in the American Studies Program at the Faculté des Lettres, BenM’Sik, Hassan II University in Casablanca.

- Toler and Smith met with the Dean and selected members of the faculty regarding possibilities for collaboration between AKDC@MIT and the University. They met with representatives of the Benaboud Foundation in Tetouan, the Yves Saint-Laurent Museum in Marrakech, and Mohammed VI Polytechnic University in Benguerir, Morocco, as well as other cultural and educational institutions in Morocco.

- Sharon Smith and Betsy Baldwin worked with Suzanne Wallen on two grant proposals:
  - Hidden Collections Grant: currently under review
  - Audio records at risk: unsuccessful

**FY18 Priorities/Goals:**

Our goals continue to advance Institute Initiatives as they relate to AKDC. These initiatives are ones AKDC has been engaged in since its establishment in 2011. They make up the core of our mission.

- Advancing Digital Scholarship and Research
- Furthering development on our digital learning and pedagogy projects at AKDC@MIT and more broadly for the larger community
- Expand Investments in Digital Content Management Infrastructure and Services
- Participate Actively in Digital Learning at MIT
- Advance MIT’s Global Engagement

AKDC has sought and participated in system-level projects/committees for the larger MIT community. For example, in FY18, AKDC staff have actively engaged in Committee for the Promotion of Diversity and Inclusion, and Metadata Committee, as well as a variety of outreach activities (see above).

**Priorities**

- Fill position left open by departure of Program Head.
- Addressing unmet needs in the realm of digital preservation and storage, along with acquiring appropriate technical functionality for DH/DS tools currently in development.
- Seek additional grant funding for the processing, digitization, and storage of AKDC archives.
- Address AKDC user and work space needs, initiate planning to enhance AKDC space.
- Implementation of peer review process for contributions to Archnet.
- Continue building relationships with current partners and seek out new partnerships to provide accessibility of curated materials and knowledge in a comprehensive and inclusive manner.
- Continue to implement improved workflows and production management tools to help AKDC staff with their complex duties and responsibilities. Assess acquisitions and processing, ingest, for archival collections, including training of appropriate staff.

**Citation Management and Writing Tools**

**Team Overview**

**Current Members:** Darcy Duke, Chris Tanguay (new in FY18), Christine Malinowski (Lead) Georgiana McReynolds, Jennie Murack, Joe Carrano (IASC lurker), Stacey Snyder, Stephanie Kohler (new in FY18)

**Departed Members:** Alli Gofman, Kari Smith (previous IASC lurker)

**Selected FY18 Accomplishments**

- Recruited and onboarded two new members: Chris Tanguay and Stephanie Kohler.
- Overhauled our LibGuides to improve the user’s discovery and use of our tool documentation.
- Worked with other Libraries staff and Digital Science to acquire Overleaf for the MIT community (rollout in FY19).
- Explored the perma.cc web citation platform and worked with the Harvard development team and relevant MIT Libraries staff to determine our institutional support of the tool (rollout in FY19).
- Completed a tool assessment of Dropbox Paper.

**Service Metrics**

**Instruction:** CMWT offered 12 instruction sessions in FY18 with 171 participants (128 in FY17; +33.6%). This included 3 invited workshops for LGO, DUSP thesis students, and the Lemelson-MIT Program.
**User Questions/Consultations:** The CMWT Team fielded 60 questions in FY18 (64 in FY17; -6.3%). Despite a slight decrease from the previous year, this is in line with the number of average queries received per year.

The ‘Other/General/Multi’ category above includes questions on using multiple tools in a workflow (e.g., Mendeley-Zotero integration) and questions on tools not currently supported by the team (e.g., Overleaf, Authorea), etc.

**FY19 Priorities**
- Roll out Overleaf as a fully-supported tool in our portfolio.
- Roll out perma.cc as a supported tool in our portfolio.
- Implement a prioritization and workflow for the assessment of citation management & writing tools identified by users and the CMWT team.
- Begin assessments of potential tools from our existing list.
- Rework the CMWT wiki to better enable our documentation and tracking of our work.

**Challenges & Unmet Needs**
CMWT continues to meet the evolving needs of our community, expanding our overall capacity (with additional members) and developing more efficient workflows and documentation. In FY18, we worked to adopt two new tools into our portfolio (Overleaf and perma.cc). Due to delays outside of our control, the Overleaf adoption was finalized at the end of FY18 with the rollout to our community scheduled for FY19. Competing priorities of participating members also delayed our perma.cc rollout (also to be completed in FY19), highlighting the continuing challenge of bandwidth for a team committed to no more than ~2 hours/week, including screening incoming questions. In FY19, we aim to create a sustainable workflow to evaluate and respond to emerging and evolving tools that fall into the CMWT scope, addressing a backlog of potential tool evaluations.

**Data Management Services**

**Membership**
- **Group Membership:** Phoebe Ayers, Helen Bailey, Courtney Crummett, Mikki MacDonald, Christine Malinowski, Amy Nurnberger (Program Head), Ece Turnator.
- **Advisors:** Micah Altman, Ellen Finnie, Tracy Gabridge, Nancy McGovern, Howard Silver.

DSS Annual Report – FY18
Highlights
In FY18, six main DMS themes were identified: education; tools & technology; outreach to MIT libraries; outreach to MIT; developing practices, procedures, and policies; and communicating MIT’s work in the RDM sphere back to the global community. These focused DMS efforts as the group made progress on a number of strategic priorities.

Noteworthy accomplishments:
● Established DMS Open Office hours
● Initiated the Campus Research Data Network project, producing a libguide of resources currently available to the MIT research community
● Developed and debuted new workshops: Quick & Dirty Data Management and Managing Research Code
● Co-led the active Research Data Management Technology Planning Project, completing a survey and gap analysis of data management lifecycle technologies currently available to the MIT research community
● Signed an Offer of Services letter for Open Science Framework (OSF): Institutions through the Center for Open Science (COS)

User Services
Consultations
The number of research consultations stayed steady in FY18. These consultations often involved multiple interactions with the client by a DMS sub-team (more than one DMS member). Twenty DLCs were represented in FY18 consultations. The source of initial inquiries were divided between faculty (7), researchers/postdocs/staff (10), students (9), and other (6). Many questions involved advice for storing/sharing data, driven by both publication requirements and the need to find a place for very large data sets. Several consultations involved guidance on data management plans (DMPs). In addition to traditional consultations by request, DMS started offering open office hours once a week, alongside GIS open office hours, enabling collaborative consultations and referrals between our two groups.

Instruction
DMS offered a majority of open-attendance workshops in comparison to invited workshops in FY18. In FY19, DMS will continue to prioritize opportunities for instruction and will be reviewing topic offerings.
### Consultations and Instruction FY14 - FY18

<table>
<thead>
<tr>
<th>Service</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>% change FY17-FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research group consultations</td>
<td>12</td>
<td>32</td>
<td>16</td>
<td>32</td>
<td>32</td>
<td>0%</td>
</tr>
<tr>
<td>Workshops &amp; presentations</td>
<td>4</td>
<td>10</td>
<td>15</td>
<td>13</td>
<td>16</td>
<td>23%</td>
</tr>
<tr>
<td>Workshops &amp; presentations</td>
<td>51</td>
<td>131</td>
<td>157</td>
<td>104</td>
<td>263</td>
<td>153%</td>
</tr>
</tbody>
</table>

### DMPTool

There was continued adoption of MIT’s customized DMPTool in FY18. The number of user accounts increased 29% from FY17 to FY18, and DMPTool users were the source of several consults related to their plans. The DMS team customized new templates for funding agency requirements and performed a full review of the new release (v3), providing feedback and flagging errors for the DMPTool developers.

### DMPTool user accounts

<table>
<thead>
<tr>
<th></th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Users</strong></td>
<td>92</td>
<td>153</td>
<td>209</td>
</tr>
<tr>
<td><strong>Total Users External to the Libraries &amp; OSP</strong></td>
<td>71</td>
<td>126</td>
<td>180</td>
</tr>
</tbody>
</table>

#### Users by Status
- Faculty (emeritus): 17
- Postdoc: 5
- Grad: 11
- Staff: 54
- Alum/Other: 3
- Undergrad: 1
- Unknown: 1

- Faculty (emeritus): 35
- Postdoc: 13
- Grad: 17
- Staff: 83
- Alum/Other: 3
- Undergrad: 1
- Unknown: 1

- Faculty (emeritus): 42
- Postdoc: 28
- Grad: 26
- Staff: 107
- Alum/Other: 3
- Undergrad: 1
- Unknown: 2

An interactive Tableau visualization of the growth of user accounts over time is available at:
[https://tableau.mit.edu/views/DMPTool_Users/DMPToolAccounts](https://tableau.mit.edu/views/DMPTool_Users/DMPToolAccounts)

### Goals and Accomplishments
- Initiated the Campus Research Data Network project, producing a libguide of resources currently available to the MIT research community
- Completed a review of the newest release of the DMPTool
- Signed an Offer of Services letter for Open Science Framework (OSF): Institutions through the Center for Open Science (COS)
- Completed a project to document marketing plan pathways for DMS efforts
- Established DMS Open Office Hours in the GIS Lab
• Co-led the active Research Data Management Technology Planning Project, completing a survey and gap analysis of data management lifecycle technologies currently available to the MIT research community
• Proposed two RDM project to the Active Research Data Management Tech Planning Team: a Registry of MIT-Produced Data and an Open Science Framework instance for MIT
• In collaboration with IASC’s Kari Smith & Joe Carrano, revamped the Tagging & Finding Your Files libguide
• Completed a File Organization Consultation Materials project, producing handouts and templates to enable more efficient and consistent file organization consultations
• Developed and debuted new workshops: Quick & Dirty Data Management and Managing Research Code
• Contributed to the work of the OATF, particularly the data group
• Drafted the Libraries’ response to the NIH RFI about RDM
• Presented to the Libraries on the efforts, activities, and impacts of DMS
• Presented at the Collections & Data conference and RDA and attended the Dataverse Community Meeting, eScience Symposium, the AAMC/NEJM Data Sharing meeting and several Boston DataLibs meetings
• Team members co-led, participated in, and served as mentors for the MIT Libraries hosted #OAHackathon event
• Continued DMS representation and participation in Libraries’ STOAR and DSWG groups
• Hosted a Simmons student interested in RDM and library instruction (continuing through August 2018)

Challenges and Unmet Needs
• The limitations of our repository infrastructure make it difficult for the Libraries to fulfill their existing policy commitments as a destination for research data and restrict the options that the Libraries can offer to support the data management needs of the MIT Community.
• DMS has developed expertise in many areas that intersect with others’ areas of interest and responsibility in the Library. There is a need to develop connections between our expertise and other Libraries efforts, such as curriculum contribution and research projects and partnerships. This may serve to enhance Libraries’ involvement in the institution on multiple fronts.

FY19 Priorities
FY19 priorities are still taking shape. They will be influenced by the Libraries’ strategic planning efforts and developing goal team roadmaps and will likely include:
• Build organizational capacity around data management
• Improve educational resource accessibility
• Become more proactive and intentional in community outreach activities
• Contribute to Libraries’ efforts on infrastructure to support RDM
• Partner with SCCS to develop outreach related to publishers, funders, and data sharing
• Work with LIRS/DSS/SCCS/DLS/DSWG on opportunities to develop digital scholarship services
Digital Scholarship Working Group (DSWG)

Members:  Carl Jones, Karrie Peterson, Christine Quirion, Tom Rosko, Howard Silver (convener), Ece Turnator

Accomplishments

• Drafted priority recommendations that were incorporated into the strategic planning process.
• A subset of DSWG formed the goal team within Priority A: Reorienting the Service Portfolio.
• DSWG members participated in a November 2017 CNI workshop on developing DS Programs.
• DSGW members joined an Ivy Plus Digital Scholarship Affinity Group inaugural meeting.

Challenges and Unmet Needs: DSWG was unable to reconcile conflicting visions and priorities. The group went on hiatus in January 2018. We still need to develop a clear blueprint for fostering transparent and effective communication about DSWG’s and the Libraries’ progress in advancing DS.

FY18 Priorities

• Group remains on hiatus while the priority goal team drafts its roadmap.
• Informal information sharing efforts will continue among interested team members.
• There are organization-wide opportunities to engage with the emerging SHASS DH program.

GIS and Statistical Software Services

Current Staff: Jennie Murack; Daniel Sheehan (Program Head); Madeline Wrable. Contributing: Anne Graham; Joe Hankins

Accomplishments

The 2017-2018 fiscal year was again an exciting time for GIS and Statistical Services that included planning for our future GIS and Data Lab. We maintained excellent services and expanded and refined our workshop offerings to better align with the Future of Libraries report, and extended our experimental work with drones and Virtual Reality (VR).

Staff

Our staff remained stable through the fiscal year.
• All three full time staff participated in the planning for the new GIS and Data Lab in 7A-100. Jennie Murack and Madeline Wrable are members of the teams responsible for assessing the new space and marketing the new space.
• Jennie Murack continues to manage Harvard Data Science Services statistical workshops on campus and our instance of Dataverse. She took over coordination, implementation and analysis of the Libraries’ Triennial Survey, which was launched in November 2017. She will became the convener of the Citation Management & Writing Tools team in FY19 and is a member of the Priority A2b Strategic Goal Team. She remains involved in the T&L team, Ask Us, Ask Chat, and Rotch Reference.
• Daniel Sheehan is a member of a Hayden Space Planning Team and again worked with the Course 12 Geology field camp class.
• Madeline Wrable is also a member of a Hayden Space Planning Team. She continued her work with Virtual Reality (VR), which led to the decision to incorporate a VR space into the new lab.
• Anne Graham remains a strong contributor through her work in the lab and the help queue.

Conferences
• Jennie presented on incorporating critical thinking skills and DISJ values into the Intro to GIS workshop at the IASSIST-CARTO conference and at the New England Library Instruction Group (NELIG) conference. She is on the Social Science Librarians Boot Camp conference planning team.
• Madeline presented on implementing and using VR to visualize data at IASSIST-CARTO.
• All GIS staff attended the Free and Open Source Software for Geo (FOSS4G) conference in Boston, including at least two workshop on emerging technology of strong interest to our community.

Data & Software
• The GIS team conducted usability tests for the new GeoBlacklight version of Geoweb. We had a soft release of the new tool and will have a public release with the opening of the new GIS and Data Lab this fall.
• We have chosen new software for the GIS and Data Lab, including more ENVI (remote sensing) licenses, more options for statistical software, and text mining software.

New Technology & Initiatives
• We continue to work with drones and virtual reality. Drones were borrowed for two field trips and data processing is in progress. Madeline has shepherded VR by teaching workshops and partnering with staff and students from the School of Architecture and Planning to determine their VR needs and how the Libraries can help meet them.
• Jennie led a project to integrate more data literacy concepts and critical thinking skills in our instruction sessions, culminating in a well-received Introduction to GIS workshop during IAP with plans to offer the workshop during the summer of 2018. Jennie is helping plan changes to the GIS Level 2 workshop with similar goals.
• All full time staff spent a significant amount of time working with Cassandra Silvia and Grace Mlady on configuring the new GIS and Data Lab. As of this writing, all furniture has been ordered and new computers are ready to be ordered in time for a late summer opening.

Instruction

<table>
<thead>
<tr>
<th>GIS Workshops</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of workshops</td>
<td>27</td>
<td>25</td>
<td>25</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>IAP workshops</td>
<td>17</td>
<td>9</td>
<td>8</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>In-class sessions</td>
<td>12</td>
<td>3</td>
<td>13</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Open-enrollment workshops (excluding IAP)</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Total number of attendees</td>
<td>320</td>
<td>414</td>
<td>495</td>
<td>633</td>
<td>488</td>
</tr>
</tbody>
</table>
Workshops include course and non-course workshops, GIS instruction as part of orientations, and GIS instruction for library staff. It excludes internal training among GIS staff. For multi-session instruction, each session is counted as a separate workshop if it was on a separate topic and attendees varied at each session.

Statistics are for June 1 – May 31 of each year.

GIS Services continued to provide a significant number of workshops to the MIT community during the past fiscal year. Workshops were taught throughout the year and included GIS instruction as part of courses/departments, open-enrollment workshops, staff training, and School of Architecture and Planning orientations.


Daniel provided in the field training for 10 students in the Field Geology class (12.115/12.482), working with GIS, data creation, and drone flight planning and data processing.

GIS instruction was offered as part of four library orientations to 165 students in the Department of Architecture and Urban Planning and the Center for Real Estate.

Seven open enrollment workshops were offered during July 2017 and Fall 2017.

**Statistical Software Workshops**

<table>
<thead>
<tr>
<th></th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of workshops</td>
<td>13</td>
<td>12</td>
<td>14</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Total number of attendees</td>
<td>177</td>
<td>207</td>
<td>276</td>
<td>241</td>
<td>441</td>
</tr>
</tbody>
</table>

Statistical software workshops were open-enrollment and taught during the fall of 2017 and during IAP in January 2018.

Workshop topics included R and Python. The Python workshops had not been taught at MIT for 2 years and were incredibly popular, with one workshop attended by 72 people.

Three workshops were for Libraries’ staff and taught as part of the Data Series during summer 2017.

**GIS Consultations**

In addition to offering workshops and class instruction, GIS services regularly consults with members of the MIT community in the GIS Lab through open, staffed lab hours, by appointment, and via email.

<table>
<thead>
<tr>
<th>Number of one-on-one consultations</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1015</td>
<td>836</td>
<td>598</td>
<td>750</td>
<td>848</td>
</tr>
</tbody>
</table>

Statistics are for June 2017-May 2018.

**Data**

- 35 new data layers were purchased for addition to GeoWeb.
- In addition, 8 datasets were added to the MIT Libraries’ Dataverse collection.
Challenges

- Our dependence on TS3 and DLE to transition to the GeoBlacklight version of Geoweb caused the upgrade to happen later than we had hoped.
- Changes in the timeline and design of the GIS and Data Lab made it difficult at times to plan our upcoming work.

Directions for the coming year

- Now that we have the GeoBlacklight instance of Geoweb, we are working on loading a large number of new layers into Geoweb.
- Moving to a new GIS space on the Rotch first floor presents opportunities for a new lab set-up and instructional methods. The new space will accommodate a virtual reality room, which would allow us to expand our exploration of the use of VR with GIS data. The move also represents an opportunity to work more closely with the Research Data Management group on projects such as identifying geospatial data that is produced by MIT researchers and collaborating on workshops.
- We will work with Libraries staff, including Research Data Management and others, to expand the use of the lab beyond GIS to include data management, text mining, VR, and other software experiments.
- We will continue to work to incorporate new teaching methods into workshops, including data literacy concepts, critical thinking skills, and group work. Some of the new teaching methods can be tested in our new lab space.