Supporting Data Management at UF and UTK – A Tale of Two Use Cases
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Acknowledgements

Purpose

The purpose of this poster is to articulate two successful outcomes in the form of two use cases from **(1)** accepting the role to be principle investigator (PI) of the Data Management and Analysis Core (DMAC) for a NIH NIEHS Superfund Hazardous Substance Research and Training Program (SRP) P42 grant proposal (RFA-ES-18-002) and **(2)** applying for and receiving an Oak Ridge Associated Universities (ORAU) Faculty Travel Grant to visit **(a)** Oak Ridge National Laboratory (ORNL) Distributed Active Archive Center (DAAC), **(b)** University of Tennessee, Knoxville (UTK) Libraries and **(c)** UTK School of Information Sciences (SIS) (iSchool). The main goal of the DMAC is to make data findable, accessible, interoperable, and reusable (FAIR) across projects and SRP. Within the scope of this poster, current efforts are to understand data management from a socio-technical systems theory perspective rather than a technological infrastructure perspective.

Design/methodology/approach

The study designs involved (a) Participatory action research in use case1 (Figure 1) and (b) involved a mixed methods of Exploratory and Survey research in use case 2 (See Figure 2).

Findings

There is need to (1) organize key stakeholders to develop university-wide data management policy, (2) explore data management from a sociotechnical perspective, and (3) expand programs. "Organization change programmes often fail because they are too focused on one aspect of the system, commonly technology, and fail to analyse and understand the complex interdependencies that exist" (Leeds, 2020).

Originality and Value

The experiences in this poster will help senior executives with responsibility for data management implementation and education. In addition to providing indicators for assessment of progress, understanding data management from a socio-technical systems perspective should prove helpful in predicting achievement of sustainable data management policy, programs, and support.
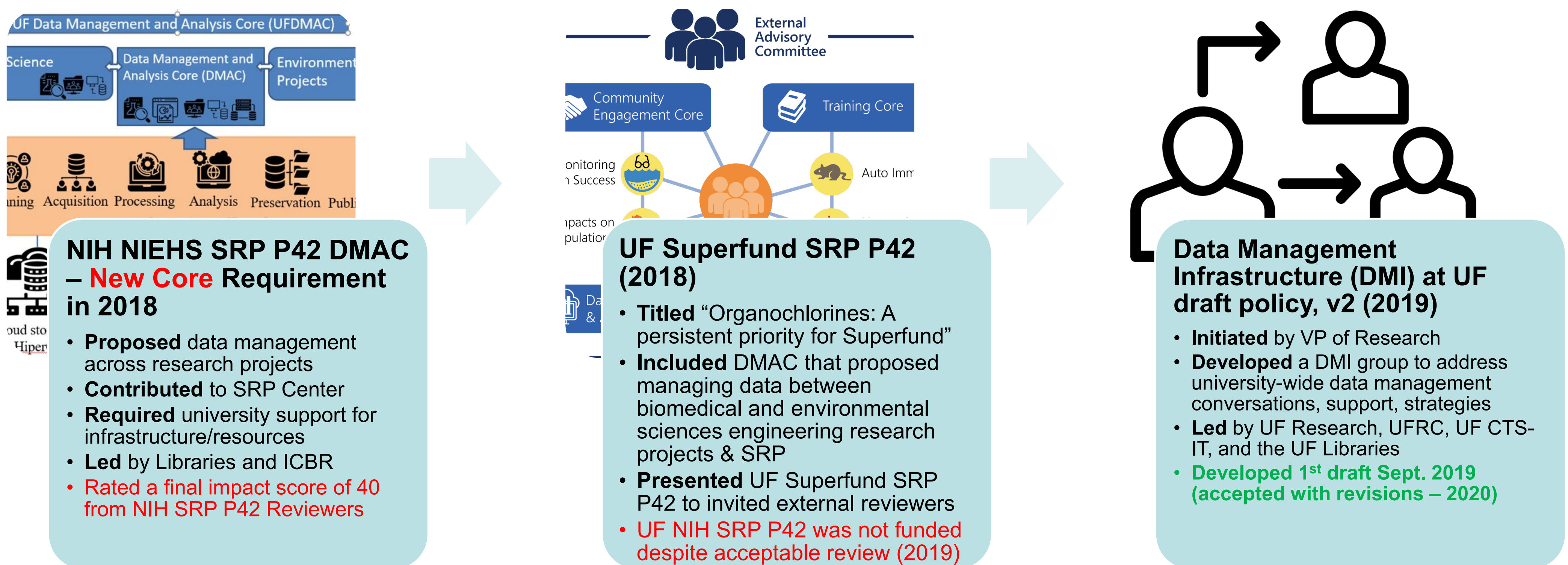
NIH NIEHS SRP P42 DMAC – New Core Requirement in 2018

- **Proposed** data management across research projects
- **Contributed** to SRP Center
- **Required** university support for infrastructure/resources
- **Led** by Libraries and ICBR
- Rated a final impact score of 40 from NIH SRP P42 Reviewers

UF Superfund SRP P42 (2018)

- **Titled** "Organochlorines: A persistent priority for Superfund"
- **Included** DMAC that proposed managing data between biomedical and environmental sciences engineering research projects & SRP
- **Presented** UF Superfund SRP P42 to invited external reviewers
- UF NIH SRP P42 was not funded despite acceptable review (2019)

Data Management Infrastructure (DMI) at UF draft policy, v2 (2019)

- **Initiated** by VP of Research
- **Developed** a DMI group to address university-wide data management conversations, support, strategies
- **Led** by UF Research, UFRC, UF CTS-IT, and the UF Libraries
- **Developed 1st draft Sept. 2019 (accepted with revisions – 2020)**

Figure 1 - NIH SRP P 42 proposal influenced Starting the Conversation: University-wide Research Data Management Policy at UF

ORAU Faculty Travel Grant Summer 2018

- **Enabled** faculty travel to visit Chief Scientist and Data Curation Team at ORNL DAAC – 8/29/18
- **Facilitated** visit to tour UTK Libraries – 8/30/18
- **Included** visit to UTK SIS to meet with Director and faculty – 8/30/18
- **Resulted** in UTK SIS teaching opportunity for Spring 2019

UTK SIS – New Data Mgmt. Course – Spring 2019

- **Taught** 19 students (Zoom/Canvas)
- **Introduced** data management via socio-technical systems theory perspective (Davis et al., 2014)
- **Adopted** DataONE Data Management Education Modules
- **Used** DMPTool, OSF, Zenodo tools
- **Invited** guest speakers: librarians, data management/informatics, and scientist from UTK, University of New Mexico, UF, and ORNL DAAC

INSC590 Zenodo Community & UFIRB #201901142 Student Survey

- **Students' class projects in a data repository**
- 16/19 (84%) participated in student survey
- **100% (16) – Q3.6 Guest speakers materials were useful during the course**
- **93% (15) – Q7. Assignments met UTK SIS MSIS Program Outcomes** 1; 6% (1) - Did not meet MSIS Program Outcomes 1 - https://sis.utk.edu/outcomes
- **93% (15) – Q9. Projects met MSIS Program Outcomes 6** - https://sis.utk.edu/outcomes
- 69% (11) – Q4. DataONE modules Useful in teaching data management; 31% (5) Neutral
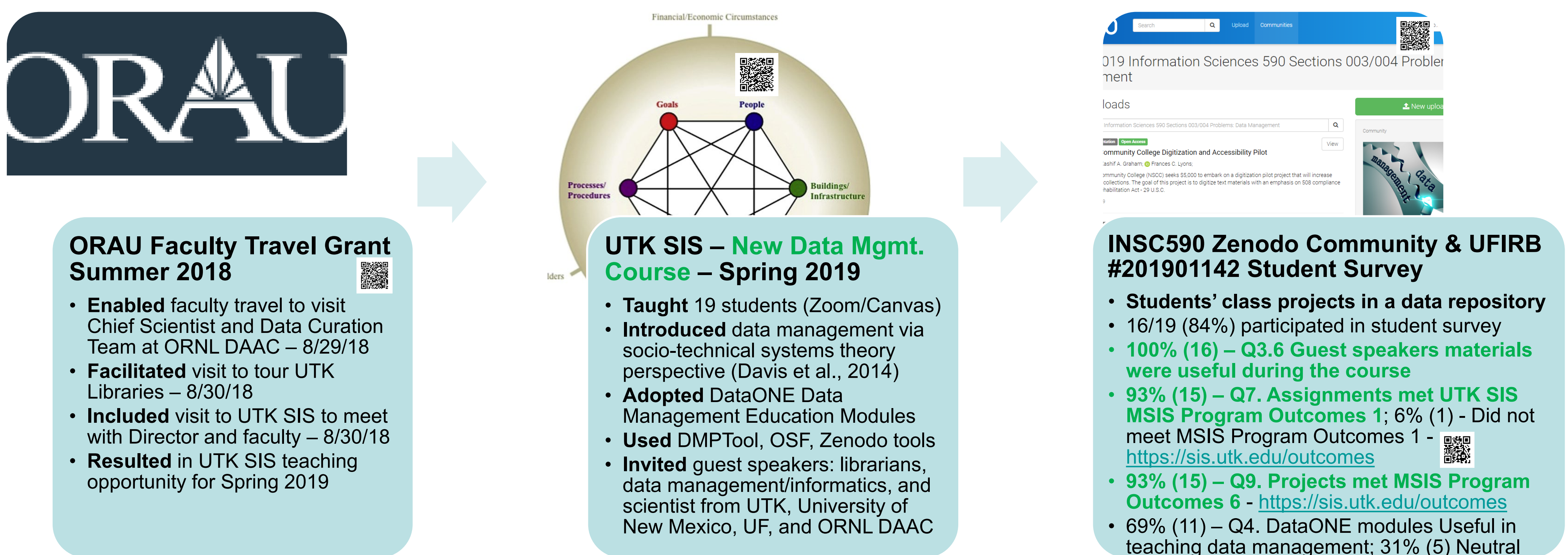
Figure 2: Oak Associated Universities (ORAU) Faculty Travel Grant Program resulted in new data management graduate course at UTK

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