August 18, 2017
Present: Jeremy Weiss, Mike Crimmins, Eric Lyons, Matt Rahr, Fiona McCarthy.

Goal of this meeting is to introduce the CAG mission and to hear from Matt Rahr about current CCT needs.

1. Goals and previous work by the CAG
The goal of this advisory group is to advise the College on how to meet its strategic goal of "making the application of informatics ubiquitous in CALS".

Previous work by the CAG resulted in the report "Big Data and CALS: setting the foundation for the future" This was report was sent to DRAC for review.
FM to distribute this report.
> → See CAG recommendations_Feb2014.pdf in the shared folder

2. CALS Cyber initiatives: Eric Lyons
Two white papers focused on training:
- Just-in-time:
- Undergrad curricula

EL - to share reports with group?

3. CCT update: Matt Rahr
Mission to CCT: make college more cyber savvy
Problems:
- Department heads have a lot of power in terms of how computational rich or poor their units are
- Many departments have a tech support person in their department, who can fix people's personal computer/software problems, but maybe lack broader perspective of other resources on campus
- Transitioning people as IT staff turns over (e.g., retirements)
- Better bandwidth at remote locations (e.g., offsite training with video)

Solutions:
- Cross training across centers
- Awareness of resources and expertise across IT professionals
- Involve CCT in IT hires within departments

Wishes:
- More opportunities to have one on one meetings with faculty in department
- Quarterly tech demos: present example problems and solutions

4. Mike Crimmins: Extension needs
Problem:
- Can you make something for me?

- Extension bulletin publications: make these integrated with some tool/app (e.g., know your water)
- Training: Not necessarily about building the app/tech, but knowing how to write up specification doc to get it built
- Money: Money for building apps, writing proposals to get funding

Solution:
- Use those needs as student projects?

October 13, 2017
Present: Jeremy Weiss, Matt Rahr, Fiona McCarthy.

1) Matt & Fiona are meeting individually with each CALS Unit Head to let them know about the CAG group and to collect information about what they see as their Unit's CI needs. The purpose of this is to collect and collate information about the CALS CI needs with the view to preparing this as a report and identifying strategies to address these needs.

This information is being collated in the google drive:
CALS Cyberinfrastructure advisory group > CALS Unit CI needs

To date: Met with Plant Sciences & SNRE. Scheduled to meet with ACBS.

2) Matt & Fiona did a brief presentation at the CALS Research Workshop. Again, this was to let faculty know we are here to help and to get feedback on CI needs within the College.

3) Discussion of CI concerns raised so far.
Difficulties in identifying data science & technology resources and help.
Need for examples of how technology has been applied.
Data storage and backup: not just options but pros & cons of each
"Paralysis" of Unit IT while they wait for CALS or UITS directives/recommendations that may of may not turn up.

Discussion of white papers being developed by Eric & Jeff and how this resources could address issues about identifying help.
ACTION ITEM: Fiona to see if Jeff is available to meet with us for our November meeting.

4) Matt requested that we consider how we can measure the effectiveness of this committee and its outcomes.

To Do:
(a) Fiona to contact Jeff Oliver about availability to attend Nov meeting
(b) Matt - email Craig, Andy, Willem to arrange meeting. Co-ordinate with Jeremy.
(c) Matt - contact Andy (SNRE IT) about data storage document.

November 8, 2017
Attendence: Mike, Jeremy, Fiona, Matt, Eric (skype)

Eric

Just-in-time training: Resources will be listed on Data7 (https://datascience.arizona.edu)

"Semester-based" training: Pitched freshman course to CALS, the LOVED it!
Also pitched to JP Jones/SBS, they are in for the other 50%.
> *Also pitched to College of Engineering, Associate Dean could not support completely.*
> *TRIPODS Grant - Joe Watkins, "liked it", but is conservative.*
CALS will fund 50% in hiring a Professor of Practice (POP), although we could possibly look at a cross-research-teaching position.

TIMING
Get position filled by early Spring 2018
Soft-launch course in Summer 18 - target 10-20 students
Hard-launch Fall 2018
Online Availability by Summer 2019
350 students per College. Per year.
Whitepaper available

Next steps - need job description (Eric), wants input.
Mike Staten CALS needs to figure out how to cofund this with SBS
Ask your friends if they would enjoy teaching this
> Passionate about teaching and data science
> Technology, dataviz, statistics, Python, R, Jupyter Notebooks
Eric would like for the potential hire to pick their academic home
Eric recommends that the person would physically sit at Data7 (https://datascience.arizona.edu)

13 March 2018
Attendance: Mike, Jeremy, Fiona, Matt, Katy

(1) CALS Cyberinfrastructure Needs & Priorities Report
By the end of this week we will have met 9/10 CALS HODS. We can begin to draft the report while we schedule meeting with Entomology.
- Sub-divide into Research, Teaching, Extension needs
- Prioritize
- Common themes - data storage capacity, data science training/education, guidance for Dept IT & FAculty on available resources (and pros & cons).

During meetings with HODs, given other names to follow up with - this is a good resource for working on specific issues.

Extension agents (based in the county) - new ones and possibly more tech savvy but also more isolated; need to ensure they are informed & supported
Can county programs can be supported better by new technologies?
⇒ put on list for future follow up (Names of agents from Jeff Silvertooth.)

Extension meeting in August - Matt to co-present with someone from CAG
Organize a survey at the same time.

TO DO:
1. Fiona to check with Shane about who he wants this report circulated to.
2. Matt to request time at Extension meeting and co-ordinate survey questions.
3. Fiona - follow up on meeting with Entomology
4. Fiona - review points raised by HODS and categorize.

(2) Data science curriculum

Latest Data 8 syllabus now available - Fiona to update in Drive for CAG.

2017_CALS Cyber Skills Competencies
Matt - complete web services
Fiona - data competencies

Katy - recent articles on data science curriculum

Wed 10 April
Present: Jeremy, Katy, Matt, Fiona

1. Update on meetings with HODs.
Have completed meetings with all CALS HODs and compiled list of Unit CI needs
Drive > CALS Cyberinfrastructure Advisory Group > CALS Unit CI needs

Katy and Fiona also met with Mike Staten to discuss CALS efforts to develop data science syllabi - request to recommend co-ordinated development of data science curriculum across CALS.
Since we met with Mike, we should meet with Jeff re extension (as discussed previously) Meet with Jeff & Dominic Rodriguez (drodriguez1@email.arizona.edu).
ACTION: Fiona to email and request meeting request meeting.

2. Draft of cyberinfrastructure needs report.
Drive > CALS Cyberinfrastructure Advisory Group > CAG Cyberinfrastructure Needs Report

All committee members to please review text so far and add comments/edtis.
ACTION: Matt to add text for section on Development of CCT, previous work to address college needs and integration with Dept IT.
ACTION: Fiona to review & summarize items from CALS survey.

Request to put draft report online and open it for Faculty input prior to release.
Add links to capture comments within the final report so that we can continue to capture feedback.

Bonnie's Qualtrics survey. Would be good to use this to get additional information for report.
Matt could clone and send out to all CALS Faculty.
ACTION: Matt to check in with Bonnie about this survey & see about setting up the survey reminders & anonymity.

3. Data science competencies review and discussion.
Drive > CALS Cyberinfrastructure Advisory Group > CAL CyberNeeds Training
contains
Data Science Curricula (other programs)
    -    UA and external
Data Thinking Curriculum (CALS)
    -    includes syllabi being developed (data 8)

Data science on campus: ISTA, Statistics (program name review)
Data science competencies - draft complete.
Drive > CALS Cyberinfrastructure Advisory Group > CAL CyberNeeds Training > Data Thinking Curriculum (CALS) > Data skills competencies
2015-National Library Skills Competencies
P.44-45 Table 2-2 12 Data Information Literacy Competencies
    -    These are good overview of competencies
    -    Combine with the more specific ones that we have; use ours as subpoints
ACTION: Katie to merge librarian report with our competencies as subheadings.

Tuesday 11 September
Present: Mike, Jeremy, Katy and Fiona
People who will be assigned the nasty tasks: Matt, Eric

The goal of this meeting is to review recommendations from the report and discuss how CAG can address these recommendations (either directly or indirectly).

1. General celebrations and self-congratulatory happiness for completing the report. This report was distributed to Associate & Assit Deans and HODs. So far, no comments received. Let's go with "no news is good news".
2. Many aspects of the report are focused around the theme that resources exist on campus but the people who need the information about these CI resources are not receiving it. Need to focus on communicating information (should use more than one approach).
3. CCT to host report and develop space to warehouse the information collected by CAG? *ACTION ITEM: FM to discuss with Matt.*
4. CAG members to annotate and update online information periodically (quarterly?)
5. Suggested an annual update to CALS Deans and HODs. Some kind of progress update online would also be very helpful. Annual qualimetrics survey of faculty and staff for new issues.
6. Information about compute, storage, backup and archiving resources. Need not just the resources but also information about pro and cons. Disseminate via CALS netmanagers meeting and CCT website?
7. Data science courses: Data Science competencies draft is available and Mike Staten is getting feedback. A faculty group of data science educators has been developed and current/in development syllabi identified. Three lower level data science courses developed over the Summer and working with Mike Staten to incorporate into curricula. Fourth course envisaged but not developed.
8. Data science training and education: Can be managed via the Data Science Institute. Need to get information out to CALS employees and students.
9. Support for online course development: Office of Instruction & Assessment (OIA) and Office of Digital Learning (ODL) information to be disseminated.
10. Ability to identify CALS data science expertise: Put all of Eric's personal contact information online for this. Everyone should definitely contact Eric.

ACTION ITEM: FM to share working document for addressing recommendations.
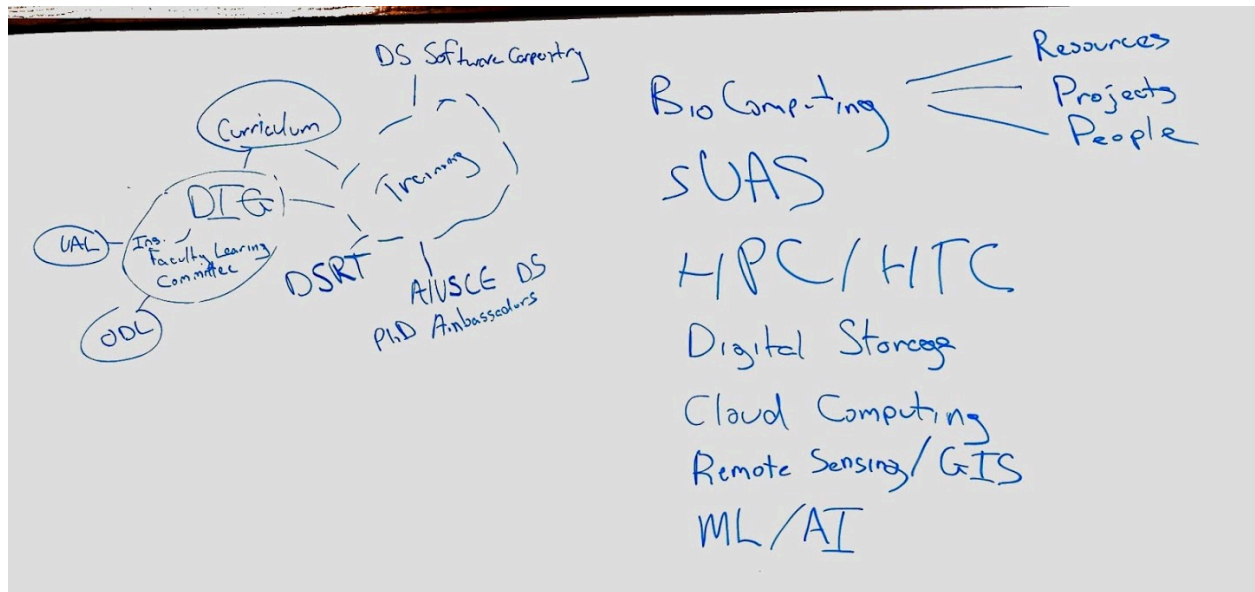
Oct 10, 2018
Present: Jeremy, Katy, Matt, Fiona

Next steps/follow up to recommendations in CAG Report.
Stub out a section on CCT, possibly replacing the "Tech Guides" at
https://cct.cals.arizona.edu/support.

New headings would follow something like

If each section could list the associated Resources, Projects, and People, I think this would cover most of the 19 recommendations. The ones not covered are more focused within CAS.

We also discussed some of the proposed 100/200 level courses:
- "Modern Love", a 100 level course in Retail
- "Zombie Apocalypse", a 100 level course in ACBS
- "Settlers of Antarctica" (formerly Data8), a 200 level course proposed for SNRE
- In development: data science communication & visualization, a 200 level course (AREC? Nutrition?)

CALS graduate Data Science Ambassadors could help with text for website and training?
The 2018-19 Data Science Ambassadors are

Name	Major	College
Jiali Han	Systems Engineering	Engineering
Amy Hudson	Natural Resources & the Environment	Agriculture & Life Sciences
Xiang Liu	Biosystems Engineering	Agriculture & Life Sciences
Brian Maitner	Ecology & Evolutionary Biology	Science

Don Merson	Information	Social & Behavioral Sciences
Matt Miller	Molecular & Cellular Biology	Science
Cristian Román-Palacios	Ecology & Evolutionary Biology	Science