NIDM Sprint

Key associated documents

- NIDM Priorities for Sprint
- NIDM js Viewer specification
- Open Science Prize: notes draft
- NIDM export for AFNI
- Assessment OM chart [Lucidchart]
- Documentation for the various groups (users, developers), website, README and Github Wiki (not completely refined, but the organization was somewhat agreed upon.
- NIDM readme/guide

Minimal Information Required for a Meta-Analysis

Generic (non-imaging)

- Number of subjects per group and group definitions
    - N/group
- Modality
    - NeuroVault uses these
        - 'fMRI-BOLD', 'fMRI-CBF', 'fMRI-CBV', 'Diffusion MRI', 'Structural MRI', 'PET FDG', 'PET [15O]-water', 'PET other', 'MEG', 'EEG', 'Other'
        - Proposed reduced set: fMRI, Structural MRI, PET, MEG, EEG
    - Jess mentioned these:
        - "fMRI-BOLD", "fMRI-CBF", "fMRI-CBV", "MRI-CBF", "MRI-SWI", "Diffusion MRI FA", "Diffusion MRI other", "Structural MRI", and "PET FDG", "PET [15O]-water", "PET PiB", "PET AV-45", "PET other", "MEG", "EEG".
    - Modality / Contrast / Function
        - Modality: MRI | PET | SPECT | MEG | EEG
        - Modality Variant: MRI
            - Functional
            - Structural
            - Diffusion
            - Perfusion
            - Magnetisation Transfer
            - Spectroscopy
        - Modality Variant:PET
            - Flow
            - Metabolism
            - Amyloid

        - Don't go down this route…
            - Contrast (alias dicom:AcquisitionType):
                - MRI
                    - T1Weighted, T2Weighted, T2*Weighted, ProtonDensityWeighted, FLAIR, STIR, FlowWeighted, DiffusionWeighted, SusceptibilityWeighted
                - PET:
                    - 15-O water SNOMEDCT/129504001 (no DICOM)
                    - Fluorodeoxyglucose 18-F, SNOMEDCT/35321007 DICOM/SRT/C-B1031
                    - Pittsburgh compound B 11-C (aka PiB) (no SNOMED) DICOM/DCM/126500
                    - Florbetapir 18-F (aka AV-45) DICOM/SRT/C-E0269 SNOMEDCT/456995000
            - Function (from NIDM-Experiment)
                - Diffusion, DynamicSusceptibilityContrast -> CBF, CBV, DynamicContrastEnhancement, AnatomicalImage,

- Atlas
    - Volume: MNI, Talairach, Talairach mapped to MNI
    - Surface: Desikan-Killiany, Destrieux
- Publication info
    - bibo: http://purl.org/ontology/bibo/
        - also see: http://www.nature.com/ontologies/models/journals/
    - doi
    - Year
    - Title
    - Authors
    - Journal
    - Volume
    - Pages
    - PMID
    - PMCID
- Whole brain / Sub-volume / number-of-Voxels-in-mask
- Software
-
- Contrast names

Jan. 19-21st, 2016 - Irvine CA

Hotel: Hotel Atrium

18700 MacArthur Blvd
Irvine, Ca. 92612
949.833.2770
www.atriumhotel.com
Shuttle to UCI, on-demand

Meeting Locations:

- Tuesday, Jan. 19th: UCI Student Center, Lido Isle A room - Building 113, D5 on map: https://communications.uci.edu/documents/pdf/UCI_15_map_campus.pdf
- Wednesday, Jan. 20th: UCI Student Center, Lido Isle A & B rooms (we'll use the B room for breakouts)
- Thursday, Jan. 21st: UCI Student Center, Lido Isle A & B rooms

Dinner Locations:

- Monday at 7pm: 242 Cafe Fusion Sushi, 242 N Coast Hwy, Laguna Beach
- Tuesday at 7:30pm: Newport Landing, Balboa Pavilion, 503 Edgewater Pl, Newport Beach (949) 675-2373 (11 for dinner)
- Wednesday at 7pm: Ten Bistro 4647 MacArthur Blvd Newport Beach, (949) 660-1010 (11 for dinner)
- Thursday 7pm: Bistango 19100 Von Karman Ave, Irvine, (949)752-5222 (8 for dinner)

Agenda

Monday, Jan. 18th

7:00pm - Dinner: 242 Cafe Fusion Sushi, 242 N Coast Hwy, Laguna Beach, (949) 494-2444 (https://www.google.com/maps/place/242+Cafe+Fusion+Sushi/@33.5434664,-117.7889906,17z/data=!3m1!4b1!4m2!3m1!1s0x80dce43576bc65a3:0x157d98c7a23bee09)

***Note, this one is a bit of an Uber ride but worth it. I believe it's the best sushi I've ever had. I put it here on Thursday night because there will be fewer people making the logistics easier.

Tuesday, Jan. 19th

9:00am-9:30am - Opening remarks, logistics, etc.

9:30am-10:00am - Review current state of NIDM

- Sean Hill stepped down, INCF may or may not be looking for new scientific director
- We need to get better at advertising INCF's contribution to global science
- NIDM problems
    - NIDM very much fMRI, SPM, and FSL oriented
        - Expand to other software packages and/or lab hackers/grad students.

            - NIDM viewer example of one way to “use” information stored in NIDM documents
        - Different ways to analyze data
    - We need another mature NIDM model
    - Think about use-cases for end-users
        - visualisation
        - meta-analysis
        - table for papers

    - Documentation: split by users, developers…
    - Queries : how to make it really easy for developers to implement a new query? **niquery**
    - creating a new model to segmenting tools (freesurfer and civet) -> anatomical scripts (to start with) - **SG**
    - Open Science Prize: **TN**
    - Road-map for user functionality (Visualization from nidm-results) - **SG, Guillaume, Samir, (Tristan)**
    - Make a list of things that are missing in the model (meta-analysis & COBIDAS) **TN CG**
    - NIDM-Results AFNI exporter: **CM**
    - Export to NIDM-Results from CBrain using SPM and FSL exporters: **Tristan**, (**Camille**)
    - Export using anatomical tools (i.e. CIVET. maybe for VBM, etc.) - **Samir**
    - NIDM-Experimental data - bids2nidm? - **Dave, Nolan, Karl**
        - subjects
        - subject-groups
        - meta analysis
        - forms
        - later(?) NDAR dictionary ?
    - Process for nidm-terms - **Karl, Dave, Nolan**
    - SPM NIDM upload to NeuroVault (API documentation) - **Chris, Guillaume**
    - Fix PROV library so it reads/writes TTL - Satra

10:00am - AFNI Call (if needed)
10:00am-10:30am - Coffee break
10:45am-11:30am - Review testing and release cycles

RC1: SPECS -> EXPORTER -> EXAMPLES
RC2: SPECS -> EXPORTER -> EXAMPLES
The latest RC (no more issues identified) becomes the actual release

ACTION - Remove provn docs in nidm repo

ACTION - Drop direct use of rdflib in nidmresults-fsl toolbox - dependent on Satra's update of Python prov toolbox.

Review state of NIDM-Results

- Everyone please:
  - Read the specs (and the paper)
  - Review remaining NIDM-Results terms
- Verify that every URL resolves (move away from purl?)

11:30am-12:15pm - Review state of NIDM-Experiment

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Roadmap for NIDM: link

12:15pm-1:15pm - Lunch
1:15pm-2:00pm - Review state of NIDM-Terms
2:00pm-2:45pm - Review NIDM Specifications, Next Steps
2:45pm-3:00pm - Coffee break
3:00pm-4:30pm - Open Science Prize
4:30pm-5:30pm - Hacking Plans for Days 2&3
5:30pm-6:00pm - Cleanup/Shuttle back to hotel

7:30pm - Dinner: Newport Landing, Balboa Pavilion, 503 Edgewater Pl, Newport Beach (949) 675-2373 (https://www.google.com/maps/place/Newport+Landing/@33.6044484,-117.9157091,13.16z/data=!4m7!1m4!3m3!1s0x80dce071a435159d:0xe9fe863f2f395282!2sBayside+Restaurant!3b1!3m1!1s0x0000000000000000:0x89fc7c6dc5d35648)
***Note, will require Uber transportation from Atrium. I can fit 4 additional people in my car.

Wednesday, Jan. 20th

8:30am-9:00am - Opening
-> revisit the purl issue
9:00am-12:15pm - Hacking Breakouts
BIDS modelling extension: CG/JB/GF/TN
9:00am-10:00am - Open Science Prize working group (w/ dial-ins)
10:00am - AFNI Call (if needed)
12:15pm-1:15pm - Lunch
1:15pm-3:00pm - Hacking Breakouts
3:00pm-3:30pm - Review hacking progress
3:30pm-4:00pm - Cleanup
4:00pm-6:00pm - Social work at UCI Pub

7:00pm - Dinner: Ten Bistro 4647 MacArthur Blvd Newport Beach, 949-660-1010 (https://www.google.com/maps/place/Ten+Asian+Bistro/@33.669954,-117.8674617,17z/data=!3m1!4b1!4m2!3m1!1s0x80dcdef70b13a989:0xe60c47499f57d26d)
***Note, walking distance from hotel.

Thursday, Jan. 21st

8:30am-9:00am - Open Science Prize

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9:00am-12:15pm - Hacking Breakouts
10:00am-11:00am - AFNI Call (key call)
NIDM js Viewer specification
12:15pm-1:15pm - Lunch
1:15pm-3:00pm - Hacking Breakouts
3:00pm-4:30pm - Review hacking progress
4:30pm-5:00pm - Cleanup

7:00pm - Dinner: Bistango 19100 Von Karman Ave, Irvine, (949) 752-5222 (https://www.google.com/maps/place/Bistango/@33.6704553,-117.8595024,17z/data=!3m1!4b1!4m2!3m1!1s0x80dcdef57b912613:0x87473adbd202635b)
***Note, walking distance from hotel.

Other Fun:

Classic Q, 4251 MacArthur Blvd, Newport Beach (949) 261-9458
https://www.google.com/maps/place/Classic+Q/@33.6650793,-117.8664959,17z/data=!4m5!1m2!2m1!1sClassic+Q!3m1!1s0x80dcde59b73a0387:0x2a86ab69d9f9f17b
***Walking distance from hotel, fun place for pool, darts, sports, and reasonably cheap drinks

Beach
If you want to visit a beach that's relatively close by, I'd suggest Corona Del Mar State Beach: (https://www.google.com/maps/place/Corona+del+Mar+State+Beach/@33.593285,-117.8765791,18z/data=!3m1!4b1!4m2!3m1!1s0x80dce0fb832f1fa7:0xd38e37be259f5f5b)
***If you're coming in early, I will be surfing Saturday and Sunday mornings. If you're interested in tagging along or even giving it a try, let me know.

JPND

nick fox: https://www.ucl.ac.uk/drc/research/miriad-scan-database/Downloading

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I think we should use the NIDM Hackathon in July as motivation to get some object models and tools for interacting with them in a useable state, hopefully before OHBM (June).

At our last workshop there was interest in creating custom object models for various lab processes and integrative models that include both derived data and the workflows that created it. We also had much interest in how to query the models.

In terms of teaching NIDM (or any other skill for that matter), I've found the EDGE method to be very successful. EDGE: Educate, Demonstrate, Guide and Enable. I think we attempted to follow this approach in our last workshop but we can always do a better job.

NIDM-Results

- Reach out at AFNI: NIDM-Results exporter
    - Video call with AFNI team
- Results visualisation tool
    - We should specify requirements and development timelines
- Integration in larger systems (CBRAIN, LORIS, etc). Maybe using NIDM-API.
- Upload to NeuroVault from SPM and nidmfsl tools (Guillaume and Chris, +Camille?)

NIDM-Experiment

- Forms/Spreadsheet models
    - Data dictionaries + acquired data modeling
    - RDF Data Cube method
- Investigation mode
- Session model
- Minimal items needed for a basic meta-analysis
    - Number of subjects per group
- Example using WRAT4
    - https://ndar.nih.gov/ndar_data_dictionary.html?short_name=wrat401
    - http://www.cognitiveatlas.org/task/id/trm_5696d061adfb5

NIDM-Workflow

- Would be create to settle on at least the overall approach for one specifying their workflow used to create derived data or form/spreadsheet data?
    - Example: I've got form data in my lab, some containing calculated fields and would like to turn it into RDF along with some metadata about the process used to create it.

NIDM-API

- Should we be specifying API functions for each object model we formally document?
    - For NIDM-Results these may be canned queries such as returning all significant voxels for a specific contrast map (cf. queries available at: https://github.com/incf-nidash/nidm/tree/master/nidm/nidm-results/query)
- Languages we intend to support
    - Python
    - Do we want to create a Matlab NIDM-API?

NIDM-Terms

- List of terminologies to look in for terms
    - Examples of searching these terminologies
- Clear guidance on what to do when you need to define your own terms
    - We have some advice in our NIDM-Primer but I think it needs to be more clearly written, more or less like a procedure: http://nidm.nidash.org/specs/nidm-primer.html#documenting-your-object-model
- Examples of OWL files, spreadsheets, Github repos for custom terms.
    - If we need to define custom terms what's the process we would like people to follow and why?

3pm Thursday feedback:

- KH, CM, TN, … : vocabulary to be included in the nifm exporter
- CG et al: nimd jsviewer specifications, Samir to talk to developer…
- SG: prov library fix
- DK, NN, et al: lucid chart https://www.lucidchart.com/documents/edit/349060e2-b31e-4b16-a795-6c4f74d5de04
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Minimal Information needed for a meta-analysis *not* presently in NIDM-Results

Effect units - e.g. 100

---------- News to be shared ----------

- JPND: **A CALL FOR WORKING GROUPS ON HARMONISATION AND ALIGNMENT IN BRAIN IMAGING METHODS**
  http://www.neurodegenerationresearch.eu/initiatives/annual-calls-for-proposals/open-calls/brain-imaging-working-groups-2016/
- **RDA call**
  http://us.rd-alliance.org/news/rdaus-2016-call-adoption-projects
- INCF changes X
- **NDA Supplement**
  https://docs.google.com/document/d/12TKsZBUAbz-U6h4WCC8mMKwW1HzxD88gyISbbSQZ-3M/edit

NDAR owl file:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4000751/bin/NIHMS535302-supplement-12021_2013_9211_MOESM2_ESM.owl
Bioportal: http://bioportal.bioontology.org/ontologies/ASDPTO

RDA/US 2016 CALL FOR ADOPTION PROJECTS

RDA/US 2016 CALL FOR ADOPTION PROJECTS
Funding Available to assist U.S. projects, groups and organizations to adopt RDA Recommendations

RDA/US is pleased to announce the availability of funding to assist U.S. projects, groups and organizations in adopting **RDA Recommendations**.

RDA Recommendations are specific technical approaches and high level policy guidelines developed by RDA Working Groups to assist data users in overcoming common data sharing roadblocks and ultimately, accelerate collaboration and innovation worldwide.

To qualify to receive this funding from RDA/US, made possible through support from the MacArthur Foundation, a U.S. project, group and/or organization must
submit an application to adoption@us.rd-alliance.org by Friday, February 12, 2016.
Applications should propose:

- Usage of one or more of RDA Recommendations to solve an existing data sharing challenge AND
- Evaluation of its success in various domains, which may lead to the future development of new and/or improved RDA Recommendations

RDA Recommendations are detailed in the recently published report titled "**Research Data Alliance Outputs**."

In 2015, RDA/US conducted an Adoption Seed Pilot, resulting in the successful adoption of several RDA Recommendations. For additional reference, final reports detailing two "worked examples" of adoption are provided below.

- Washington University at St. Louis' Adoption of RDA's Data Foundation and Terminology Working Group Recommendations **(http://us.rd-alliance.org/sites/default/files/Reports/RDA_WUSTL_Adoption_Report_Final.pdf)**
- Deep Carbon Observatory's Adoption of RDA's Data Type Registry and PID Working Groups Recommendations **(http://us.rd-alliance.org/sites/default/files/Reports/DTR-PIT-project_report_final2015.pdf)**

Eligibility

- Organizations, groups and projects are eligible as adopters; RDA/US strongly encourages applications from projects or organizations with established user communities.
- Where appropriate, use of existing facilities and collaboration with other RDA-affiliated organizations, e.g., NDS Labs **(http://www.nationaldataservice.org/projects/labs.html)**, is encouraged.
- Applicants not currently RDA members are encouraged to join RDA, however, membership in RDA is not a requirement or evaluation factor in the application process (Applicants are expected to join RDA if funding is received).
- Applicants must be *eligible* to be a member of RDA/US (be a US citizen, member of RDA working at a US institution, or an organization with US affiliations).
- Applicants cannot be from a government agency or organization

To Apply:

Applications are due **Friday, February 12, 2016**, and should be e-mailed to **adoption@us.rd-alliance.org**. The application should consist of a description of proposed work of no more than 5 pages that include:

- Proposer's name, organizational affiliation, and contact information
- Plan of work that addresses:
    - Problem being addressed (including justification for use of Working Group Recommendation to improve data sharing or a data infrastructure environment)
    - Nature of adoption effort to be carried out
    - Anticipated impact and metric of success - how will we know if the adopted infrastructure is successful in enhancing the data environment?
    - Milestones describing what is to be accomplished during the adoption period
- Description of adopting organization(s) or project as well as the user community served
- 2 page CVs of key personnel (not included in application page count)
- Budget description and justification (not included in application page count). *Note that travel to RDA Plenary 8 will be provided for one member of the selected adopter's team and should not be included in the budget.*
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Terms of Acceptance:

- Accepted applications will receive funding up to $40,000 to begin roughly around March 1, 2016, and must be complete by December 1, 2016.
- Accepted applicants/adopters will be expected to work with representatives of the respective RDA Working Group to ensure there is a complete understanding of the Recommendation.
- Adopters must attend RDA Plenary 8 in September 2016, to present a summary of their adoption results and activities (Reasonable travel funding will be provided).
- The adoption project must be completed no later than December 1, 2016, at which point a Final Report will be due. Staffing must be immediately allocable on the project start date to ensure substantial progress is made before RDA Plenary 8

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- The adoption effort should add real demonstrated value to the user community for the system into which it is integrated.
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Submissions will be evaluated on the potential for impact of the effort. **Awards will be announced the week of February 22, 2016.**

We encourage you to submit your proposal, as well as share this announcement with others you who feel may have an interest.

For any questions or comments on this exciting initiative, please contact us at **adoption@us.rd-alliance.org** or visit **us.rd-alliance.org**.