

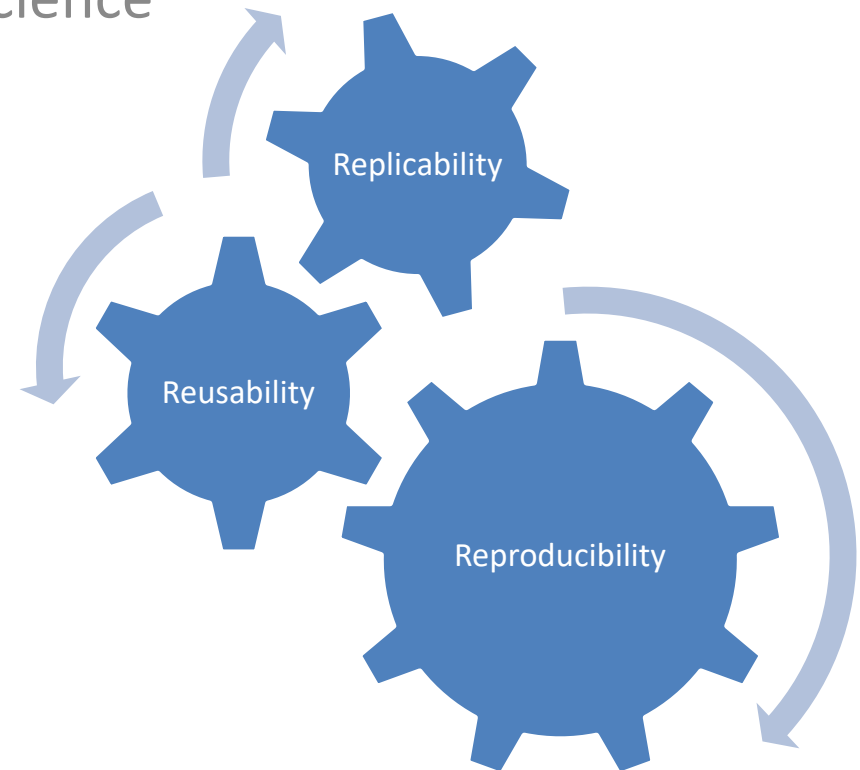
RRR with RSpace

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My route into RSpace

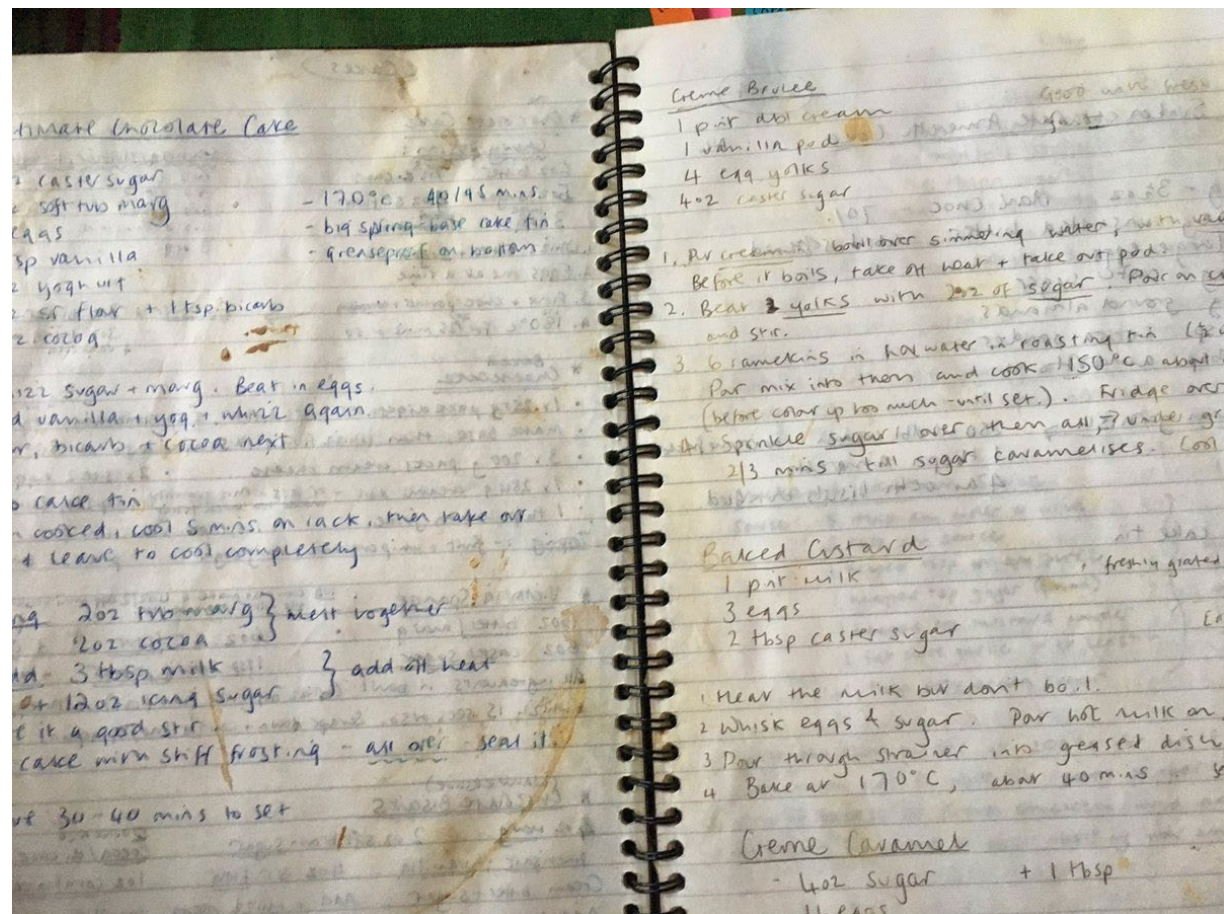
- End of PhD and **start of postdoc** (October 2018)
- "Old" Cambridge **lab moving** to Edinburgh
- Only **user of ELN** (Findings for Mac) in old lab and involved in University-wide **Open Science** initiatives
- Drafted lab's Data Management plan to ensure **compliance with FAIR**
- **CVS-RSpace license agreement** established



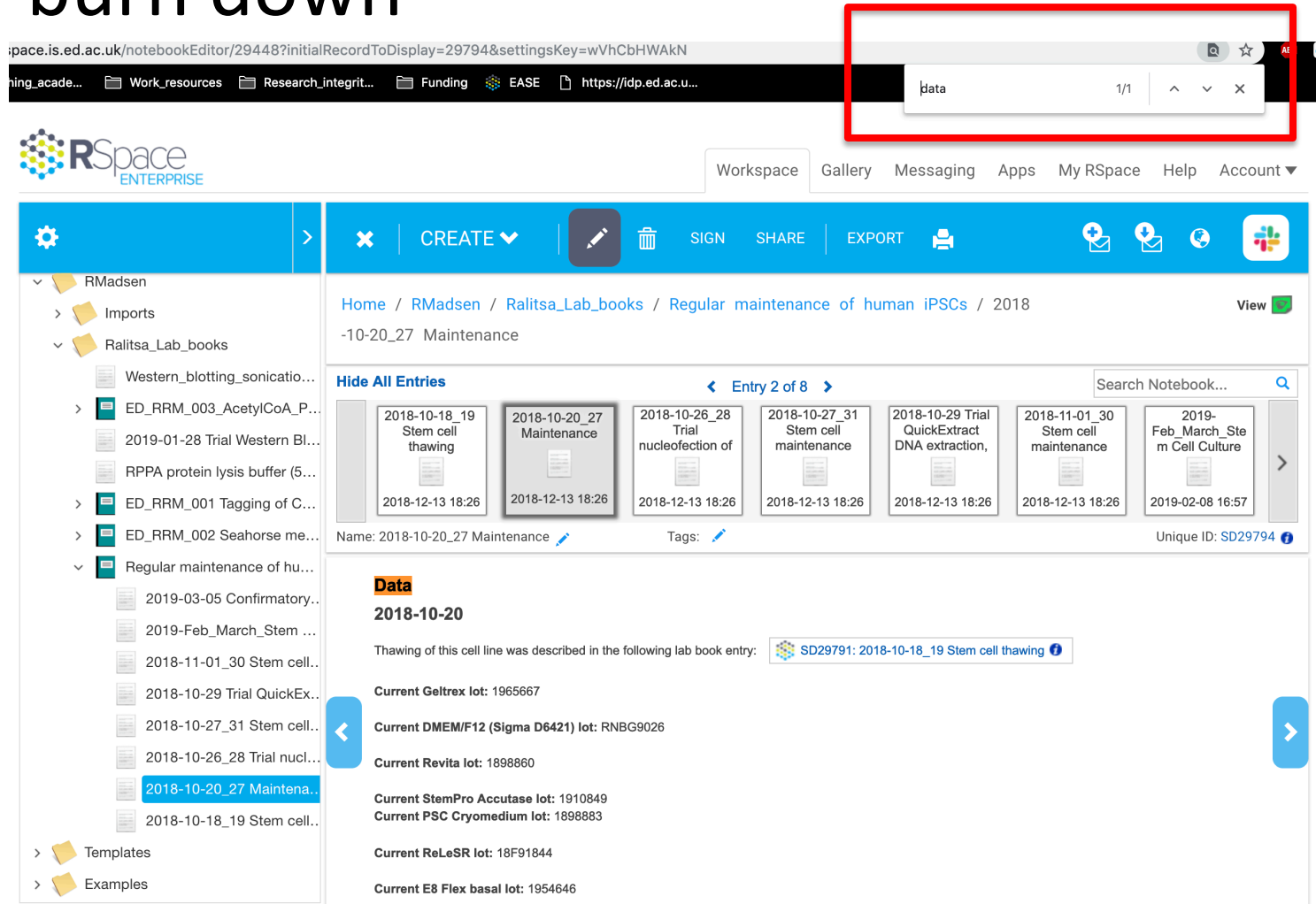
RSpace impressions so far



1. Readable, easy to "carry" & doesn't burn down

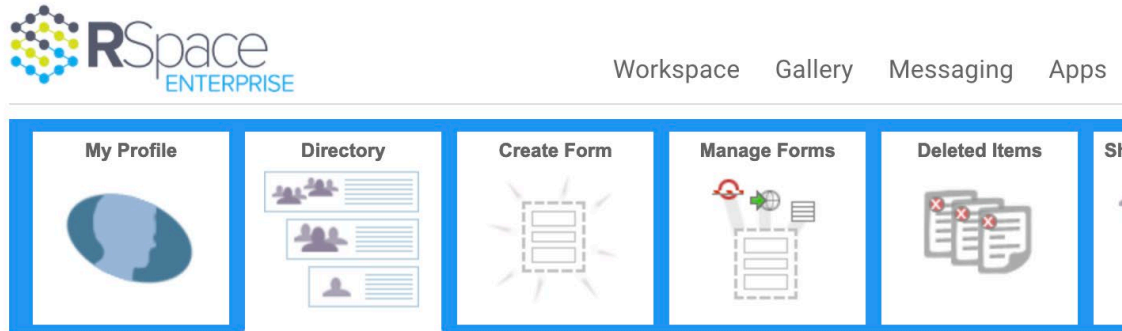


1. Readable, easy to "carry" & doesn't burn down



The screenshot displays the RSpace Enterprise web interface. At the top, a browser address bar shows the URL `space.is.ed.ac.uk/notebookEditor/29448?initialRecordToDisplay=29794&settingsKey=wVhCbHWakN`. A red rectangle highlights a search bar in the top right corner containing the text "data". Below the browser bar, the RSpace logo and navigation tabs (Workspace, Gallery, Messaging, Apps, My RSpace, Help, Account) are visible. The left sidebar shows a file tree with folders like "RMadsen" and "Ralitsa_Lab_books", and a list of files including "Western_blotting_sonicatio...", "ED_RRM_003_AcetylCoA_P...", "2019-01-28 Trial Western Bl...", "RPPA protein lysis buffer (5...", "ED_RRM_001 Tagging of C...", "ED_RRM_002 Seahorse me...", "Regular maintenance of hu...", "2019-03-05 Confirmatory...", "2019-Feb_March_Stem ...", "2018-11-01_30 Stem cell...", "2018-10-29 Trial QuickEx...", "2018-10-27_31 Stem cell...", "2018-10-26_28 Trial nucl...", "2018-10-20_27 Maintena...", and "2018-10-18_19 Stem cell...". The main content area shows a breadcrumb trail: "Home / RMadsen / Ralitsa_Lab_books / Regular maintenance of human iPSCs / 2018 -10-20_27 Maintenance". Below this, a "Hide All Entries" button and a "Search Notebook..." search bar are present. A row of eight notebook thumbnails is displayed, with the second thumbnail, "2018-10-20_27 Maintenance", selected. The selected entry's details are shown below, including its name, tags, and a list of reagents and lot numbers: "Current Geltrex lot: 1965667", "Current DMEM/F12 (Sigma D6421) lot: RNBG9026", "Current Revita lot: 1898860", "Current StemPro Accutase lot: 1910849", "Current PSC Cryomedium lot: 1898883", "Current ReLeSR lot: 18F91844", and "Current E8 Flex basal lot: 1954646".

2. Seamless group integration



Group: Robert_Semple_Lab

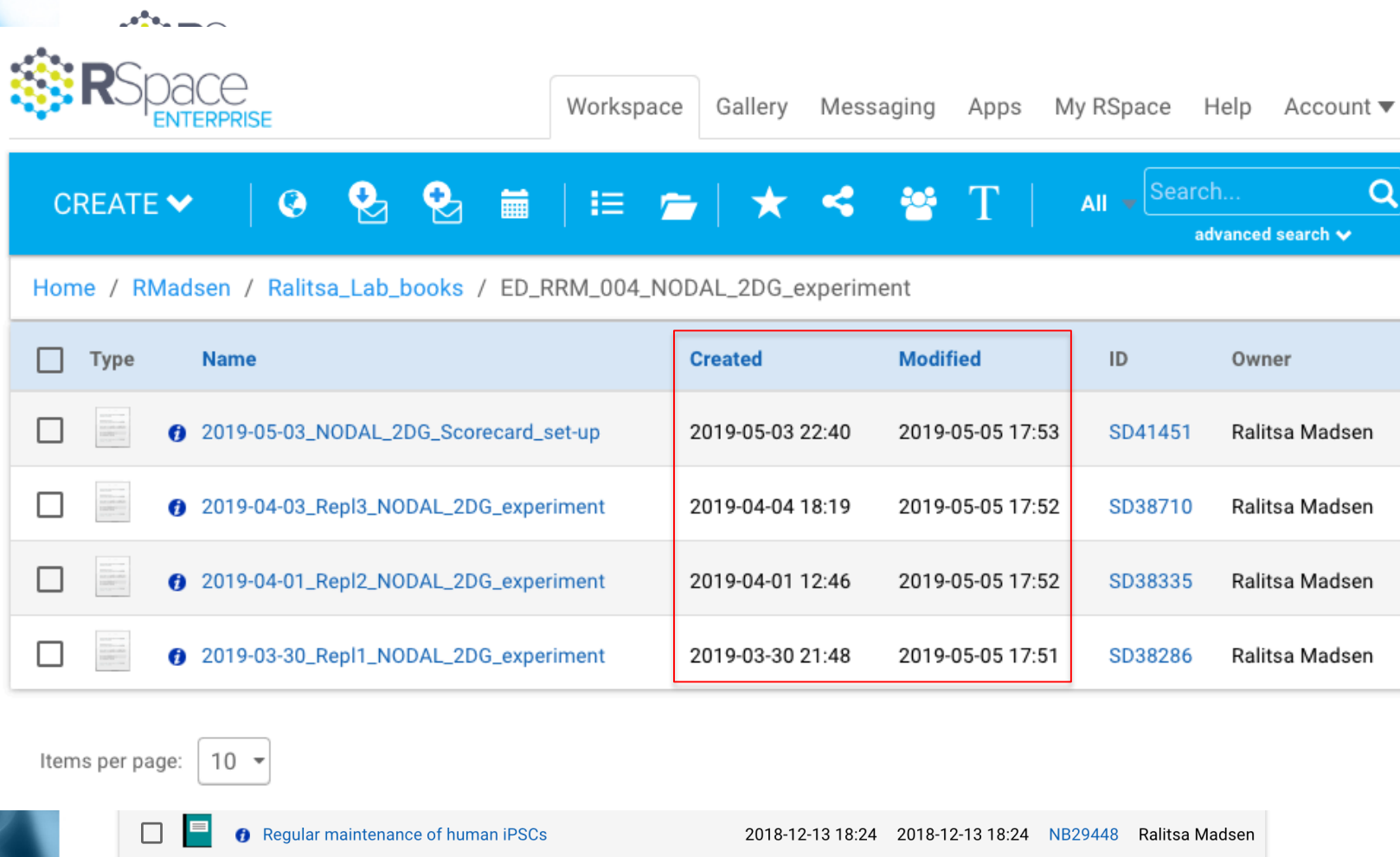
Profile

There is no profile information for this group.

Members

Full Name	Username	Role	Manage Roles	Remove User
Robert Semple	rsemple	PI		
Ralitsa Madsen	rmadsen	User		
Vahid Aslanzadeh	vaslanza	User		
Dominique McCormick	dmccormi	User		
Cornelia Gewert	cgewert	User		

3. Modular organisation



RSpace ENTERPRISE

Workspace Gallery Messaging Apps My RSpace Help Account ▼

CREATE ▼ | [Icons: Home, Download, Upload, Calendar, List, Folder, Star, Share, Group, Text] | All Search... advanced search ▼

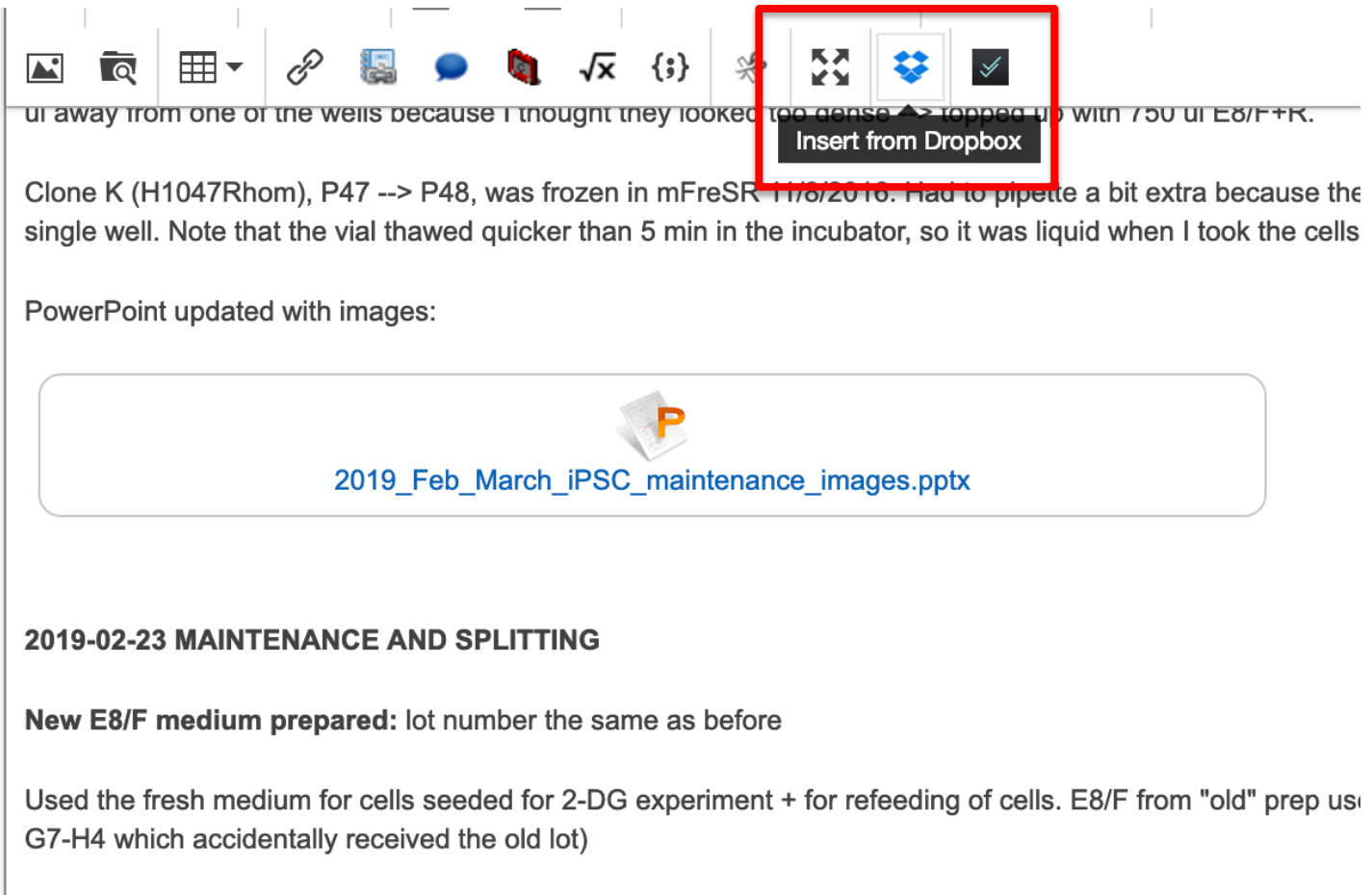
Home / RMadsen / Ralitsa_Lab_books / ED_RRM_004_NODAL_2DG_experiment

☐	Type	Name	Created	Modified	ID	Owner
☐		2019-05-03_NODAL_2DG_Scorecard_set-up	2019-05-03 22:40	2019-05-05 17:53	SD41451	Ralitsa Madsen
☐		2019-04-03_Repl3_NODAL_2DG_experiment	2019-04-04 18:19	2019-05-05 17:52	SD38710	Ralitsa Madsen
☐		2019-04-01_Repl2_NODAL_2DG_experiment	2019-04-01 12:46	2019-05-05 17:52	SD38335	Ralitsa Madsen
☐		2019-03-30_Repl1_NODAL_2DG_experiment	2019-03-30 21:48	2019-05-05 17:51	SD38286	Ralitsa Madsen

Items per page: 10 ▼

☐ [Regular maintenance of human iPSCs](#) 2018-12-13 18:24 2018-12-13 18:24 [NB29448](#) Ralitsa Madsen

4. Integrated with Dropbox (++)



ur away from one of the wells because I thought they looked too dense - topped up with 750 ul E8/F+R.

Clone K (H1047Rhom), P47 --> P48, was frozen in mFreSR 11/8/2016. Had to pipette a bit extra because the single well. Note that the vial thawed quicker than 5 min in the incubator, so it was liquid when I took the cells

PowerPoint updated with images:

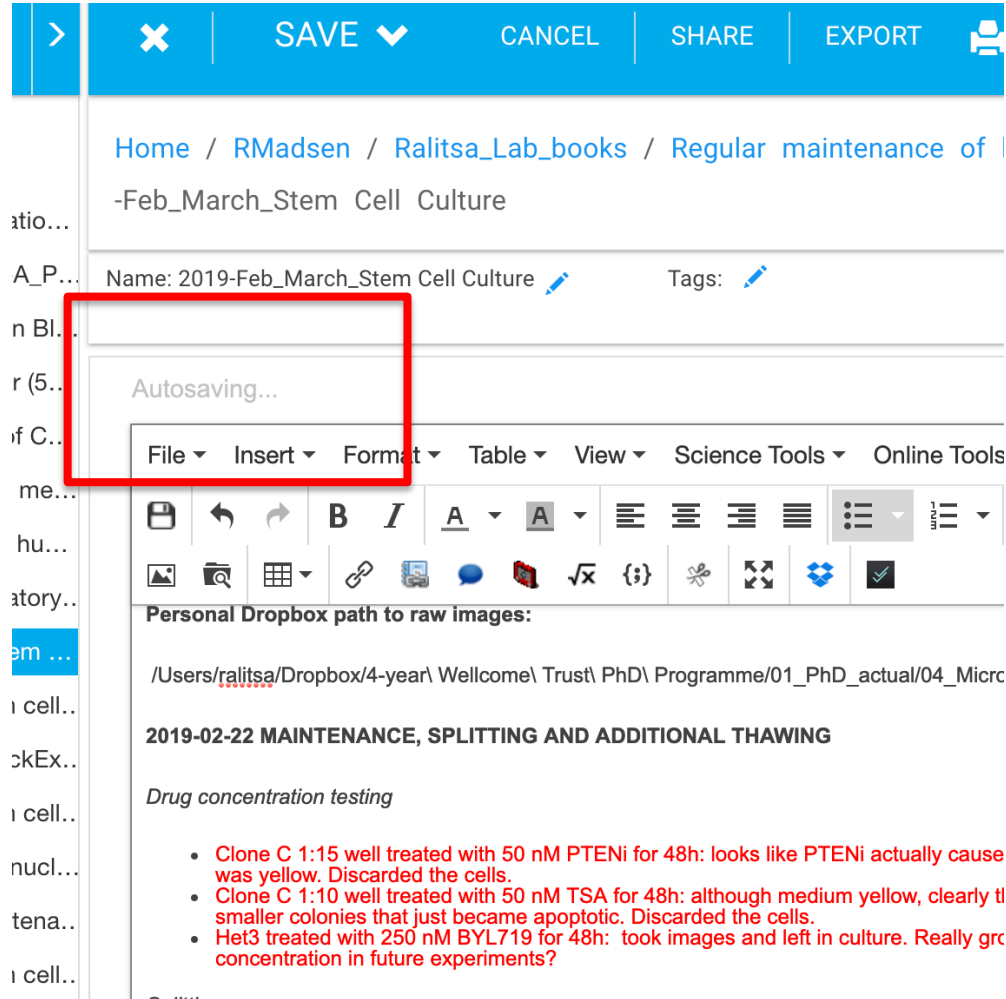

[2019_Feb_March_iPSC_maintenance_images.pptx](#)

2019-02-23 MAINTENANCE AND SPLITTING

New E8/F medium prepared: lot number the same as before

Used the fresh medium for cells seeded for 2-DG experiment + for refeeding of cells. E8/F from "old" prep used G7-H4 which accidentally received the old lot)

5. Autosave prevents data loss



The screenshot shows a web application interface with a blue header bar containing navigation buttons: >, ✕, SAVE ▼, CANCEL, SHARE, EXPORT, and a printer icon. Below the header, the breadcrumb path is: Home / RMadsen / Ralitsa_Lab_books / Regular maintenance of / -Feb_March_Stem Cell Culture. The main content area shows a form with a text input field containing "Name: 2019-Feb_March_Stem Cell Culture" and a "Tags:" label. A red box highlights a notification area that says "Autosaving...". Below this, there is a menu bar with options: File, Insert, Format, Table, View, Science Tools, and Online Tools. The interface also includes a rich text editor with various icons for text formatting (bold, italic, underline, color, background color), alignment, and other functions. The text content of the document is as follows:

Personal Dropbox path to raw images:

/Users/ralitsa/Dropbox/4-year\ Wellcome\ Trust\ PhD\ Programme/01_PhD_actual/04_Microscopy

2019-02-22 MAINTENANCE, SPLITTING AND ADDITIONAL THAWING

Drug concentration testing

- Clone C 1:15 well treated with 50 nM PTENi for 48h: looks like PTENi actually cause was yellow. Discarded the cells.
- Clone C 1:10 well treated with 50 nM TSA for 48h: although medium yellow, clearly tl smaller colonies that just became apoptotic. Discarded the cells.
- Het3 treated with 250 nM BYL719 for 48h: took images and left in culture. Really grc concentration in future experiments?

6. Science tools


>
×
SAVE ▾
CANCEL
SHARE
EXPORT






RMadsen

Imports

Ralitsa_Lab_books

Western_blotting_soni

ED_RRM_003_AcetylC

2019-03-01 2-DG g

2019-03-12 AcetylC

2019-03-10 2-DG a

2019-03-04_WB_A

2019-02-27 2-DG a

2019-02-23 2-DG t

2019-02-21_Trial_V

2019-02-24 TSA ar

2019-02-23 ANAC

2019-01-28 Trial West

RPPA protein lysis buf

ED_RRM_001 Tagging

ED_RRM_002 Seahors

Regular maintenance

Templates

PCR Master Mix

×

Please enter reagent volumes for a single reaction, and the number of reactions you are performing. Click 'Calculate' to generate the scaled-up quantities.

Composition of PCR reaction		PCR MasterMix Formulation for PCR reactions	
Template DNA	0 μ l	Template DNA	μ l
PCR Buffer	0 μ l	PCR Buffer	μ l
Forward Primer	0 μ l	Forward Primer	μ l
Reverse Primer	0 μ l	Reverse Primer	μ l
dNTP mix	0 μ l	dNTP mix	μ l
DNA Polymerase	0 μ l	DNA Polymerase	μ l
PCR grade Water	0 μ l	PCR grade Water	μ l
Total Number of Reactions	1		
Total PCR Reaction Volume: μ l		TOTAL VOLUME: μ l	

Close

Insert

Editing 

Unique ID: SD35444 

Show last modified date ☐

Line Height ▾

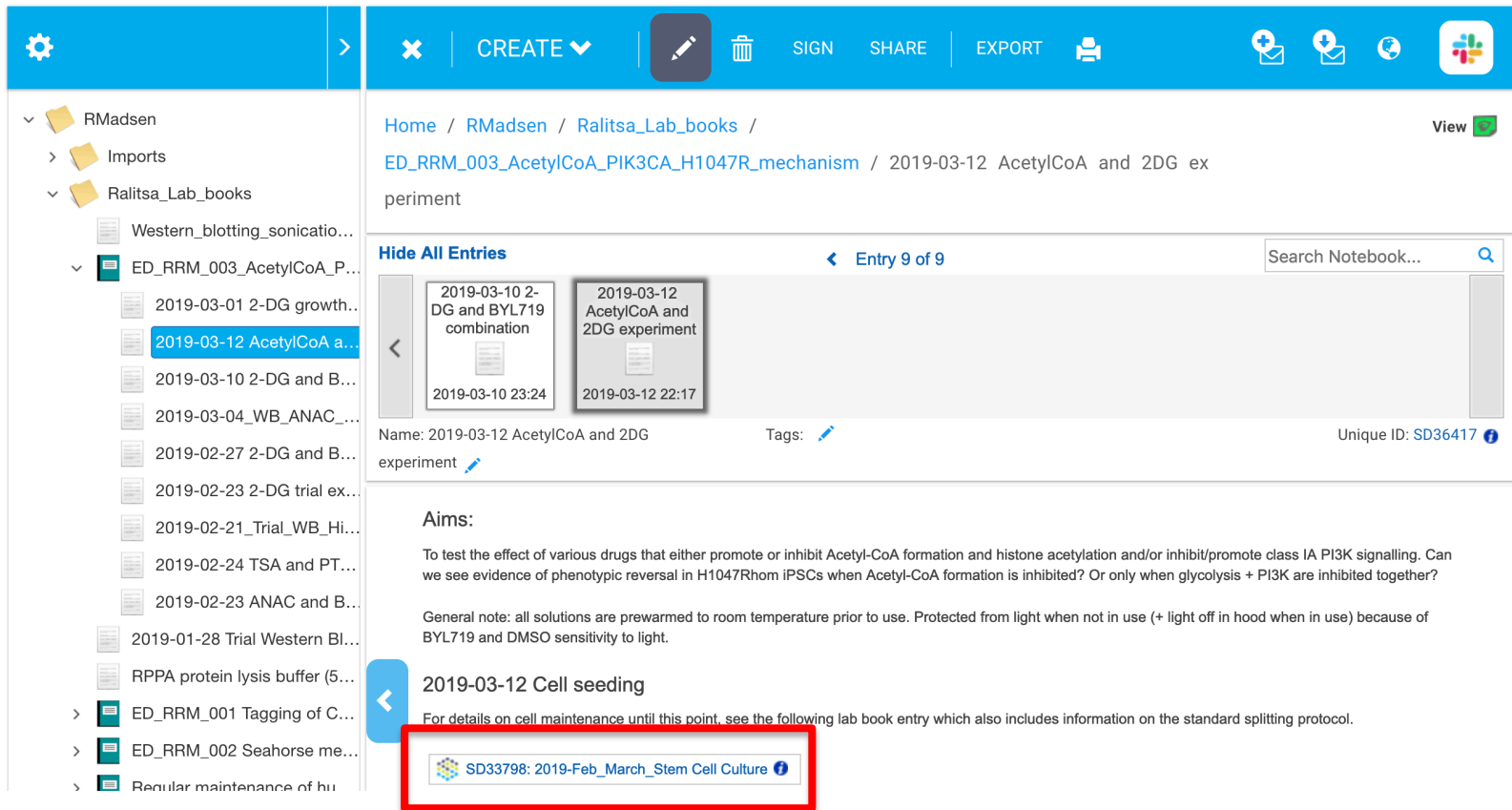
ment

harvard)

ate.

splitting protocol.

7. Cross-referencing (internal links)



The screenshot displays a digital lab notebook interface. On the left is a sidebar with a file tree structure:

- RMadsen
 - Imports
 - Ralitsa_Lab_books
 - Western_blotting_sonication...
 - ED_RRM_003_AcetylCoA_P...
 - 2019-03-01 2-DG growth...
 - 2019-03-12 AcetylCoA a... (highlighted)
 - 2019-03-10 2-DG and B...
 - 2019-03-04_WB_ANAC...
 - 2019-02-27 2-DG and B...
 - 2019-02-23 2-DG trial ex...
 - 2019-02-21_Trial_WB_Hi...
 - 2019-02-24 TSA and PT...
 - 2019-02-23 ANAC and B...
 - 2019-01-28 Trial Western Bl...
 - RPPA protein lysis buffer (5...
 - ED_RRM_001 Tagging of C...
 - ED_RRM_002 Seahorse me...
 - Regular maintenance of hu...

The main content area shows the entry "2019-03-12 AcetylCoA and 2DG experiment". At the top, a breadcrumb trail reads: Home / RMadsen / Ralitsa_Lab_books / ED_RRM_003_AcetylCoA_PIK3CA_H1047R_mechanism / 2019-03-12 AcetylCoA and 2DG experiment. Below this, a "Hide All Entries" button and a "Search Notebook..." search bar are visible. A grid of entry thumbnails is shown, with the selected entry highlighted. Below the thumbnails, the entry details are displayed:

Name: 2019-03-12 AcetylCoA and 2DG experiment
 Tags:
 Unique ID: SD36417

Aims:

To test the effect of various drugs that either promote or inhibit Acetyl-CoA formation and histone acetylation and/or inhibit/promote class IA PI3K signalling. Can we see evidence of phenotypic reversal in H1047Rhom iPSCs when Acetyl-CoA formation is inhibited? Or only when glycolysis + PI3K are inhibited together?

General note: all solutions are prewarmed to room temperature prior to use. Protected from light when not in use (+ light off in hood when in use) because of BYL719 and DMSO sensitivity to light.

2019-03-12 Cell seeding

For details on cell maintenance until this point, see the following lab book entry which also includes information on the standard splitting protocol.

A red box highlights a cross-referenced entry: [SD33798: 2019-Feb_March_Stem Cell Culture](#)

8. Track and trace

Info



Name: 2019-Feb_March_Stem Cell Culture
 Unique Id: [SD33798](#)
 Type: Structured Document
 Path: /RMadsen/Ralitsa_Lab_books/Regular maintenance of human iPSCs/2019 Feb_March_Stem Cell Culture
 Owner: Ralitsa Madsen
 Creation Date: 2019-02-08 16:57
 Last Modified: 2019-03-13 22:50
 Status: viewable & editable
 Signature Status: unsigned
 Created from: Basic Document
 Form ID: [FM32772](#)
 Tags:
 Caption:

Preview:

2019-Feb_March_Stem Cell Culture [SD33798](#)

Data

Lot numbers:

DMEM F12 for coating: Sigma #D5421, lot RNB0502L, exp 01/01/2020, in use since 19/10/2018 (in fridge), first use on 26/2/2019

DMEM F12 for coating: Sigma #D5421, lot RNB0502L, exp 03/2010, started use 27/2/2019

Revita lot: 196986, exp 35/07/2019, aliquotted 8/2/2019, used up 1/3/2019

Revita lot: 2034664, exp 12/2/2019, aliquotted 26/2/2019, started use 1/3/2019

Revita lot: 2040388, exp 35/01/2019, aliquotted 10/3/2019, started use 10/3/2019

ES Flux basal lot: 2005073 -> used until 1/3/2019

ES Flux supplement lot: 2004893 -> used until 10/3/2019

ES Flux basal lot: 2008501

ES Flux supplement lot: 2034494

PSC Cryomedium lot: 1975660

2019-02-08 Geltrex + Revita aliquots:

These Geltrex on ice in the fridge + might take overnight to thaw:

- Prepare 10 ml Petri dish on ice in the fridge
- Prepare Geltrex in 100 µl aliquots (GTX 802)
- Add DMEM F12 to tube, then add Geltrex and pipette gently up and down before aliquotting 500 µl into each Eppendorf (check that there is 500 µl volume in each Eppendorf)
- Store aliquots at -20°C

3) Thaw Revita

- Prepare labelled tubes (1.5 ml)
- Aliquot at 500 µl

2019-02-13 THAWING OF CELLS

To get from GMP:

1) Box with dry ice containing:

- EMF + supplement
- Geltrex
- Petri dish
- Cells

This document is linked by:

- [SD34692](#): 2019-02-23 2-DG trial experiment with WT and PIK3CA mutant iPSCs
- [SD34712](#): 2019-02-24 TSA and PTENi treatment of WT iPSCs followed by Western blotting - optimisation
- [SD35441](#): 2019-02-27 2-DG and BYL719 combination experiment
- [SD35444](#): 2019-03-01 2-DG growth rate experiment
- [SD35560](#): 2019-03-04 WB ANAC TSA BMS PTENi and TRF test experiment
- [SD35688](#): 2019-03-05 Confirmatory genotyping
- [SD36156](#): 2019-03-10 2-DG and BYL719 combination experiment repeat
- [SD36417](#): 2019-03-12 AcetylCoA and 2DG experiment

This document is not shared.

9. Collaboration and transparency



[Workspace](#)
[Gallery](#)
[Messaging](#)
[Apps](#)
[My RSpace](#)
[Help](#)
[Account ▼](#)

[CREATE ▼](#)












[All ▼](#)

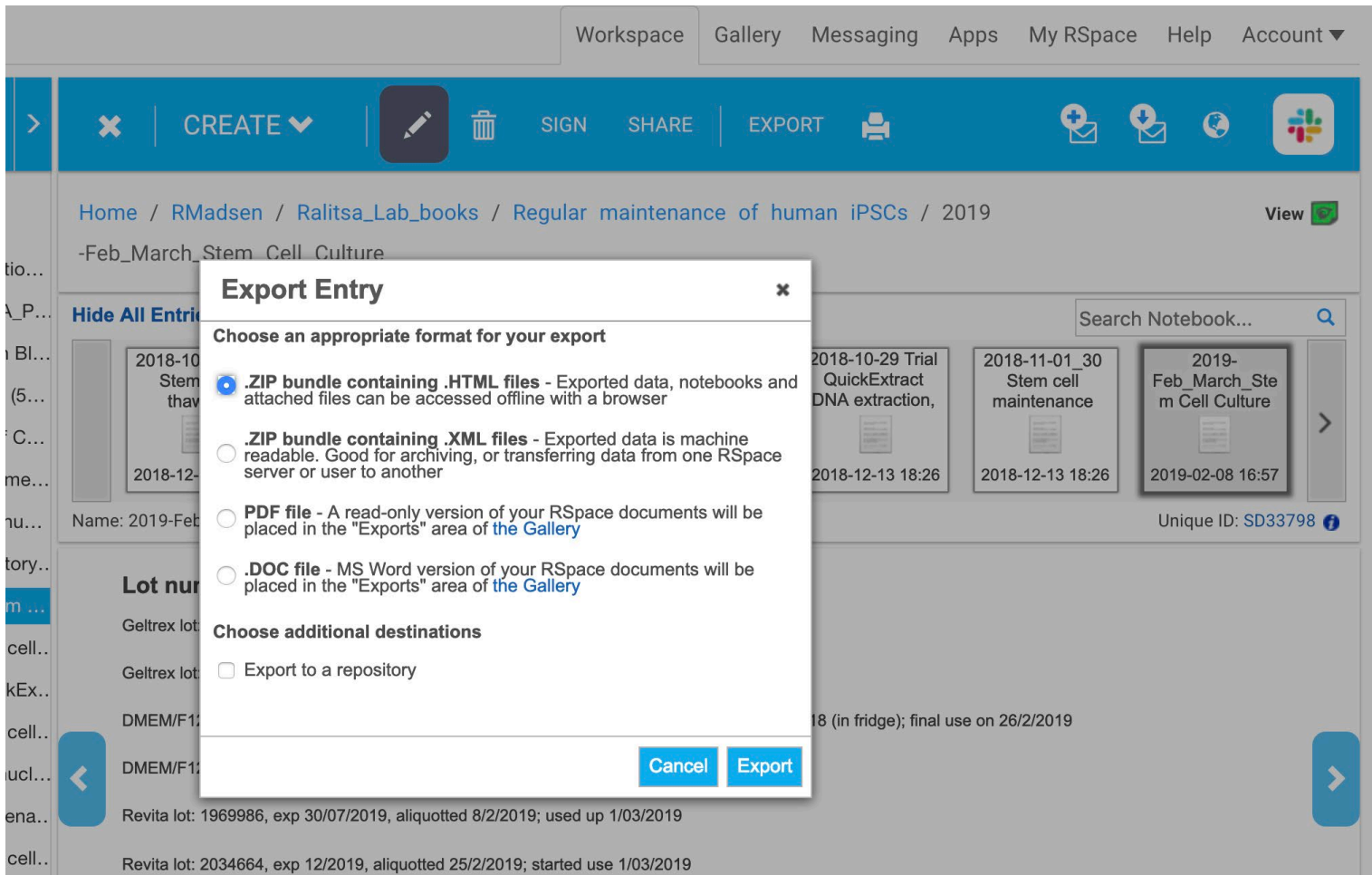


[advanced search ▼](#)

☐	Type	Name	Created	Modified	ID	Owner
☐		 Robert_Semple_Lab_SHARED	2018-10-29 17:38	2018-10-29 17:38	FL25210	ResearchSpace SysAdmin

Items per page:

10. Export, archive, print



The screenshot displays the RSpace web interface. At the top, there is a navigation bar with tabs for Workspace, Gallery, Messaging, Apps, My RSpace, Help, and Account. Below this is a secondary toolbar with icons for navigation, creation, deletion, signing, sharing, exporting, and printing. The main content area shows a breadcrumb trail: Home / RMadsen / Ralitsa_Lab_books / Regular maintenance of human iPSCs / 2019. A 'View' button is visible on the right. A modal dialog box titled 'Export Entry' is open in the center. It contains the following options:

- Choose an appropriate format for your export**
 - ☒ **.ZIP bundle containing .HTML files** - Exported data, notebooks and attached files can be accessed offline with a browser
 - ☐ **.ZIP bundle containing .XML files** - Exported data is machine readable. Good for archiving, or transferring data from one RSpace server or user to another
 - ☐ **.PDF file** - A read-only version of your RSpace documents will be placed in the "Exports" area of [the Gallery](#)
 - ☐ **.DOC file** - MS Word version of your RSpace documents will be placed in the "Exports" area of [the Gallery](#)
- Choose additional destinations**
 - ☐ Export to a repository

At the bottom of the dialog are 'Cancel' and 'Export' buttons. The background interface shows a list of notebooks with titles like '2018-10-29 Trial', '2018-11-01_30 Stem cell maintenance', and '2019-Feb_March_Ste m Cell Culture'. A search bar labeled 'Search Notebook...' is also present.

Suggestion for minor improvements

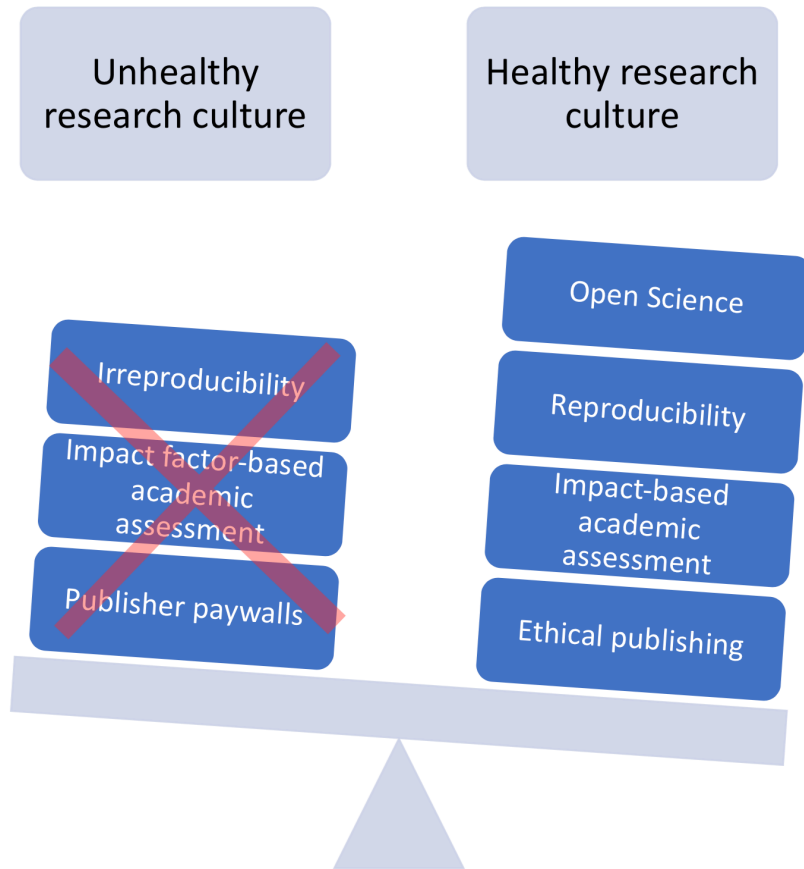
- Layout options
- Sticky notes
- Local and global "TOC"



Manual overview

A	B	C	D	E	F
Project_ID	Brief description	Start date	End date	Path to relevant lab book entry	Sample location if relevant
ED_RRM_003	Test dose-response of iPSCs (WT, H1047Rhet, H1047Rhom) to 2-deoxyglucose treatment over 48h. Assays: RT-qPCR of stemness and PS genes; lactate and glucose medium measurements. With help from Dominique.	23/02/2019		Home / RMadsen / Ralitsa_Lab_books / ED_RR M_003_AcetylCoA_PIK3CA_H1047R_mechanism / 2019-02-23 2-DG trial experiment with WT and PIK3CA mutant iPSCs_Copy	RNA (-80C) + cDNA (-20C) + medium (-20C). Relevant boxes / 96-well trays labelled with experimental information details (Trial 2-DG etc.)
ED_RRM_003	Test effect of BYL719 (100 nM and 250 nM) and 2-deoxyglucose (2 mM) on candidate gene expression in WT, HET, HOM iPSCs; drugs applied alone or together for 48h	27/02/2019		Home / RMadsen / Ralitsa_Lab_books / ED_RR M_003_AcetylCoA_PIK3CA_H1047R_mechanism / 2019-02-27 2-DG and BYL719 combination experiment	
ED_RRM_003	Determine the effect of 2 mM 2-DG on WT, HET and HOM cells following correction of difference in cell growth rate.	01/03/2019		Home / RMadsen / Ralitsa_Lab_books / ED_RR M_003_AcetylCoA_PIK3CA_H1047R_mechanism / 2019-03-01 2-DG growth rate experiment	
ED_RRM_003	To test the effect of various drugs that either promote or inhibit Acetyl-CoA formation and histone acetylation and/or inhibit/promote class IA PI3K signalling. Can we see evidence of phenotypic reversal in H1047Rhom iPSCs when Acetyl-CoA formation is inhibited? Or only when glycolysis + PI3K are inhibited together?	12/03/2019		Home / RMadsen / Ralitsa_Lab_books / ED_RR M_003_AcetylCoA_PIK3CA_H1047R_mechanism / 2019-03-12 AcetylCoA and 2DG experiment	
ED_RRM_005	Exome sequencing of WT, H1047Rhet and H1047Rhom iPSCs in collaboration with the Vanhaesebroeck lab	27/02/2019		Dropbox link because shared with BV: https://www.dropbox.com/sh/fay47yxyul1k6bo/AABiIorhLqfwzQuJ0j8arTnMa?dl=0	iPSC pellets to be shipped to Vanhaesebroeck lab
	Determine if TRF1 protein levels are increased PIK3CA-H1047R mutant iPSCs; collaboration with Blasco lab based on the following			Rspace lab book entry associated with experiment: Home / RMadsen / Ralitsa_Lab_books / Regular maintenance of human iPSCs / 2019-Feb_March_Stem Cell Culture (24/02/2019 onwards) ; Western blotting lab book entry: Home / RMadsen / Ralitsa_Lab_books / ED_RRM_003_AcetylCoA_PIK3CA_H1047R_mechanism / 2019-03-04_WB_ANAC_TSA_BMS_PTENi_and_TRF_test	

Questions?



FAIR Science: tricky problems and creative solutions

Join the discussion and help us promote
a healthy biomedical research culture

When: 4 June 2019, 11 – 15:30 (lunch included)

Where: Wellcome Auditorium, QMRI, Edinburgh Bioquarter

Target audience: biomedical scientists at all career stages

Lead organiser:

Dr Ralitsa Madsen (Research Fellow, CVS, UoE)

Co-organisers:

Benjamin Thomas (PhD Student, CVS, UoE)

Andrea Lovdel (PhD Student, CVS, UoE)

Dr Will Cawthorn (Group Leader, CVS, UoE)

Prof Robert Semple (Dean of Postgraduate Research, UoE)

Sponsors:

University of Edinburgh Institute for Academic Development
The UK Biochemical Society