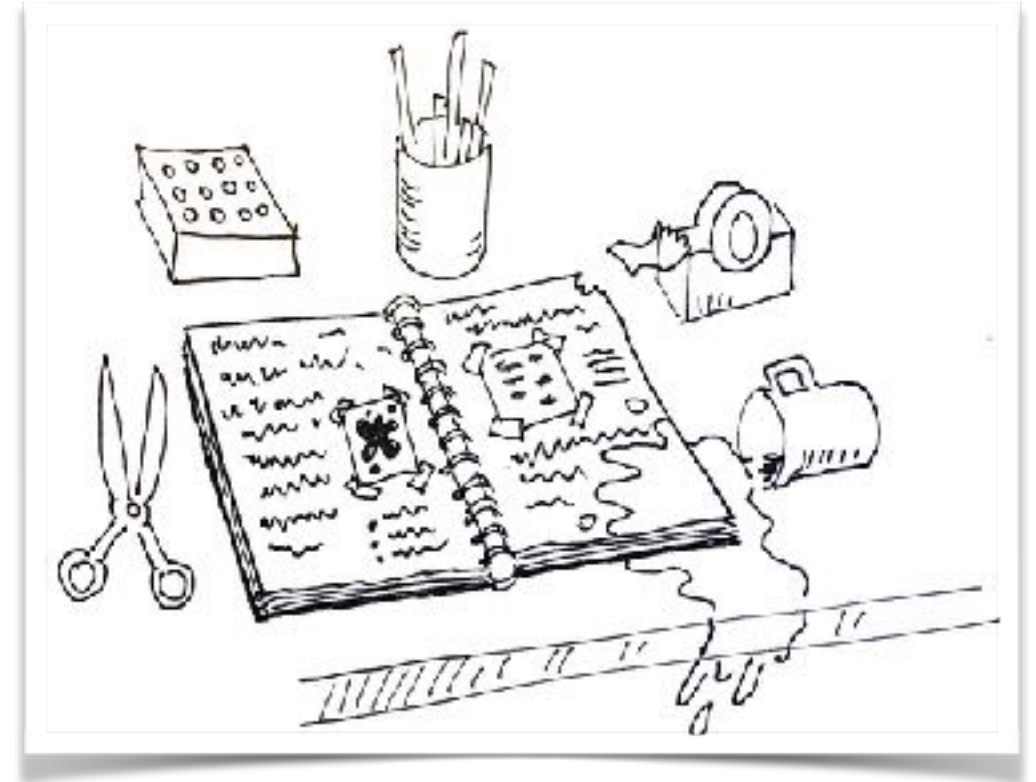# labbook

platform for research documentation and collaboration

Ebbe Sloth Andersen, Aarhus University
ELN workshop @ DTU 1/3-2017

Outline

- Electronic laboratory notebook

- Research documentation

- What is Labbook?

  - Basics, Terms & conditions

  - Use as labbook and LIMS

  - Benefits and requirements

  - Admins and roll-out

- Recommendations

- Demostration

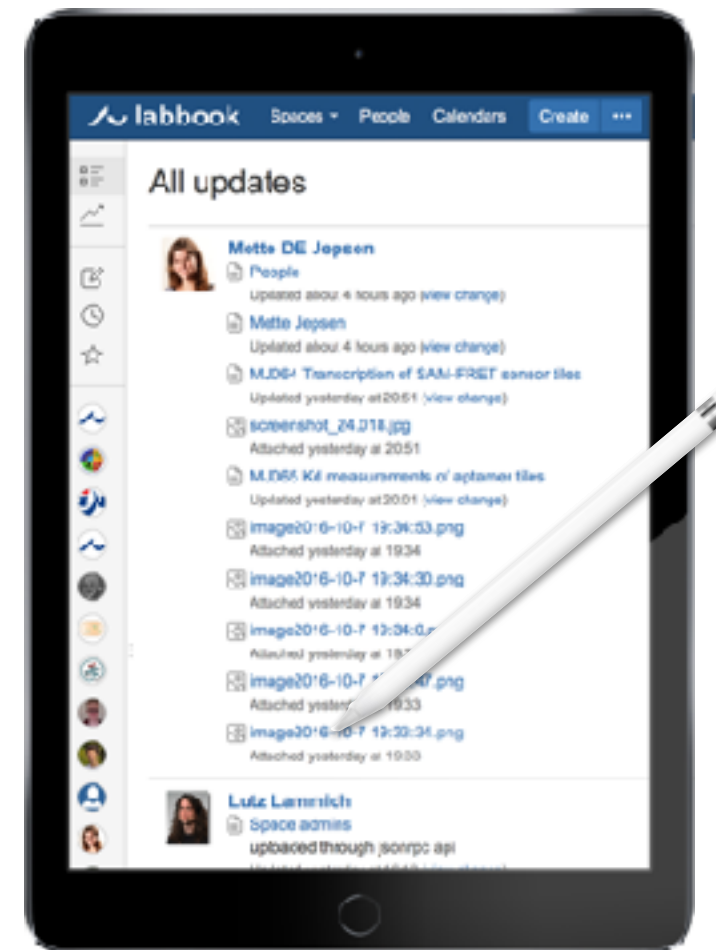# From paper to digital research documentation
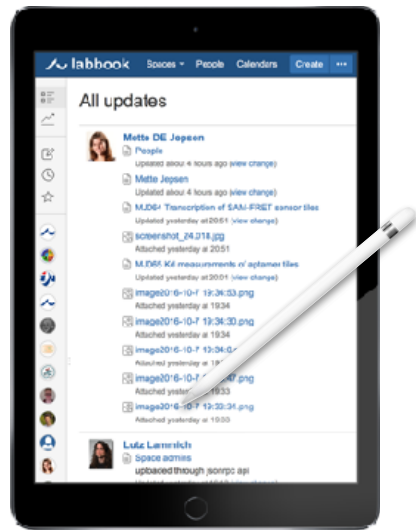
Analog lab notebook (ALN)

◆ Seachability

◆ Security

◆ Backup

◆ Availability

◆ Collaboration

◆ Common platfrom

Electronic lab notebook (ELN)

History of Labbook

- System was initiated at Aarhus University in 2007

- The Confluence system was chosen because of ease of use and collaboration features

- The Confluence system is developed by the company Atlassian

- Confluence is used by many big companies and universities around the world
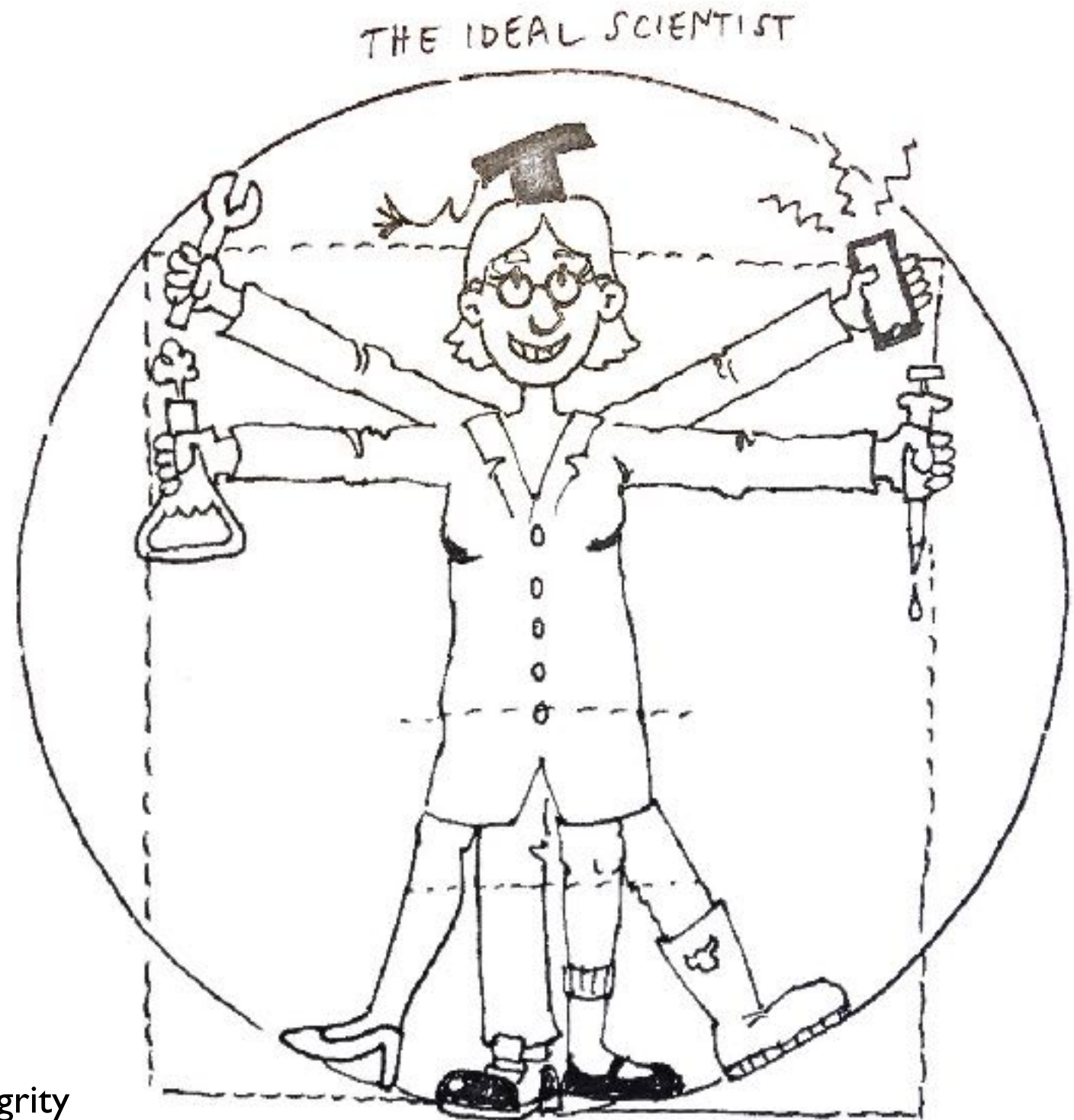
- AU labbook is located on AU servers and uses AU login

vimeo.com/28057616

What defines a good scientist?

Skills:

- Good ideas

- Design experiments

- Technical skills

- Careful documentation

- Analyse results

- Communication

- Collaboration

1) Magna Carta Universitatum, Bologna 1988
2) The European Code of Conduct for Research Integrity

THE IDEAL SCIENTIST

Responsible conduct of research

Guidelines:

1. Research planning and conduct

2. Data management

3. Publication and communication

4. Authorship

5. Collaborative research

6. Conflicts of interest

1) The European Code of Conduct for Research Integrity
2) Danish Code of Conduct for Research Integrity
3) Responsible Research Practice at Aarhus University

Data management

2.2. Data management

Responsible handling and storage of research data contribute to transparent and credible research within all fields of inquiry.

For research carried out at Aarhus University:

> As a general rule, all primary material and data derived from from research conducted at Aarhus University must be stored at Aarhus University, which makes servers, archives etc. are available.
> All protocols, plans and strategies for experiments/studies, notes, laboratory books, data and primary material must be stored for five years after the completion of the research project, and, unless this is in conflict with other regulations or professional standards, and that there must be open access to the material, unless this is conflict with other regulations.
> All primary research material and data derived from research conducted at Aarhus University belongs primarily to Aarhus University and can only be removed or used outside of Aarhus University subject to written agreement with a department head (Arts: head of school).
> Research data and other primary research material from Aarhus University must be disposed of in a safe and secure manner with due regard for any ethical considerations.

Aarhus University is responsible for ensuring that rules are laid down for all fields of inquiry on the storage and handling of data.
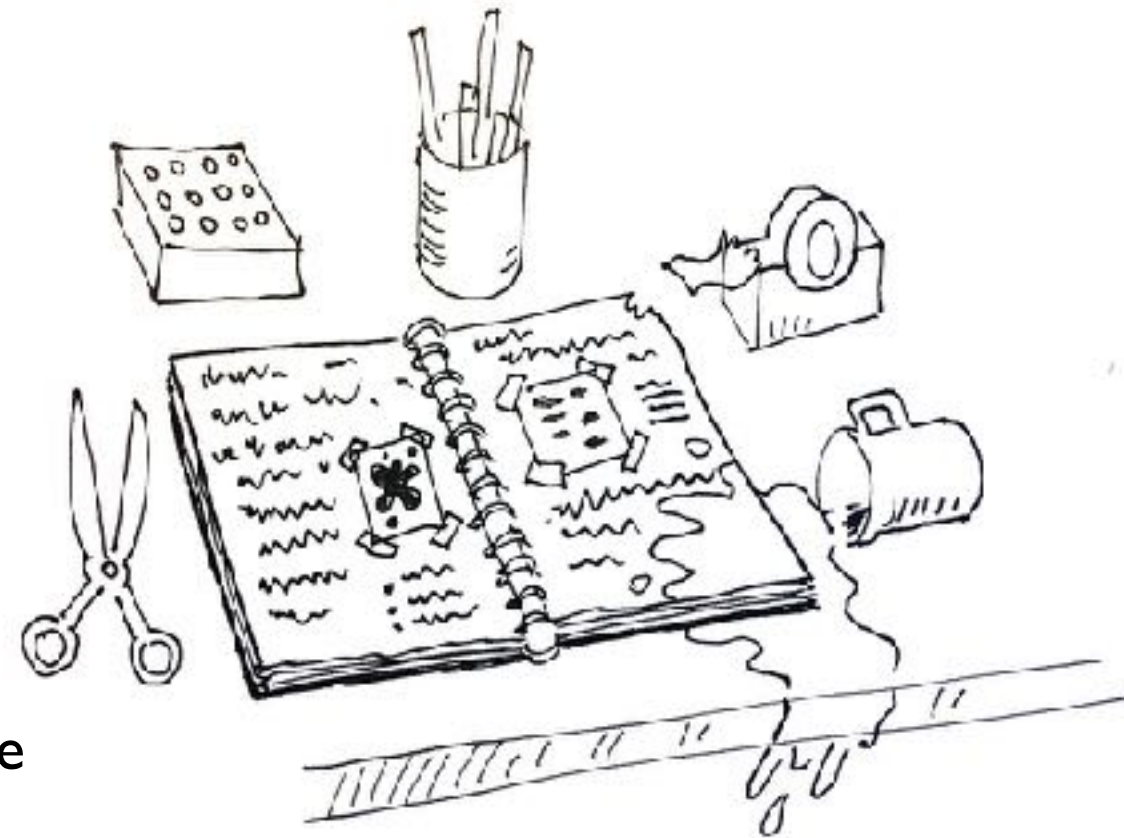
Responsible Research Practice at Aarhus University

Roles in research integrity

Researcher

1. Design experiments
2. Technical skills
3. Careful documentation
4. Analyse results
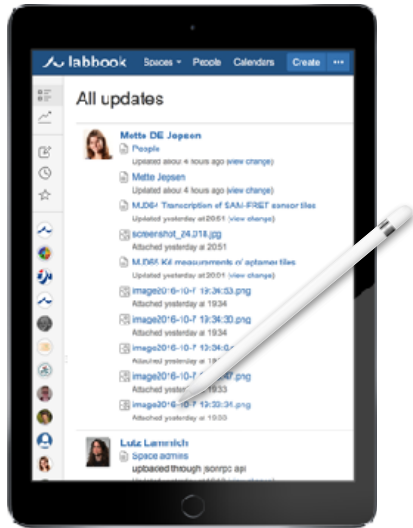
Supervisor

1. Be available and approachable
2. Review raw data
3. Communicate your expectations
4. Provide training and guidelines

Research documentation
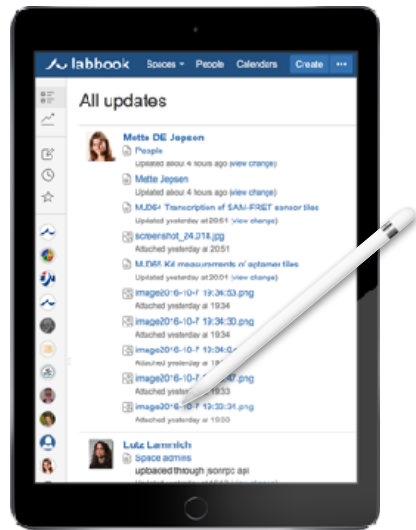
Labbook basics

Spaces & pages

Groups & users

Permissions & restrictions

Personal
🔒 Project
- Date exp.
- Notes

Group
- Materials
🔒 Meetings
- Protocols
🔒 Projects
- Project
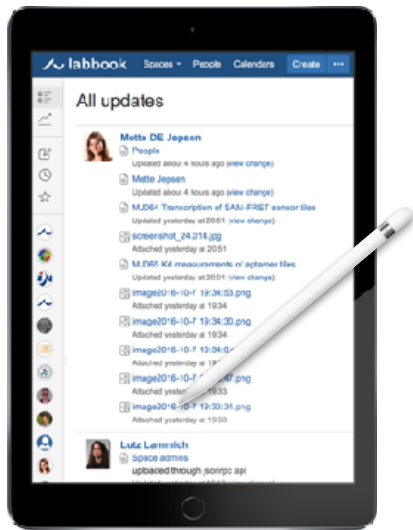- Date exp.

Center
Department
Faculty

Labbook login

labbook

Log in

Username: au28408

Password: ••••••••••••

☐ Remember me

Log in

Atlassian

Labbook terms

STANDARD LABBOOK USER CONFIDENTIALITY AGREEMENT

By clicking the "Accept" button you as the User accept to be bound by the terms of this "Labbook User Confidentiality Agreement" with Aarhus University, Nordre Ringgade 1, DK-8000 Aarhus C, Denmark ("AU").

1 Confidential Information

1.1 This Confidentiality Agreement is made for the purpose of allowing the User, to perform collaborative research at AU (the Purpose). In connection with the Purpose, AU and eventual external partners (the Discloser(s)) will provide the User with different kinds of proprietary information and data via Labbook. Any and all information provided to the User by AU and eventual external partners, whether orally or in writing, shall be considered Confidential Information and shall
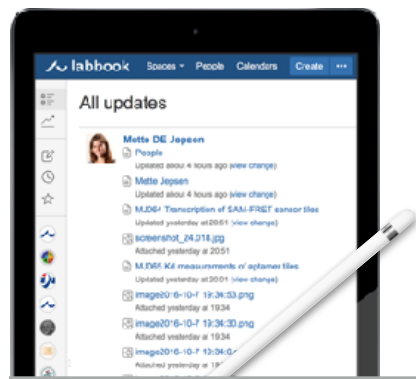
1.2 Confidential Information used for the Purpose should be processed in a manner consistent with Aarhus University's code of practice to ensure scientific integrity and responsible conduct of research at Aarhus University.

2 Confidentiality and Non-use

2.1 The User shall keep the Confidential Information strictly confidential and may not use it or disclose it to any third party. The User has no right to use any part of the Confidential Information to develop its own technology or seek patent protection for it (whether or not in combination with other technology).

I Agree

Labbook dashboard

Labbook Help

Local user administrators

Created by Ebbe Sloth Andersen, last modified by Lutz Lammich on Sep 28, 2016

Here is a list of the local user administrators at each department. Please contact them for changes of access rights, creation of new spaces, or general assistance with using the AU Labbook system.

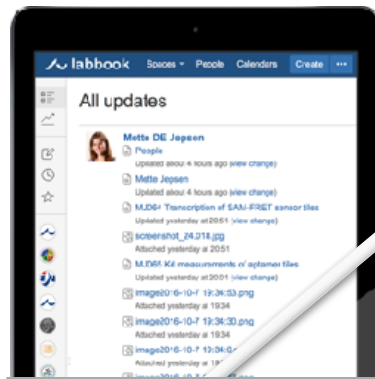| Department	User admin
AGRO	@Rene Larsen
Bios-AAR	@Per Guldhammer Henriksen
Bios-RKS	@Berit Langkilde Møller
Center for Bioinformatik (BiRC)	@Ellen Bernadette Noer
ENVS	@Pia Lassen
iNANO	@Rebeca Thostrup
Ingeniørhøjskolen	@Christina Kirkegaard Dose
Institut for Datalogi	Jan Frederiksen (janfre@cs.au.dk)
Institut for Fysik og Astronomi	@Lutz Lammich
Institut for Fødevarer	@Tina Lillelund Magaard
Institut for Geoscience	@Lone Davidsen
Institut for Husdyrvidenskab	@Jens Bech Andersen
Institut for Ingeniørvidenskab	@Morten Lund Jensen
Institut for Kemi	@Lene Conley

Pages / Labbook Help

Edit · Save for later · Watch · Share

PAGE TREE

- Tutorials
- **Local user administrators**
- Trouble shooting
- Server maintenance information
- Other documentation
- Labbook Administration

Labbook
Spaces · People · Calendars · Create

All updates

Labbook tutorials

Tutorials

Created by Ebbe Sloth Andersen, last modified by Lutz Lammich on Sep 29, 2016

This section provides custom-made tutorials for the users of the AU labbook system. Using the menu on the left, you can find both basic tutorials on how to use the Confluence wiki system and more advanced tutorials introducing how we use this system for research documentation and collaboration. The tutorials can be text or videos. You are welcome to contribute tutorials that you find will be useful to others.

Below you can find a video that introduces the concept of AU labbook.
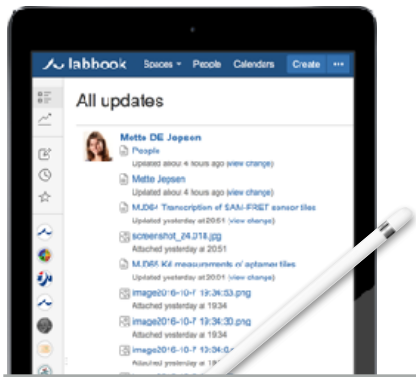
intro2
from **Ebbe Sloth Andersen**

AU LABBOOK
- PLATFORM FOR RESEARCH DOCUMENTATION
AND COLLABORATION

Pages / Labbook Help

✏ Edit ★ Saved for later 👁 Watch ↱ Share ...

Labbook Help

PAGE TREE

- **Tutorials**
  - How to login and the dashboard
  - How to create a personal space and
  - How to create and edit a page
  - How to document your research
  - How to setup a lab notebook?
  - Automatic generation of pages from
- Local user administrators
- Trouble shooting
- Server maintenance information
- Other documentation
- Labbook Administration

---

labbook Spaces ▾ People Calendars Create ...

All updates

Mette DE Jepsen
People
Updated about 4 hours ago (view change)

Mette Jepsen
Updated about 4 hours ago (view change)

MJD61 Transcription of SAN-FRET sensor tiles
Updated yesterday at 20:51 (view change)

screenshot_24.014.jpg
Attached yesterday at 20:51

MJD61 Kd measurements of aptamer tiles
Updated yesterday at 20:01 (view change)

image2016-10-7 19:34:53.png
Attached yesterday at 19:34

image2016-10-7 19:34:30.png
Attached yesterday at 19:34

image2016-10-7 19:34:0 png
Attached yesterday at 19:34

Personal space

Lane	Sample
14	T7+ protocol - 7 ul T7 without Triton

The gel was run at 15W for 30 min and afterwards stained in SYBR gold (10 ul in 0.5x TBE) for 15 min. Visualized on the typhoon scanner.
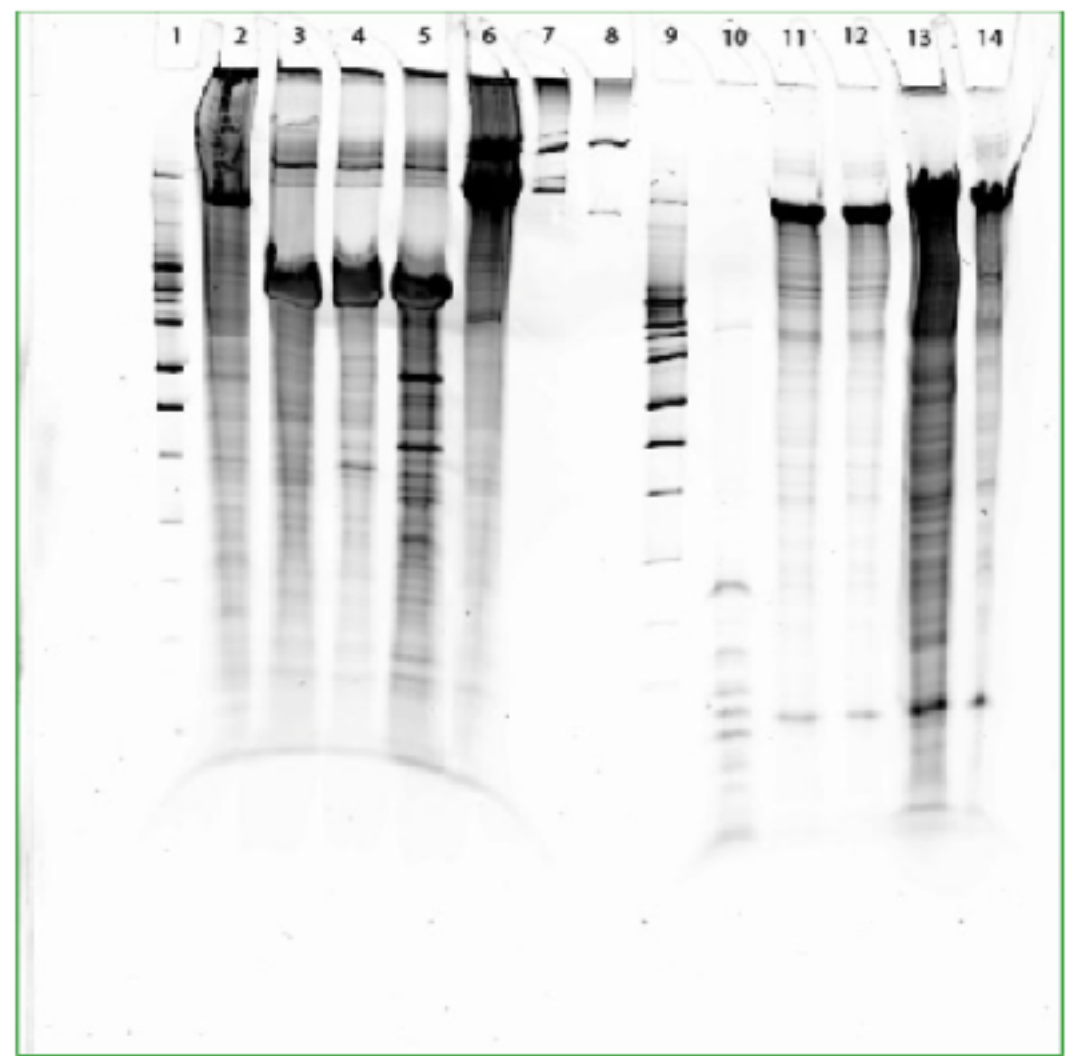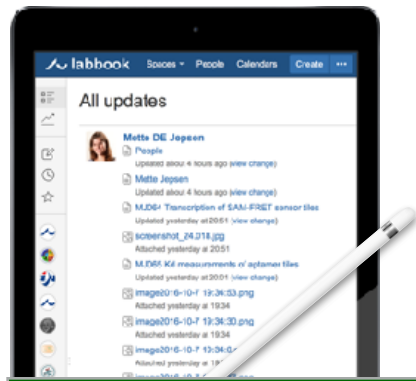
Mette Jepsen ★

PAGE TREE

˅ Experiments

- MJ001 Construct Restriction
- MJ002 Phenol/chloroform extraction
- **MJ003 Transcription of templates**
- MJ004 Construct restriction
- MJ005 Phenol/Chloroform extraction
- MJ006 RNA transcription
- MJ007 RNA precipitation test
- MJ008 PCR1 of construct #35
- MJ009 Ligation of PCR product into
- MJ010 Restriction of pRZ construct
- MJ011 Restriction and transcription
- MJ012 RNA transcription from Cons
- MJ013 Elution of transcribed RNA fr
- MJ014 PCR of long HIV and 3' end
- MJ015 Inserting PCR products into
- MJ016 Reza's logic gates
- MJ017 Control of ligation of long RN
- MJ018 Logic gates in Small Box
- MJ019 Logic gates with new designs

Group space

All updates

Mette DE Jepsen
People
Mette Jepsen
Updated about 4 hours ago (view change)
MJD61 Transcription of SAN-FRET sensor tiles
Updated yesterday at 20:51 (view change)
screenshot_24.014.jpg
Attached yesterday at 20:51
image2016-10-7 19:34:53.png
Attached yesterday at 19:34
image2016-10-7 19:34:30.png
Attached yesterday at 19:34
image2016-10-7 13:34:0...

labbook   Spaces ▾   People   Calendars   Create   •••   🔍 ⑦▾ ✿▾ ⌂

Andersen lab   ★

📅 Calendars

PAGE TREE

- Administration
- Design
- Equipment
- Funding
- Laboratory
- Materials
- Meetings
- New lab members look here
- People
- Projects
- Protocols
- Suppliers
- Trash

Pages 🔒 🔗   ✎ Edit   ☆ Save for later   👁 Watching   📤 Share   •••

Andersen lab: Biomolecular design for synthetic biology

Created by Anonymous, last modified by Ebbe Sloth Andersen on Oct 04, 2016

Welcome to the wiki space of the Andersen lab situated in the iNANO building 1592-313. Below is a list of the labbook profiles of the current members:

Our official website is: http://andersen-lab.dk/ and https://www.facebook.com/andersenlab/ (formerly biodesign.au.dk). Mailing list: esa-lab.inano@maillist.au.dk. The mailing list is administered here: http://maillist.au.dk/mailman/admin/esa-lab.inano. The front page gives an overview of our planned activities:

Regular meetings:

- Monday 9-10 MMMM (Monday Morning Management Meeting) (for senior PhDs and postdocs) in room 1592-318
- Monday 11-12 AUEMCIG (Electron Microscopy Common Interest Group) in room 1590-213
- Tuesday 13.15-15 Andersen group meeting (AGM): Andersen lab every second Tuesday in room 1592-316,
- Tuesday 13.15-15 Joint Group Meeting (JGM), every second Tuesday in room 1590-231, See schedule here: ESA JK Group Meeting
- Friday 10.15-11.00 iNANO seminar
- Friday 15.15-16.00 FAM (Friday Afternoon Meetings) @Aud-D1 Math Department
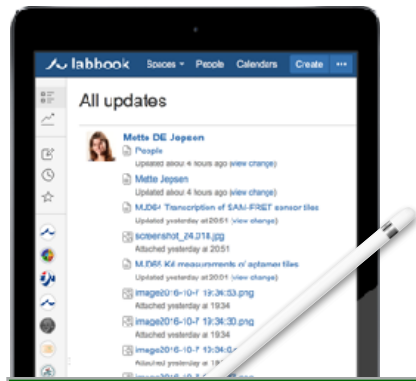
Group meeting schedule:

- 2016/10/11 Group meeting, 1592-316 (Guido & Maria)
- 2016/10/18 Group meeting Cancelled

### Who can see these pages (esa-users):

Group: esa-users

👤 Ane Andreassen (au284108)
a.langvad.andreassen@inano.au.dk

👤 Cody Geary (au465656)
geary@inano.au.dk

👤 Daniel Miotto Dupont (au132158)
dmd@inano.au.dk

👤 Daniel Svane Søgaard Nielsen (au256693)
danielsn@au.dk

👤 Ditte Høyer Engholm (au216672)
dhe@mbg.au.dk

👤 Ebbe Sloth Andersen (au28408)
esa@inano.au.dk

👤 Guido Grossi (au481822)
ggrossi@inano.au.dk

👤 Mads Jeppesen (au483959)
201304182@post.au.dk

👤 Maria Jensen (au338247)
20114896@post.au.dk

👤 Metta DE Jepsen (au261522)
mettebj@inano.au.dk

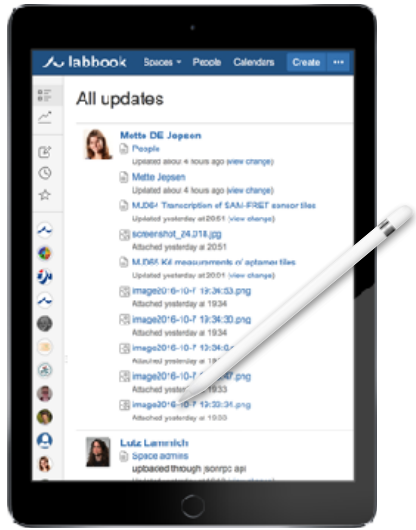👤 Peter Møller (au457309)

Group space

Benefits for research
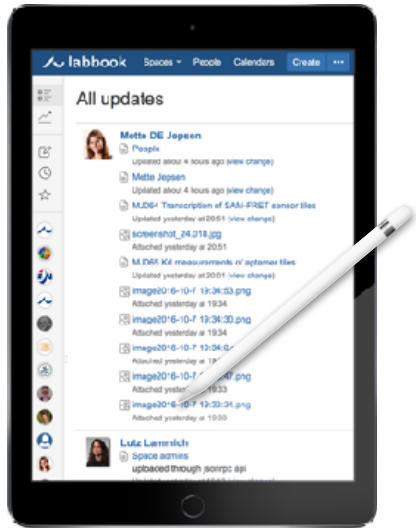
1. Easier collection of data in one place

2. Increased transparency

3. Helpful comments on experiments

4. Sharing of best practice (protocols)

5. Careful documentation

6. Using same sytems ease collaboration
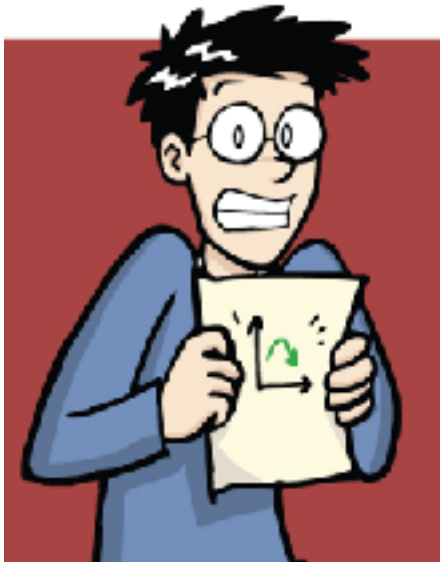
Labbook roll-out plan

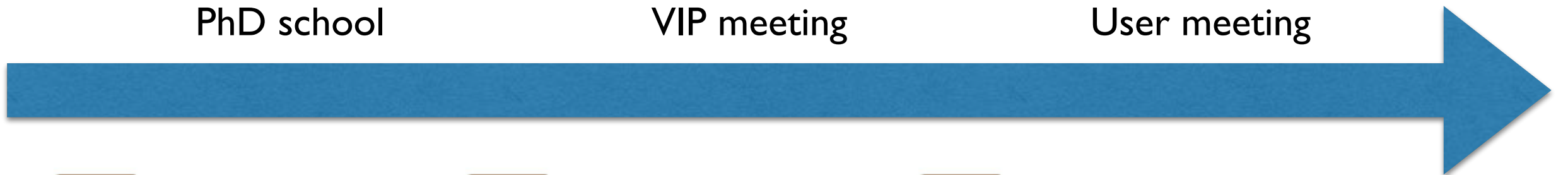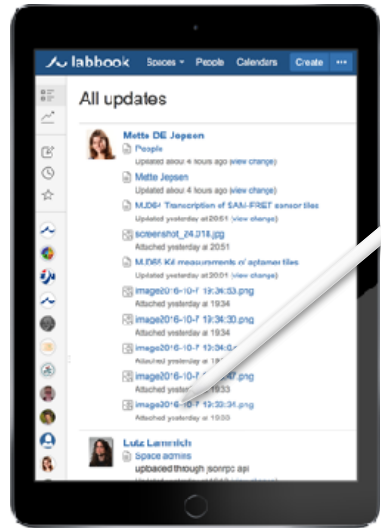PhD school   VIP meeting   User meeting
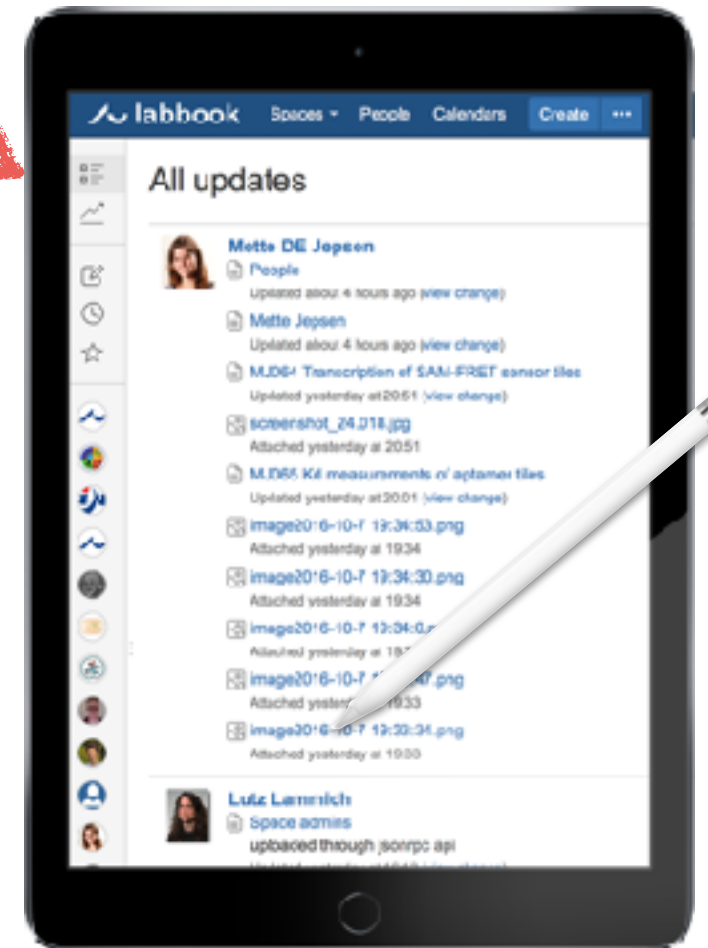
VIP
info

PhD
info

All
info

Next
department

Tablets in the lab

Recommendation of storing and documenting research data

Shared data cloud drive

Documentation platform

Adoptation of new things

New students

Old postdoc

YES

NO

Questions
&
Demo