

# User guide to Laboratory Information Management System (LIMS)

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NORWEGIAN MICRO- AND NANOFABRICATION FACILITY

NorFab



# LIMS

- A system created by myFab in Sweden. Currently a dominant player in cleanroom management systems in the world.
- UiO MiNaLab: <http://uio.norfab.no/>
- The main function is as a booking and logging system
  - Ensure that instruments are shown as available for use, booked when another user is using it, or down if there are issues.
  - LIMS is also our most important tool for collecting usage statistics (number of hours, number of users, what type of projects, new investments, etc.)
  - LIMS is therefore also our basis for invoicing. Depending on the project type, the number of hours will be invoiced to the specific projects.
  - Booking and logging are mandatory for all users, on all instruments.
- Different users:
  - Hourly-based users: the project is invoiced for the number of hours that is booked by the user.
  - Flat-rate users: pays a yearly rate for full access to all instruments in the lab.
    - Only available for academic users.
    - The yearly rate covers one specific person working on one specific project.
    - Does not cover operator costs.



# Apply for access to LIMS

## Apply for access to this lab

### Step 1 of 2: Name and lab information

First name:

[Help](#)

\*

Last name:

\*

Gender:

Type of user:

Company / University:

Department:

Laboratory / Group:

Project name:

\*

Practical coach:

Supervisor:

Access card number:

Start date (yyyy-mm-dd):

End date (yyyy-mm-dd):

Access hours:

Supplementary info, please state the infrastructures you would like to access (NorFab, NorTEM, RECX and/or Nanoelectronics (IF1)):

☐

I hereby accept that the information supplied will be stored on a server in Sweden. The data will never be given to a third party and is only used in the lab management system for NorFab.

\*

Next

## Apply for access to this lab

### Step 2 of 2: Username, password and contact information

Username:

[Help](#)

Username and password are what you will login with if your application is approved.

\*

Password:

The password must be at least 3 characters long.

\*

Confirm Password:

\*

Email:

\*

Phone, work:

Phone, mobile:

Image:

Ingen fil valgt

Previous

Finish



# Your LIMS home screen

myfabLIMS

Tools ▾

User ▾

Advanced ▾

Admin ▾

Info ▾

myfabLIMS

🔔 ▾

📅 ▾

👤 vegarsol ▾

Home

Related

Booking overview

Facility tools

My bookings

My licenced tools

Favorites

🔖

Important information about the lab

Opening hours for the cleanrom are weekdays between 08:00 and 20:00.

You should not work alone in the cleanroom.

If you have any questions, please contact [Vegard](#), [Vegard](#), [Halvor](#) or [Viktor](#).

All publications resulting from work within NorFab should include the following acknowledgment:

"The Research Council of Norway is acknowledged for the support to the Norwegian Micro- and Nano-Fabrication Facility, NorFab, project number 295864."

Booked tools

My bookings

(Hide bookings...)

🗖

Booking without log ▾

Show not completed log ▾

Show log status ▾

Log Edit

14 aug 09:00 - 13:00

Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2

Log: not started

Human resource

Book

Vegard Skiftestad Olsen

My licenced tools

Book View

🔗

Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2 (UIO052-1)

Book View

🔗


Magnetron sputter Remote plasma - Flextura Gate 3 (UIO052-2)

Book View

🔗

X-ray Diffraction - Rigaku SmartLab (UiO057)

[All licenced tools]



# Your LIMS home screen

The screenshot shows the LIMS home screen with a dark header bar containing the NorFab UIO MINaLAB logo and navigation tabs: Tools (highlighted with a red box), User, Advanced, Admin, and Info. On the right of the header is the myfabLIMS logo and a user profile for vegarsol. Below the header is a light gray bar with a 'Home' link. The main content area is divided into several sections: 'Related' on the left, 'Favorites' with links to Booking overview, Facility tools, My bookings, and My licenced tools; 'Important information about the lab' with opening hours and contact details; 'Booked tools' with a table of bookings; and 'Human resource' with a list of users. A red dashed box highlights a notification: 'There are 6 licence applications to process' and 'There are 6 user applications to process'.

Home

Related

Favorites

- Booking overview
- Facility tools
- My bookings
- My licenced tools

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Booked tools

My bookings (Hide bookings...)

Booking without log	Show not completed log	Show log status
<a href="#">Log</a> <a href="#">Edit</a> 14 aug 09:00 - 13:00	Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2	<b>Log: not started</b>

Human resource

[Book](#) [View](#) [Log](#) Vegard Skiftestad Olsen

My licenced tools

- [Book](#) [View](#) [Log](#) Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2 (UIO052-1)
- [Book](#) [View](#) [Log](#) Magnetron sputter Remote plasma - Flextura Gate 3 (UIO052-2)
- [Book](#) [View](#) [Log](#) X-ray Diffraction - Rigaku SmartLab (UiO057)

[\[All licenced tools\]](#)

## How to apply for licence for instruments

Licence and training must be approved before using the instrument

This screenshot shows the LIMS home screen with the 'Tools' menu open. The menu options are: My licenced tools, Apply for licence (highlighted with a blue box), All tools, Tool status, Tool history, View bookings, Batches, and Log. A red dashed box highlights the notification: 'There are 6 licence applications to process' and 'There are 6 user applications to process'.

Home

Related

Favorites

- Booking overview
- Facility tools
- My bookings
- My licenced tools

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All publications resulting from work within NorFab should include the following acknowledgment:

"The Research Council of Norway is acknowledged for the support to the Norwegian Micro- and Nano-Fabrication Facility, NorFab, project number 295864."

The 'Apply for licence' form contains the following fields: Tool (UIO028 Reactive Ion Etch (RIE)), Project (dropdown menu), Possible dates for user training (Primary, Secondary, Third), Estimated uses (Estimated use in hours, nearest 6 month), Practical coach (on this tool) (Type to see suggestion (min. 3 character)), and Short info of intended use (text area). A 'Send application' button is at the bottom.

Apply for licence

Please fill the form with information regarding your license.

Tool: UIO028 Reactive Ion Etch (RIE)

Project: -- Select project --

Possible dates for user training

Primary:

Secondary:

Third:

Estimated uses:

(Estimated use in hours, nearest 6 month)

Practical coach: (on this tool)

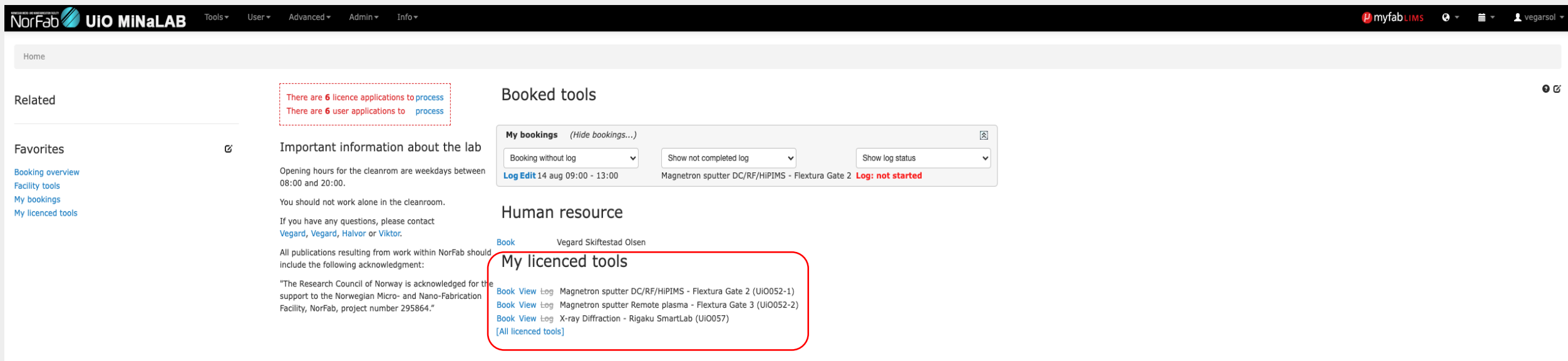
Type to see suggestion (min. 3 character)

Short info of intended use:

[Send application](#)



# Your LIMS home screen



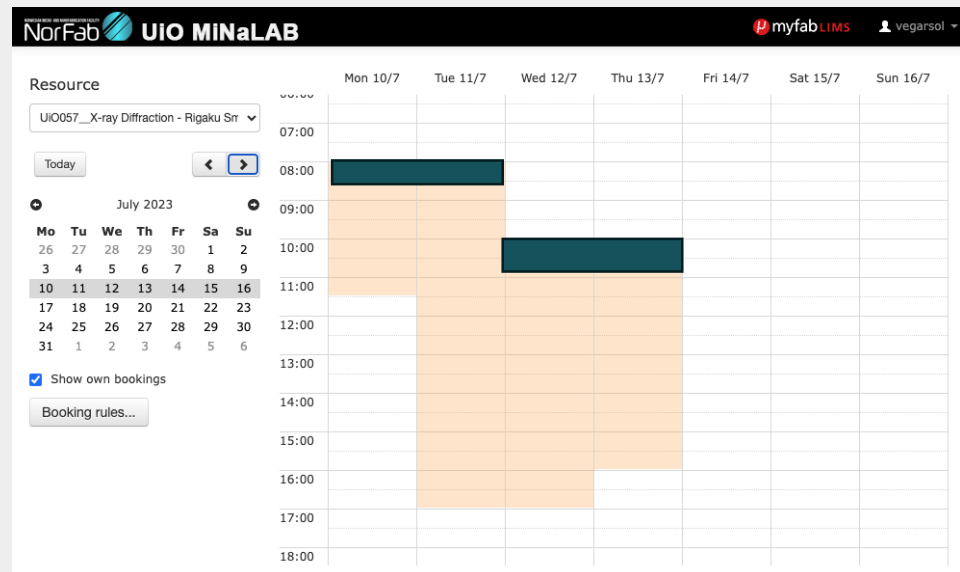
The screenshot shows the 'myfab LIMS' home screen. The top navigation bar includes the NorFab UIO MINaLAB logo and links for Tools, User, Advanced, Admin, and Info. The user 'vegarsol' is logged in. The main content area is divided into several sections:

- Home**: A breadcrumb trail.
- Related**: A section on the left with a search icon.
- Favorites**: A list of links: Booking overview, Facility tools, My bookings, and My licenced tools.
- Important information about the lab**: Contains text about opening hours (08:00 to 20:00 weekdays), safety instructions, contact information (Vegard, Vegard, Halvor or Viktor), and an acknowledgment from the Research Council of Norway.
- Booked tools**: A section titled 'My bookings (Hide bookings...)' with filters for 'Booking without log', 'Show not completed log', and 'Show log status'. It shows a booking for 'Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2' on '14 aug 09:00 - 13:00' with a status of 'Log: not started'.
- Human resource**: A section titled 'My licenced tools' with links to 'Book', 'View', and 'Log' for various tools, including 'Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2 (UIO052-1)', 'Magnetron sputter Remote plasma - Flextura Gate 3 (UIO052-2)', and 'X-ray Diffraction - Rigaku SmartLab (UIO057)'. A red box highlights this section.

## How to book an instrument

Yellow areas are other peoples bookings.

You must book the instrument for the entire period the instrument is blocked from other people (including pump-down, venting, heating, etc.)



# Your LIMS home screen

The screenshot shows the LIMS home screen with a dark header bar containing the NorFab UIO MINaLAB logo and navigation links (Tools, User, Advanced, Admin, Info). On the right of the header is the myfab LIMS logo and a user profile for vegarsol. Below the header, the main content area is divided into several sections:

- Home**: A breadcrumb link at the top left.
- Related**: A section on the left with a search icon.
- Favorites**: A section on the left with links to Booking overview, Facility tools, My bookings, and My licenced tools.
- Important information about the lab**: A section with text about opening hours (08:00 and 20:00), safety rules, and contact information for Vegard, Vegard, Halvor or Viktor. It also includes an acknowledgment from the Research Council of Norway.
- Booked tools**: A section with a red box highlighting the "My bookings" table. The table shows a booking for "Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2" on "14 aug 09:00 - 13:00" with a status of "Log: not started".
- Human resource**: A section with a link to "Vegard Skiftestad Olsen".
- My licenced tools**: A section with links to "Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2 (UiO052-1)", "Magnetron sputter Remote plasma - Flextura Gate 3 (UiO052-2)", and "X-ray Diffraction - Rigaku SmartLab (UiO057)".

## How to log an experiment

You must always log your experiments. If you fail to log an experiment for more than 14 days, LIMS will prevent you from making new bookings.

Note down the parameters needed for logging during experiments. These parameters are used to plan maintenance, and ensure reproducibility.

The screenshot shows the "Log for booked tools" form for the "Magnetron sputter DC/RF/HIPIMS - Flextura Gate 2 (UiO052-1)". The form includes the following fields and sections:

- Booked time:** 14 aug 09:00 - 13:00
- Project:** NEARTEAMS
- Batch No:** A text input field with a "Verify" button.
- Log start time:** 2023-08-14 09:00
- Log end time:** 2023-08-14 13:00
- Problems during run:** A checkbox labeled "Problems during run" with a note: "(If checked, supplying supplementary info about what went wrong is required. This info will be sent to the tool responsible. Also, any required log fields are changed to optional)".
- Supplementary Information:** A large text area for additional information.
- Base pressure:** A text input field with an "[info]" link.
- Number of wafers processed:** A text input field with an "[info]" link.
- Sputter sources:** A text input field with an "[info]" link.
- Process gas:** A text input field with an "[info]" link.
- Substrate temperature:** A text input field with an "[info]" link.
- Change status or message for this tool (current status: Available):** A section with a green "Available" status and a link to change it.
- Buttons:** "Save as 'Started'" and "Save as 'Completed'" buttons at the bottom.



# Tool ID and corresponding projects

	Tool name	Tool Id	1st responsible	2nd responsible	Booking type	Status	Available
<a href="#">View</a> <a href="#">Edit</a>	DLTS setup "Idefix"	E-Lab001	800-DLTS DLTS-generic project (E-LAB MiNa)				
<a href="#">View</a> <a href="#">Edit</a>	DLTS setup "Tiffy"	E-Lab002	<a href="#">Amanda Langoergen</a>	<a href="#">Vegard Rønning</a>	Compulsory	Warning	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	DLTS setup "Obelix"	E-Lab003	<a href="#">Amanda Langoergen</a>	<a href="#">Vegard Rønning</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	DLTS setup "Asterix"	E-Lab004	<a href="#">Amanda Langoergen</a>	<a href="#">Vegard Rønning</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	LCR meter Agilent 4280A	E-Lab005	<a href="#">Amanda Langoergen</a>	<a href="#">Vegard Rønning</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	SEM- Chemistry Department	NAFUMA-SEM	<a href="#">Anja Olafsen Sjøstad</a>	<a href="#">Kristian Blindheim Lausund</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Protochips Atmosphere Holder	NORTEM - 10	251 – SEAMLESS or 351 – SEAMLESS (NORTEM)				
<a href="#">View</a> <a href="#">Edit</a>	Protochips Fusion Holder	NORTEM - 9	<a href="#">Phuong Nguyen</a>	<a href="#">Øystein Prytz</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	High resolution powder diffraction	RECX-1	531 – TOMOCAT (RECX)				
<a href="#">View</a> <a href="#">Edit</a>	Multi Purpose Powder X-ray Diffraction	RECX-2	<a href="#">David Wragg</a>		Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Thin Film XRD	RECX-3	<a href="#">David Wragg</a>	<a href="#">Henrik Hovde Sønsteby</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Single crystal X-ray diffraction (dual source)	RECX-4	<a href="#">David Wragg</a>	<a href="#">Sigurd Øien</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Small Angle Scattering	RECX-5	<a href="#">David Wragg</a>	<a href="#">Reidar Lund</a>	Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Transmission powder XRD	RECX-DIFF-1	<a href="#">David Wragg</a>		Compulsory	Down	<input type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Low resolution transmission XRD	RECX-DIFF-3	<a href="#">David Wragg</a>		Unbookable	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Routine Powder Diffraction	RECX-DIFF-5	<a href="#">David Wragg</a>		Unbookable	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Image Plate Diffractometer	RECX-Huber-1	<a href="#">David Wragg</a>		Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	SIMS	SIMS-1	700 – SIMS (SIMS MiNa)				
<a href="#">View</a> <a href="#">Edit</a>	4-point probe	UiO002	<a href="#">Viktor Bobal</a>		Compulsory	Available	<input checked="" type="checkbox"/>
<a href="#">View</a> <a href="#">Edit</a>	Ellipsometer	UiO003	131 – NEARTEAMS (NorFab)				

The tool-ID identifies which infrastructure the tool is operated by.

The infrastructure have their own project codes to be able to invoice the project for the use of instruments.

The instruments for a particular infrastructure **must only** be booked using the correct project.

NorFab instruments (tool-ID: UiO0XX) must only be booked with NorFab projects (project: 1XX - Project name).

Tool-ID	Project code	Infrastructure
UiO0XX	1XX - Project	NorFab
E-lab0XX	800 - DLTS	MiNa
SIMS-X	700 - SIMS	MiNa
NORTEM-XX	2XX or 3XX - Project	NorTEM
RECX-XX	5XX - Project	RECX





# Booking and logging instruments

## Booking rules in NorFab

All instruments with Tool-ID UiO0XX must be booked and logged through LIMS. This includes wet benches, ellipsometer, profilometer, etc.

An instruments must be booked for the time the instrument is blocked from other users to use. This includes pump-down time, heating, cool-down, etc.

It is your responsibility to use the correct project for your experiments. Users may have several projects available in LIMS, and you must make sure to use the correct one so that projects are not invoiced incorrectly.

If you are the only user of an instrument for a period of time, it is your responsibility that the instrument is booked and logged through LIMS.



## Logging experiments in LIMS

Log your experiments shortly after you are done. Maintenance, service and troubleshooting are based on the log book in LIMS, thus it is important that accurate data is provided in the log.

If you have a booking that has not been logged for 14 days, LIMS will automatically block you from making new bookings.

If you encounter any problems during your experiment, please check the “Problem during run” box in the log-window and explain the problem. The tool-responsibles will automatically receive an email with your information.

### Log for booked tools

**Magnetron sputter DC/RF/HiPIMS - Flextura Gate 2 (UiO052-1)**

Booked time: 24 feb 12:30 - 14:30

Project: NEARTEAMS

Batch No:

Verify

Log start time:

Log end time:

☐ Problems during run

*(If checked, supplying supplementary info about what went wrong is required. This info will be sent to the tool responsible.*

*Also, any required log fields are changed to optional)*

Supplementary  
Information:



# Publications and acknowledgment

## Booking rules in NorFab

If a NorFab instrument has been used in the work for a publication, no matter how small the use is, the infrastructure must be acknowledged in that publication.

For the infrastructure to be acknowledged correctly you have to make sure these two steps are made:

1. Under acknowledgments in the publication, the following text must be written. *"The Research Council of Norway is acknowledged for the support to the Norwegian Micro- and Nano-Fabrication Facility, NorFab, project number 295864."*  
This text can also be found on your LIMS front page.
2. When the publication is uploaded to Cristin, make sure to register the NorFab project number (295864) with the Research Council of Norway as funding source to that publication.

NorFab

UIO MINaLAB

Tools

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### Prosjektkode

Her kan du angi finansieringskilde og prosjektnummer som publikasjonen er knyttet til.

Forskningsrådet-prosjekter: Seks-sifret prosjektnummer skal oppgis. Eksempel: prosjektnummer 184951/I30 skal registres som 184951. Prosjektnummeret er tilgjengelig i kontrakt og på Mitt nettsted.

295864

Norges forskningsråd

Legg til

