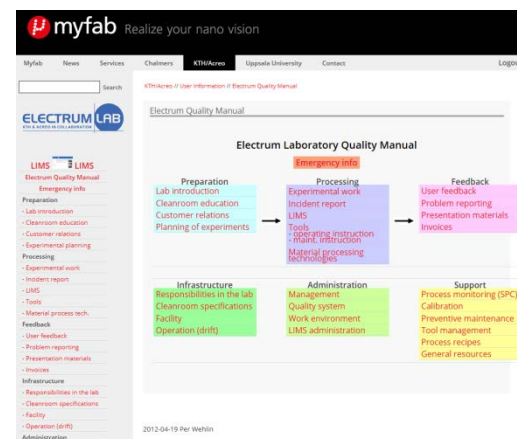
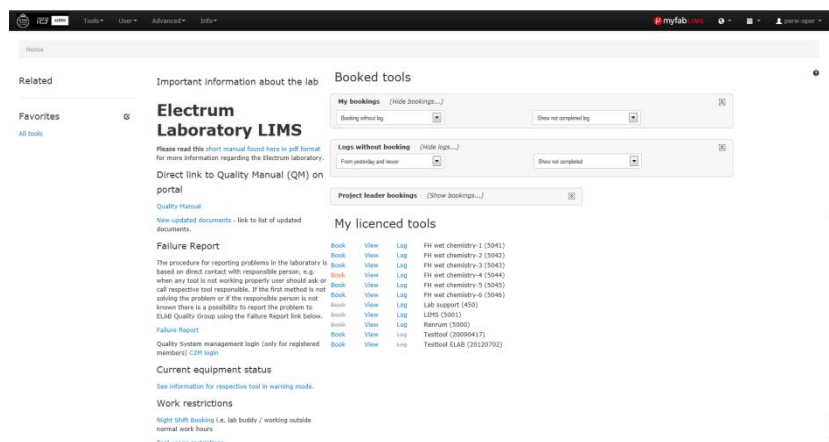


# Introduction to LIMS and Quality manual



# LIMS is a software which helps you with:

- Getting access to the lab resources (tools licences, tools booking)
  - Running the tools (instructions, recipes, SPC)
  - Archiving the experimental results (logs, batch register)
- 
- LIMS is also used for administration of laboratory (managing of users, tools, licenses, runs, economy, processes ...).

# To be able to book/run a tool you need

## A LIMS account

Including

1) Where you are working

University/Company, example KTH

Department, example ICT

Laboratory/Group, example HMA (Semiconductor materials)

2) Supervisor

3) Practical coach (for cleanroom)

The practical coach should be an experienced colleague from your group that you can get help from.

# To be able to book/run a tool you need

## Be a member of a project in LIMS (given by a project manager)

The project is internal for LIMS but can be called after existing projects  
example

Project Id	Project name
20080827	SPC runs Elab

## A license for the tool you will use

You get a license from the tool responsible after training.

The screenshot shows the 'User Home page' of the Electrum Laboratory LIMS system. The page layout includes a top navigation bar with 'Tools', 'User', 'Advanced', and 'Info' menus. The main content area is divided into several sections:

- Related:** A sidebar on the left with a 'Favorites' link (circled in red) and a link to 'All tools'.
- Important information about the lab:** A section titled 'Electrum Laboratory LIMS' with a link to the 'Quality Manual' (circled in red) and a link to 'New-updated documents'.
- Booked tools:** A section titled 'My bookings' (circled in red) showing a table of booked tools with columns for 'Booking without log', 'Show not completed log', 'Log', 'Edit', and 'Testtool'. A red arrow points to the 'Log' column.
- Logs without booking:** A section titled 'Logs without booking' (circled in red) showing a table of logs with columns for 'From yesterday and newer', 'Show not completed', and 'Log'.
- Project leader bookings:** A section titled 'Project leader bookings' (circled in red) showing a table of bookings with columns for 'Book', 'View', 'Log', and 'Testtool'.
- My licenced tools:** A section titled 'My licenced tools' (circled in red) showing a table of licenced tools with columns for 'Book', 'View', 'Log', and 'Testtool'.
- Failure Report:** A section titled 'Failure Report' with a link to 'Failure Report'.
- Current equipment status:** A section titled 'Current equipment status' with a link to 'See information for respective tool in warning mode'.
- Work restrictions:** A section titled 'Work restrictions' with a link to 'Night Shift Booking' and a link to 'Tool usage restrictions'.

Red annotations include circles around the 'Favorites' link, the 'Quality Manual' link, the 'My bookings' section, the 'Logs without booking' section, the 'Project leader bookings' section, the 'My licenced tools' section, and the 'Log' column in the 'My bookings' table. Red arrows point from the text labels on the right to these specific elements.

# User Home page

(the page after login)

• List of booked tools

• Links to Quality Manual


• List of licenced tools

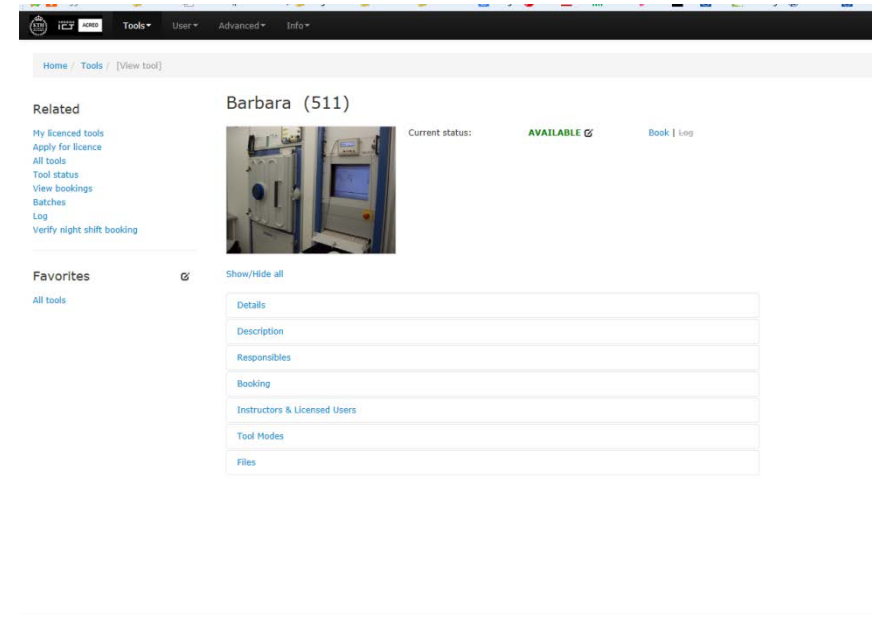
• Favourites ("saved" LIMS pages)

# Booking in LIMS

You MUST book tools BEFORE they are used if they are marked as “Booking Compulsory”  
 on tool label or on tool view page

OK

Tool:			
<b>Emma</b>			
Responsible department:	Responsible person:	Phone number:	
<b>Acreo</b>	<b>Magnus Lindberg</b>	<b>632 78 22</b>	
Full tool name:		Tool ID:	Room:
Mask aligner MA6/BA6 Karl Suss		524	Gul 3
General purpose:: Mask aligner, principally for backside alignment.			
Instructors:	Dept.:	Email:	Phone number:
Cecilia Aronsson	Replisaurus	cecilia@replisaurus.com	070-287 71 01
Helena Strömberg	Acreo	helena.stromberg@acreo.se	632 77 26
Olof Öberg	Acreo	olof.oberg@acreo.se	632 78 19
Magnus Lindberg	Acreo	magnus.lindberg@acreo.se	632 78 22
Restrictions/safety/environment:			
<b>LIMS Info</b>	<b>Booking</b>	<b>Logging</b>	
	Compulsory	Compulsory	
2010-01-08/Per Wehlin Electrum Laboratory			

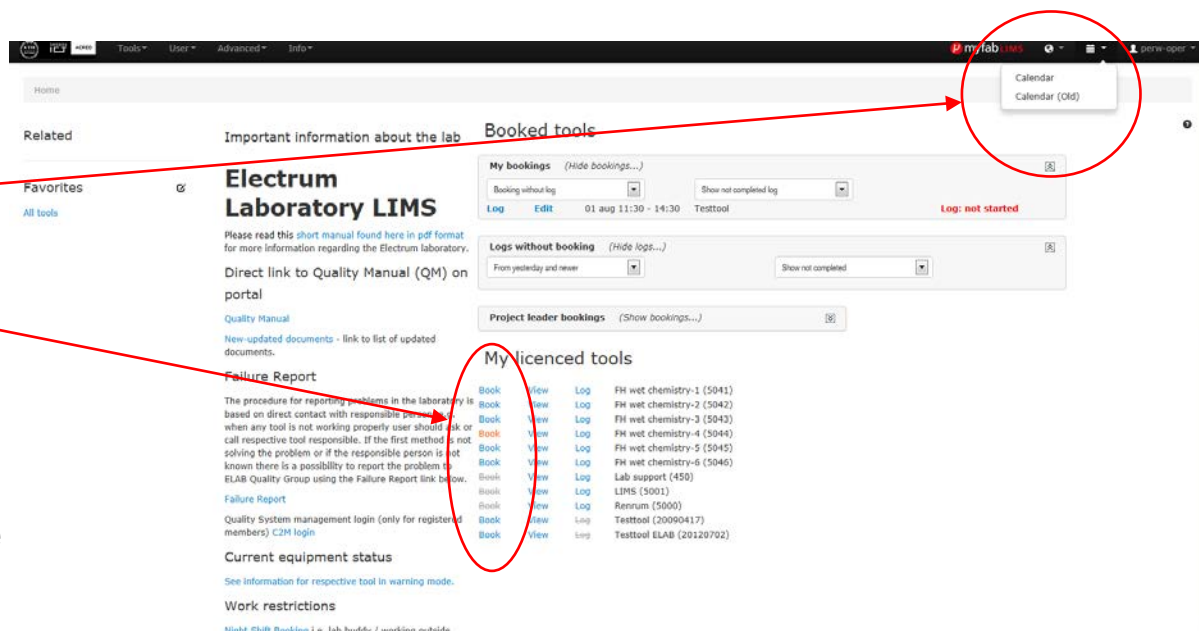


The screenshot shows the LIMS interface for tool 'Barbara (511)'. The 'Current status' is 'AVAILABLE' with a green checkmark. A 'Book' button is visible. The page includes a 'Related' section with links like 'My licensed tools', 'Apply for licence', 'All tools', 'Tool status', 'View bookings', 'Batches', 'Log', and 'Verify night shift booking'. There is also a 'Favorites' section with a link to 'All tools'. A 'Show/Hide all' button is present. A sidebar on the right contains links for 'Details', 'Description', 'Responsibilities', 'Booking', 'Instructors & Licensed Users', 'Tool Modes', and 'Files'.

# Booking in LIMS

You can access the booking calendar

- At the menu (**Calendar**)
- At the tool list
- Overview of documents



It is also possible to access the old type of booking calendar (**Calendar (old)**)

Both **Calendar** and **Calendar (old)** access the same booking data.

# Booking in LIMS

Fill in

- Start time
- End time
- Project

Click then on Book.

Myfab Lab Management System - Internet Explorer provided by Royal Institute of Technology

http://lims.electrumlab.se/WebForms/Equipment/User/Booking.aspx?ts=790841727&refreshParent=True&restrictedPage=True#tool/187/date/2013-07-29/days/7

myfab LIMS perw-oper

**Create Booking**

Resource: 20090417Testtool

Start time: 2013-07-31 12:30

End time: 2013-07-31 13:00

Total time: 30 mins

Project: TESTPROJEKT ELAB (12345)

Supplementary information:

Booking message:

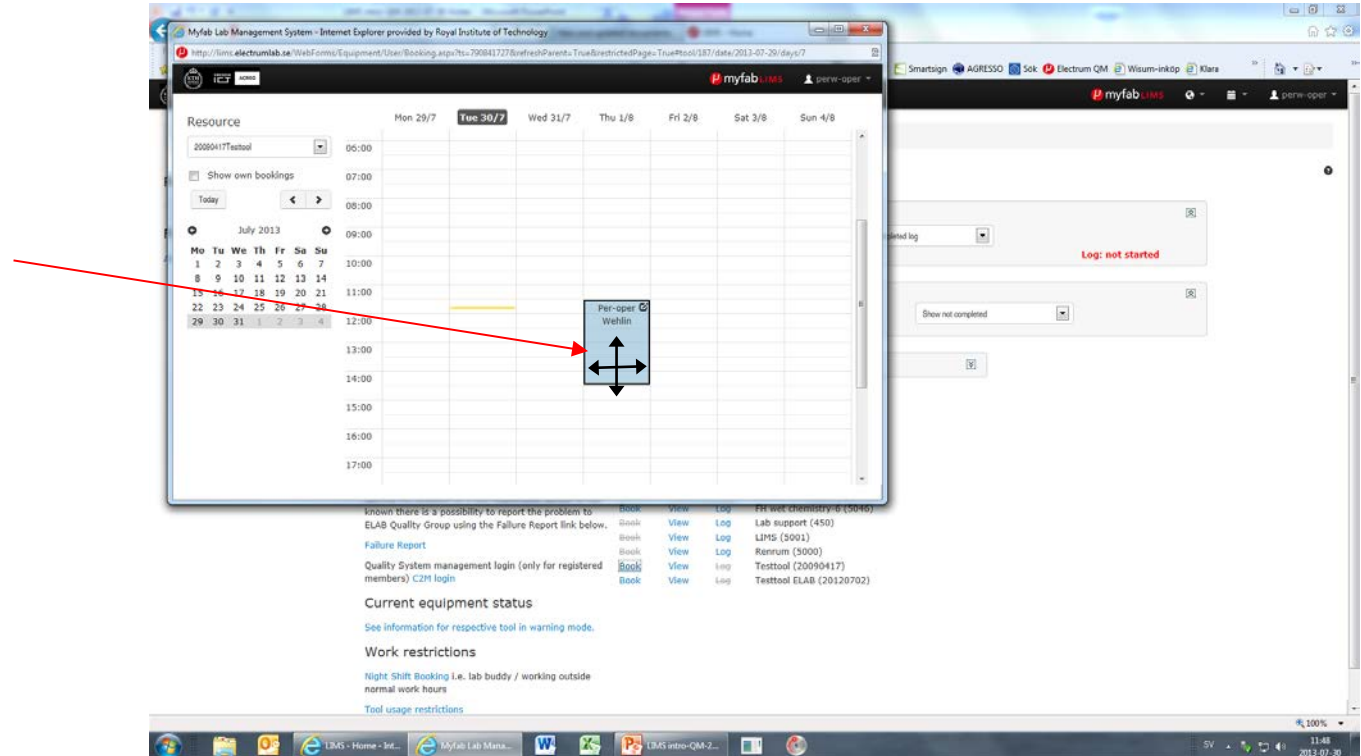
Cancel Book

The total time depends of the start and end time and will change depending on these times. Default is 30 min.



# Booking in LIMS

- You can move the booking to the desired time.
- You can also change the booking time by making the box shorter/longer.
- By double clicking on the box you open the edit menu.



# Booking in LIMS

You can change

- Start time
- End time
- Project

webforms/equipment/user/booking.aspx?is=797439510&refreshment=11&restrictedPage=true#100/107/date/2013

myfa

Sat

### Edit Booking

Resource: 20090417Testtool

Start time: 2013-08-01 11:30

End time: 2013-08-01 14:30

Total time: 3 hours

Project: ELAB License (20110915)

Supplementary information:

Booking message:

Cancel Delete Book

Cancel

Cancel – Exit without change

Delete

Delete – Remove booking

Book

Book – Save changed booking

# Not used booking

To leave not used bookings is a bad policy because all “forgotten” bookings will be charged as the tool usage at the end of the month.

- Remove booking immediately when you know that you can not use the tool. Attention! Only future booking can be removed by user.
- Shorten your booking as much as possible if the start time is already passed.
- Contact the tool responsible to explain situation and ask for help with your past booking.

# What is a log in LIMS

The log is an information regarding the history of respective tool usage.

This information is very important for the next user because the condition of the tool often depends on the previously run process.

Logs give also hints for users regarding parameters of standard and/or often used processes.

The tool usage history is a base for planning and doing service and preventive maintenance, i.e. no logs = no service!

Logs are also used for charging the projects for laboratory usage.

From these reasons it is extremely important to create a log **DIRECTLY** after you finished working with the tool. The system will prevent new booking when user has not logged bookings **older than 7 days!**

# Logging in LIMS

To create the log just click on **Log** link present on the **Booked tools** list ...

The screenshot shows the Electrum Laboratory LIMS interface. The 'Booked tools' section is highlighted, showing a table of bookings. A red starburst with the text 'Click!' points to the 'Log' link in the 'My bookings' table.

My bookings (Hide bookings...)			
Booking without log	Show not completed log		
Log	Edit	01 aug 11:30 - 14:30	Testtool
Log: not started			

Below the 'Booked tools' section, there is a 'My licenced tools' section with a table of tools and their status.

Book	View	Log	Tool
Book	View	Log	FH wet chemistry-1 (5041)
Book	View	Log	FH wet chemistry-2 (5042)
Book	View	Log	FH wet chemistry-3 (5043)
Book	View	Log	FH wet chemistry-4 (5044)
Book	View	Log	FH wet chemistry-5 (5045)
Book	View	Log	FH wet chemistry-6 (5046)
Book	View	Log	Lab support (450)
Book	View	Log	LIMS (5001)
Book	View	Log	Radium (5000)
Book	View	Log	Testtool (20090417)
Book	View	Log	Testtool ELAB (20120702)

Hint: Logged booking “disappears” from your **Booked tool** list (if “Logs=Show not completed”), so try to keep your list as short as possible.

# Logging in LIMS

fill in form which opens and accept it by clicking button “Save as Completed”.

The screenshot shows the 'Log for booked tools' form in the LIMS system. The form is titled 'Log for booked tools' and includes a sub-header 'Testtool (20090417)'. The form contains several fields and buttons:

- Booked time:** 01 aug 11:30 - 14:30
- Project:** ELAB License
- Batch No:** [Text input field] **Verify** button
- Log start time:** 2013-08-01 11:30
- Log end time:** 2013-08-01 14:30
- Problems during run:** [Checkbox] (If checked, supplying supplementary info about what went wrong is required. Also, any required log fields are changed to optional)
- Conf. (log):** [Text input field]
- Supplementary Information:** [Text input field]
- Buttons:** 'Save as Started' and 'Save as Completed'

Annotations with red arrows point to the following elements:

- Log start time:** Points to the 'Log start time' field.
- Log end time:** Points to the 'Log end time' field.
- Save as Completed:** Points to the 'Save as Completed' button.

Hint: Logged booking “disappears” from your Booked tool list (if “Logs=Show not completed”), so try to keep your list as short as possible.

# Virtual tool 450\_Lab support

When somebody helps you in the lab (e.g. with training for the tool licence) you will be asked to create a log for this service in tool 450\_Lab support.

To do so, go to the **Log status** page, select 450\_Lab support and click “New log” button ...

... which opens **Log without booking** page.

Fill in

- Project
- Log start/end time to cover the period agreed with the instructor
- Instructor name and group
- , and describe type of help (e.g. licence for tool ...)

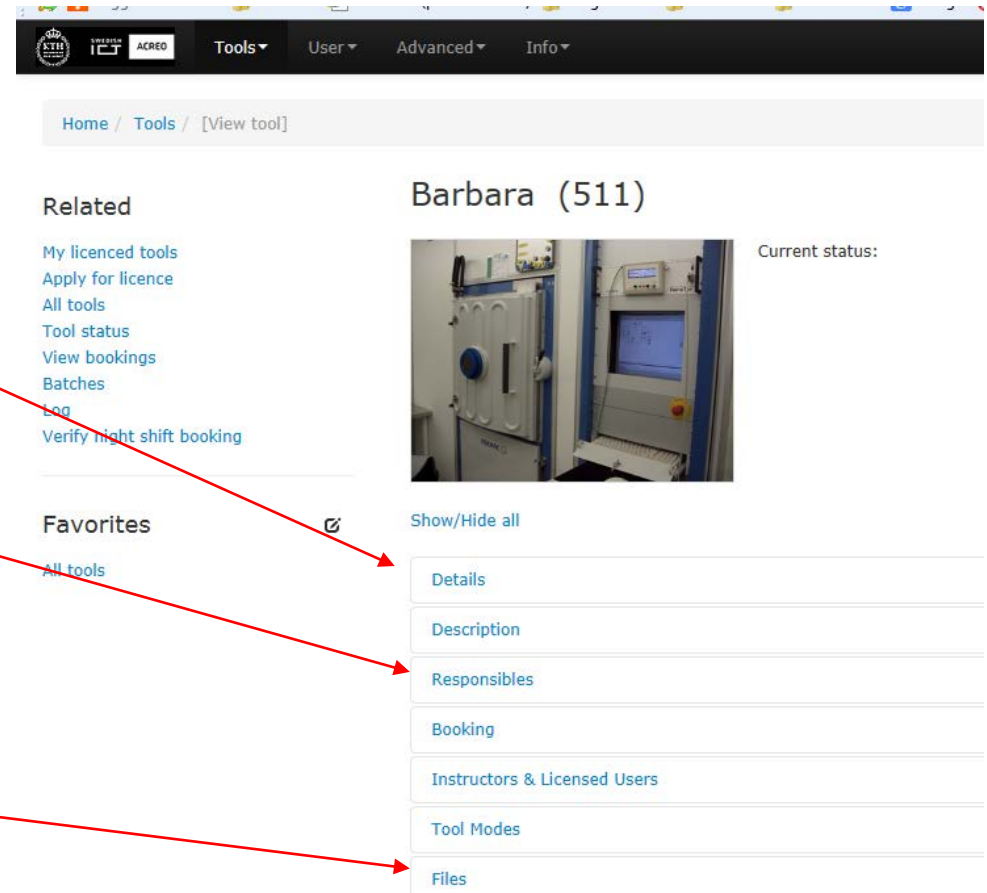
Log / Booking Start	Log / Booking Stop	Booked / logged by	Log Status	Completed d
Log 1 aug 11:30	1 aug 14:30	Per-oper Wehlin	Not Started	

Click on “Save as Completed” to register the log.

# Help when running the process

Information on [View tool](#) page:

Information about the tool  
can be accessed by clicking  
[View](#) link in the Tool list.



Technical description of the tool

People to contact if help is needed

Tool files: instruction, recipes, SPC



# View tools

Barbara (511)



Current status:

**AVAILABLE**

[Book](#) | [Log](#)

License:

[Apply for license](#)

[Show/Collapse all](#)

## Responsibles

1st Responsible: <a href="#">Reza Nikpars</a>	Process:
2nd Responsible:	Group: Nano-QLA

## Files

Control Specification	<a href="#">SPC_Barbara.xls</a>
Service Instructions	<a href="#">Barbara service</a>
User Instructions	<a href="#">Operating instruction</a>

## Description

### Technical description

**Full equipment name:** Provac PAK 600 Coating System

**General purpose:** Metal evaporation

### Technical data:

- Several standard processes for deposition of AuGe, Au, Ni, Ir, Pd, Pt, Ti, Cr, Ge, Ag, Mo, W, Al, Pd, Sn
- Evaporation of other metals and dielectrics is possible.
- Wafer holder for multi-substrates up to 6" size.
- Possibility to deposit up to 6 different metals during one run

Responsibles

Files  
(documents)

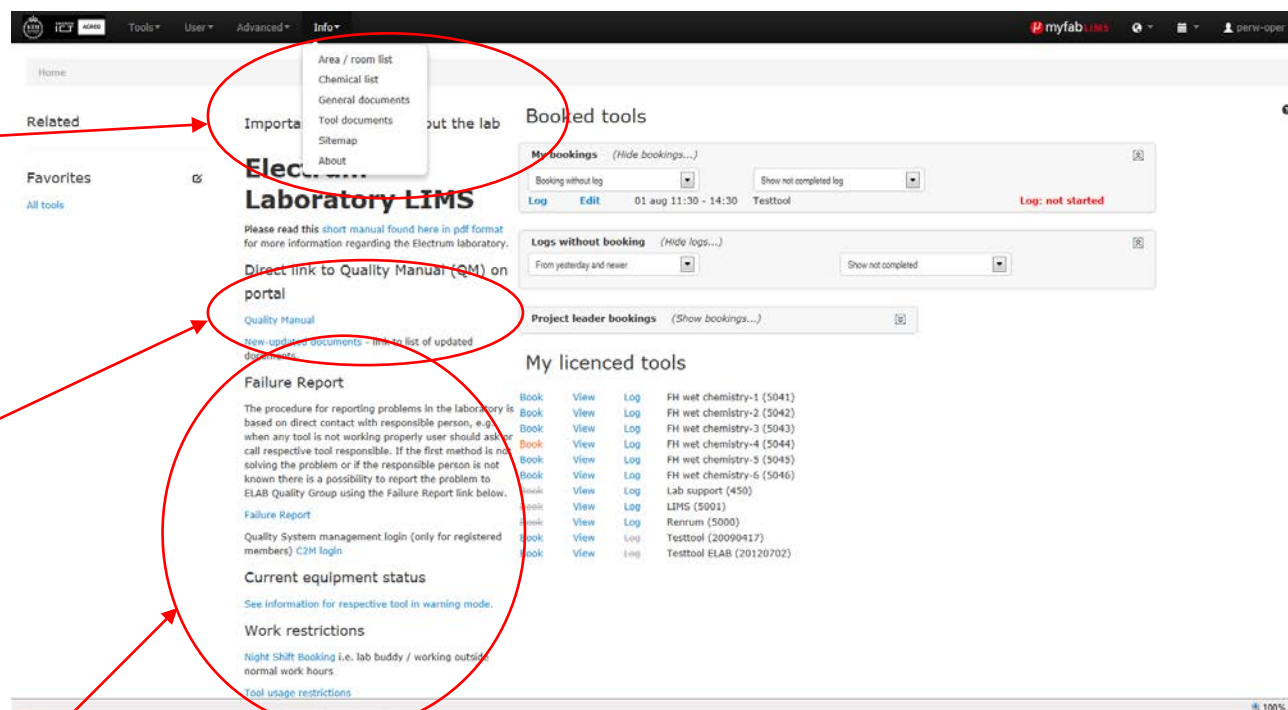
Description

# More information in LIMS

Drop down menu Info provides access to information pages:

- List of rooms in the lab
- Chemical list - Database of chemicals with links to MSDS (**M**aterial **S**afety **D**ata **S**heet)

Direct link to Quality Manual



General information about lab

# Tool info

- Choose tool categories

- List of tools

Optional filters for this list (Hide filters...)

Tool Id:

Category:

Tool name:

Process line:

Apply filters

	Tool Id	Category	1st responsible	Area name	Status
<a href="#">View</a>	492	Metrology	Stefano Bonetti	Y-yttrelab	Available
<a href="#">View</a>	5601	Metrology	Arman Sikiric	C-Anneal	Available
<a href="#">View</a>	471	Thin film deposition	Timo Söderqvist	C-Furnace Room	Down
<a href="#">View</a>	472	Thin film deposition	Timo Söderqvist	C-Furnace Room	Available
<a href="#">View</a>	473	Thin film deposition	Timo Söderqvist	C-Furnace Room	Down
<a href="#">View</a>	388	Thermal processes	Arman Sikiric	C-Anneal	Available
<a href="#">View</a>	443	Metrology	Reza Nikpars	N-Measurement	Available
<a href="#">View</a>	456	Metrology	Anders Hallén	Y-Hall rum	Available
<a href="#">View</a>	491	Metrology	Seyed Majid Mohseni Armaki	Y-yttrelab	Available
<a href="#">View</a>	490	Thin film deposition	Seyed Majid Mohseni Armaki	Y-Synth labs	Available
<a href="#">View</a>	104	Thin film deposition	Anders Liljeborg	Albanova E1:1017A	Available
<a href="#">View</a>	110	Metrology	Anders Liljeborg	Albanova E1:1019A	Available
<a href="#">View</a>	570	Thin film deposition	Yong Bin Wang	C-Anneal	Available

# User info

Home / User / User list

**Related**

- [My profile](#)
- [Cleanroom entrys](#)
- [My statistics](#)
- [Send message](#)
- [User list](#)
- [My user lists](#)

**Favorites**

- [All tools](#)
- [Favorite this page](#)

**User list**

Optional filters for this list (Hide filters...)

First name:  Last name:

User category: -- All categories -- User role: -- All active users of the system --

University/Company: -- All Universities / Companies -- Department: -- All departments --

Laboratory Group: -- All Laboratories / Groups --

Add/remove columns (7 of 17 columns chosen)

	First name	Last name	Email	Phone, work	Phone, mobile	University / company	Laboratory group
	Abdusalam	Uhelda	salam@kth.se	9132	0704476055	Kungliga Tekniska Högskolan	FNM
	Abhilash	Sugunan	abhilash@kth.se	+46 8 790 81 57	0707869403	Kungliga Tekniska Högskolan	FNM
	Acree	Service	qla@lms.acree.se			Acree	Nano-QLA
	Adolf	Schöner	adolfschoner@lms.acree.se	+46 8 632 78 09		Acree	Nanoelectronics
	Adrine	Malek Khachatourian	adrine@kth.se		0729147511	Kungliga Tekniska Högskolan	FNM
	Ahmad	Abedin	aabedin@kth.se		0723117855	Kungliga Tekniska Högskolan	EKT
	Ahmed	Farghali	farghali@kth.se		0720285351	Kungliga Tekniska Högskolan	FNM
	Alan	Cheshire	cheshire.alan@yahoo.com	+44 776 7787493		Kungliga Tekniska Högskolan	EKT
	Albanova	TestStudent	andill@kth.se	0855378139	0737871411	Kungliga Tekniska Högskolan	Nanostructure Physics
	Aleksandar	Radojic	alerad@kth.se	+ 46 8 790 4393		Kungliga Tekniska Högskolan	ELAB

- List of LIMS users
- email addresses
- telephone numbers

# Log out of LIMS.

The screenshot shows the Electrum Laboratory LIMS interface. The user is logged in as 'perw-oper'. A red circle highlights the user profile dropdown menu in the top right corner, which contains the options 'My Profile' and 'Logout'. The main content area displays various sections including 'Important information about the lab', 'Booked tools', 'My bookings', 'Logs without booking', 'Project leader bookings', 'My licenced tools', 'Failure Report', 'Current equipment status', and 'Work restrictions'.

Home

Tools User Advanced Info

myfab.LIMS

perw-oper

My Profile

Logout

Related

Electrum Laboratory LIMS

Please read this [short manual found here in pdf format](#) for more information regarding the Electrum laboratory.

Direct link to Quality Manual (QM) on portal

[Quality Manual](#)

[New-updated documents](#) - link to list of updated documents.

Failure Report

The procedure for reporting problems in the laboratory is based on direct contact with responsible person, e.g. when any tool is not working properly user should ask or call respective tool responsible. If the first method is not solving the problem or if the responsible person is not known there is a possibility to report the problem to ELAB Quality Group using the Failure Report link below.

[Failure Report](#)

Quality System management login (only for registered members) [C2M login](#)

Current equipment status

[See information for respective tool in warning mode.](#)

Work restrictions

[Night Shift Booking](#) i.e. lab buddy / working outside normal work hours

[Tool usage restrictions](#)

Booked tools

My bookings (Hide bookings...)

Booking without log Show not completed log

Log Edit 01 aug 11:30 - 14:30 Testtool Log: not started

Logs without booking (Hide logs...)

From yesterday and newer Show not completed

Project leader bookings (Show bookings...)

My licenced tools

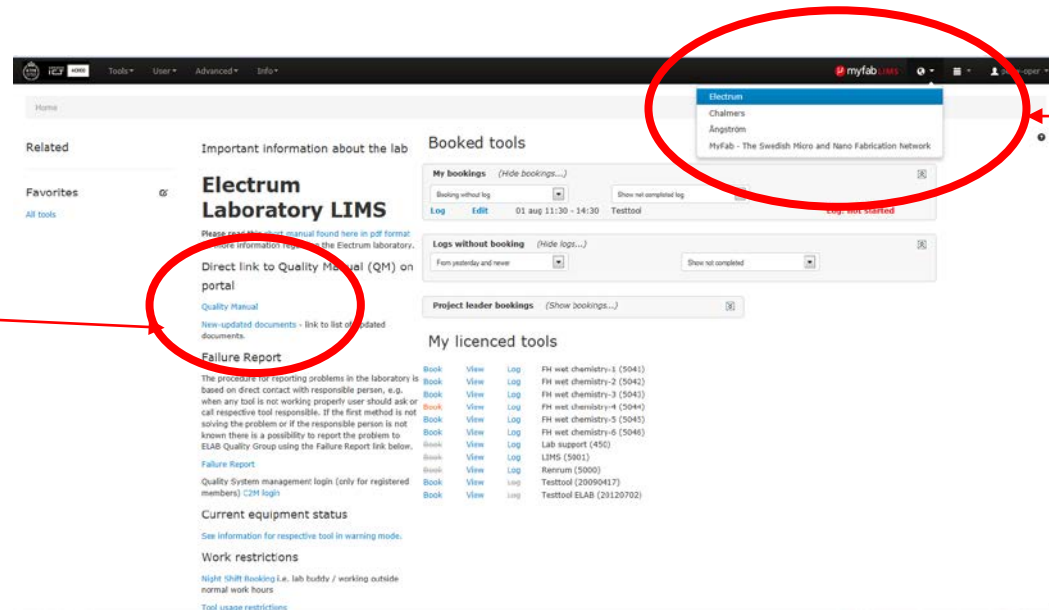
Book	View	Log	Tool
Book	View	Log	FH wet chemistry-1 (5041)
Book	View	Log	FH wet chemistry-2 (5042)
Book	View	Log	FH wet chemistry-3 (5043)
Book	View	Log	FH wet chemistry-4 (5044)
Book	View	Log	FH wet chemistry-5 (5045)
Book	View	Log	FH wet chemistry-6 (5046)
Book	View	Log	Lab support (450)
Book	View	Log	LIMS (5001)
Book	View	Log	Renrum (5000)
Book	View	Log	Testtool (20090417)
Book	View	Log	Testtool ELAB (20120702)

<http://lims.electrumlab.se/Default.aspx#>

100%

By clicking on your name at the top right corner you find the logout button.

# Quality Manual on the web



Direct link  
from LIMS

**Siblings**  
Links to  
- Electrum  
- Chalmers  
- Ångström  
- **Myfab**  
(Quality manual)

With the **Myfab** link you will be transferred to the portal ([www.myfab.se](http://www.myfab.se)).  
Then go to **KTH/Acreo – User information** to come to the link to the **Quality Manual**.

You can also use the direct web-address [www.myfab.se](http://www.myfab.se).  
Login with the same account and password as in LIMS.

# Quality Manual on the web

- Make it easy to find documents and processes for the Electrum laboratory
- Make standardize instructions how to do things
- Inform about what is happening

<http://www.electrumlab.se>

# Quality Manual on the web

myfab Realize your nano vision

Myfab LIMS Chalmers  
Myfab LIMS KTH/Acreo  
Myfab LIMS Uppsala University

Myfab News Services Chalmers **KTH/Acreo** Uppsala University Contact Tests MSL\_test Admin Logout

Search

**ELECTRUM LAB**  
KTH & ACREEO IN COLLABORATION

LIMS LIMS

Electrum Quality Manual  
Emergency info  
New/updated documents

Preparation  
- Lab introduction  
- Cleanroom education  
- Customer relations  
- Experimental planning

Processing  
- Experimental work  
- Incident report  
- LIMS  
- Tools  
- Material process tech.

Feedback  
- User feedback  
- Problem reporting  
- Presentation materials  
- Invoices

Infrastructure  
- Responsibilities in the lab  
- Cleanroom specifications  
- Facility

Administration  
- Management  
- Quality system  
- New/updated documents  
- Work environment  
- LIMS administration

Support  
- Process monitoring  
- Process control documentation  
- Calibration  
- Preventive maintenance  
- Tool management  
- Process recipes  
- General resources


Quick links

- Infrastructure
- Administration
- Support

Preparation → Processing → Feedback



# Virtual cleanroom



**myfab**

Realize your nano vision

[Myfab LIMS Chalmers](#)
[Myfab LIMS KTH/Acreo](#)
[Myfab LIMS Uppsala University](#)

[Myfab](#)
[News](#)
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[Admin](#)
[Logout](#)

[Search](#)




[Electrum Quality Manual](#)
[Virtual Cleanroom](#)

- Corridor
- Gowning room
- APL Centura
- Gul 3
- Q-etch
- Wet chemistry
- Epi III/V
- Mozart
- Disco saw
- APL-gul
- APL-analys
- APL-SiC
- Hybridisering
- ATP
- Plasma III/V
- Metal III/V
- Gul 1
- Anneal
- Furnace
- Furnace service
- Si-met
- ??



[KTH/Acreo // User Information // Virtual-Clean-Room-Tour // Facility // Service and media](#)

[Support](#)

### Service and media



In the basement a lot of different support to the clean room exists.

Ultrapure (DI) water is generated (left) and acid-containing drain is neutralized (right).

*All pictures can be viewed in larger format, just click on them.*

[Return to start of Virtual Clean Room Lab Tour](#)

# Quality manual on the web

Views, wishes and feedback to Per Wehlin  
[pgiwe@kth.se](mailto:pgiwe@kth.se)

Phone: 08-790 43 89

LIMS:  
<http://lims.electrumlab.se/Default.aspx>

Quality manual:  
<http://www.electrumlab.se/KTHAcro/UserInformation/ElectrumQualityManual.aspx>