

# Introduction to EHS & QM at ICEEE (LN-KLCE, LN-CDM-PMO)

Introduction to ICEEE Environmental Laboratory  
Quality Management (QM) and  
Environmental, Health & Safety (EHS) Measures

Objectives  
National Statistics  
General measures  
Structure  
Basic instructions

SYIAE, 沈阳, ICEEE  
2007-04-03

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## ICEEE lab management - Objectives

- To use the existing laboratory facilities effectively to perform high-quality measurements
- To be a reliable partner in both national and international cooperation research projects
- To provide an appropriate environment to carry out an effective training of the students
- To establish ICEEE laboratory as an advisory and service centre for external customers
- To enhance the technical and analytical portfolio of ICEEE
- To get certification and accreditation
- To acquire research and service requests
- To raise the reputation and name recognition of SYIAE/ICEEE
- To protect the environment and health & safety of people

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# CNAL Approved Accreditation

Items	Number
Accredited calibration laboratories	303
Accredited testing laboratories	2065
Total accredited testing and calibration laboratories	2368
Accredited inspection bodies	56
Accredited providers of proficiency testing schemes	6
Accredited Bio-safety laboratories	2
Accredited medical laboratories	5
Accredited reference material producers	1

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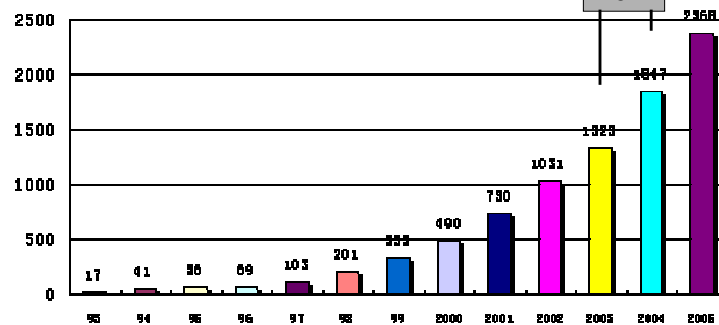
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# Number CNAL Accredited Labs

Growth of CNAL Accredited Labs  
(up to 31 December 2005)

Source: <http://eng.cnal.org.cn/col243/article.htm1?artid=2100>, accessed 19.04.2006



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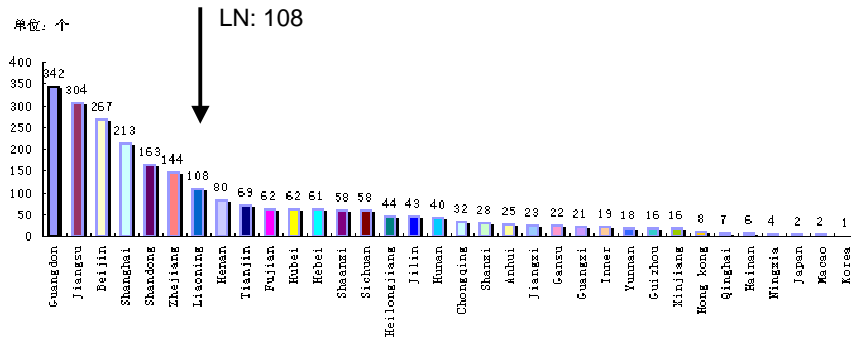
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# Area Distribution of CNAL Accredited Labs

Area's Distribution of CNAL Accredited  
(up to 31 December 2005)



Source: <http://eng.cnal.org.cn/col243/article.htm?artid=2100>, accessed 19.04.2006

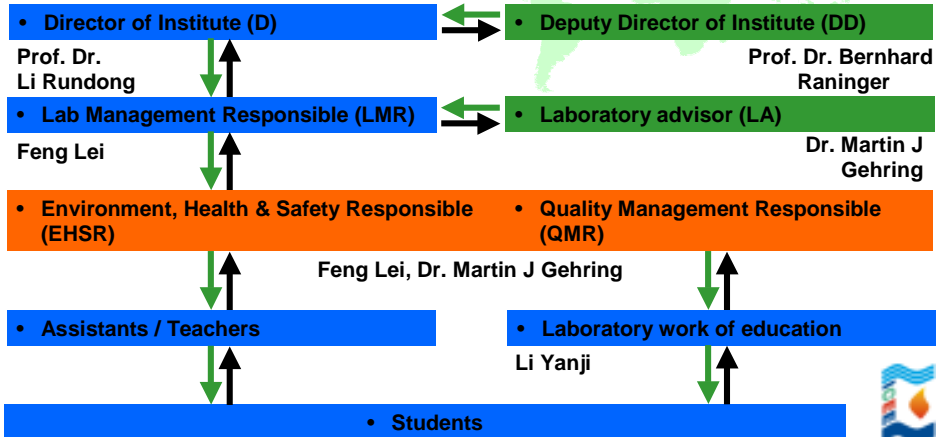
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# ICEEE lab management – Structure



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## Basic ICEEE lab instructions

### Only persons who

- have been introduced to the laboratory by one of the authorised persons,
- have been instructed by one of the authorised persons,
- have signed the laboratory instruction protocol TPL 002-2,
- have been confirmed by signature on TPL 002-2 by one of the authorised persons as a user of the ICEEE laboratory

are permitted to work in the laboratory.

### Authorised persons are:

Laboratory Management Responsible (LMR): Feng Lei  
Laboratory Advisor (LA): Dr Martin J. Gehring  
Quality Management Responsible (QMR): Dr Martin J. Gehring, Feng Lei  
Environment, Health & Safety Responsible (EHSR): Dr Martin J. Gehring, Feng Lei  
Deputy Director (DD): Prof. Dr Bernhard Raninger  
Director (D): Prof. Dr Li Rundong

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## Basic ICEEE lab instructions

### The

- relevant Standard Operating Procedures (SOP),
- Documents (DOC),
- environment, health and safety (EHS) instructions

have to be considered at any time.

As long as the quality management (QM) system and/or the EHS system is not yet completely established, a certain SOP, DOC or instruction sheet or a part of one may be missing at date of introduction.

In this case, the instructions given by the responsible teacher or expert have to be followed instead.

Any instruction, which differs from those given in the respective SOP or DOC, made during the introduction, has to be recorded according to and onto TPL 002-3, signed and stored along with the respective TPL 002-2.

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## Basic ICEEE lab instructions

### When working in the laboratory wear

- a white coat made of 100 % cotton and sturdy shoes

and, if required,

- protective plastic glasses, adequate gloves and/or mask.

Keep the laboratory doors and windows closed.

Do no smoke in the ICEEE or consume food in the laboratories.

Do not use open flame or other ignition sources in the biotechnology laboratory or in the near of cylinders of inflammable gases.

In case of emergency in the laboratory, call, if necessary, emergency, fire brigade, police (119).



In case of emergency call at least one person of each of the following groups. If a person appears in more than one group, this person may represent all the respective groups.

#### • Chinese LMR:

- the person which is responsible for the laboratory room in question
- Feng Lei (room 504, SYIAE -3733, mobile 133-86 87 03 69)

#### • EHSR:

- Feng Lei (room 504, SYIAE -3733, mobile 133-86 87 03 69)
- Dr. Martin J. Gehring (room 505, SYIAE -3608, mobile 138-89 83 97 37)

#### • Person/s in charge of the experiment:

- if applicable and possible, the teacher supervising the experiment.
- if applicable and possible, the student currently in charge of the experiment.

#### • Chinese ICEEE responsible persons:

- D: Prof. Dr. Li Rundong (room 509, SYIAE -4818, mobile 139-98 26 37 97)

#### • In case of BAOXING equipment:

- DD: Prof. Dr. Bernhard Raninger (room 507, SYIAE -4558, mobile 139-98 25 44 36)
- LRM: Feng Lei (room 504, SYIAE -3733, mobile 133-86 87 03 69)



## Basic ICEEE lab instructions

In case that the methane gas alarm system of the biotechnology laboratory gets active, do not use electric or electronic devices near to or in the biotechnology laboratory.

If the occurrence of an explosive gas atmosphere has to be assumed, keep distance to the biotechnology laboratory and wait for the responsible persons informed, security guards, fire rescue etc. Do not leave the scene. If you have to leave the building and wait outside be aware that the window glasses will be blown outwards in case of explosion. Warn other persons who might be affected by an explosion or fire.

If the occurrence of an explosive gas atmosphere has not to be assumed, enter the biotechnology laboratory and open the windows.



## Basic ICEEE lab instructions

Only persons who

- have been introduced by one of the authorised persons according to the respective Standard Operating Procedure (SOP) to a certain equipment or method,
- have signed the respective instruction protocol and
- have been confirmed by signature by one of the authorised persons

are allowed to use the equipment or to carry out the experiment, treatment or analysis.

The instruction includes introduction to the respective SOP, private study of the SOP and subsequent examination of the knowledge. Study the SOP very well!

Equipment may only be used if applied for in advance and confirmed in writing by one of the authorised persons. The lists are maintained by the 2 Quality Management Responsibles LMR/QMR (Feng Lei) and LA/QMR (Dr Martin J. Gehring) and kept in room 505.



Plan your work at least at the beginning of the week before you want to start and find out if all equipment and consumables you need will be at hand at scheduled time of work.

Only enter laboratories, which are required to enter for your laboratory work and only when required.

Check the room, equipment and consumables before starting and after finishing work. Note all irregularities.

Do not manipulate any experiment or equipment beside the tasks originally assigned to you.

All laboratory work such as samplings, sample treatment or measurements has to be conducted according to the respective SOP, which refer to the valid relevant national and international guidelines.

Prevent any contamination of samples or disturbance of experiments. In especially do not use glassware etc. exclusively assigned to less polluted samples such as bioorganic waste for processing of potentially higher contaminated samples such as fly ash.



## Basic ICEEE lab instructions

Any person who works in the laboratory has to maintain a personal laboratory book.

Obtain information on your work and record the data into your laboratory book cautiously, plainly and completely.

Avoid loose paper sheets wherever possible! If printed ICEEE templates have to be used, annotate each sheet with identification of experiment, date, your name and all other information necessary. Store loose paper sheets in folders.

Frequently, e.g. once a week, provide copies of all your laboratory records, i.e. original data, and electronic data files to the responsible teacher/s or expert/s.

Do not, **UNDER NO CIRCUMSTANCES**, throw away any laboratory records!

What was not plainly and completely recorded, has never happened!



# Basic ICEEE lab instructions

Except in case of emergency keep the windows and doors of the laboratories permanently closed.

Use the air extraction system for improving the quality of the room air.

Protect the equipment from direct sunlight, i.e. keep the blinders pulled down.

Equipment, rooms and materials used have to be spring-cleaned immediately after use and according to both SOP 004-L and the specific cleaning instructions, which are included in the respective SOP.

Turn off water, light, power supply, air exhaust system etc. and/or the equipment not required to run any longer and close the door when leaving a laboratory.



Document ID: <b>SOP 002-L</b>	Standard Operating Procedure 002-L: General Instructions for the work in the ICEEE laboratory					
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Shenyang Institute of Architectural Engineering (SIAE) Shenyang University, Institute of Clean Energy and Environmental Engineering (ICEEE), Environmental Laboratory, No. 37 Gaopai South Street, Shenyang 110101, P.R. China				
	Author:	Reviewed (responsible):	Authorised:	Info copy:
Name:	QMR	D	D	N
Signature:				Subject to updating:
Date:	2007-04-03			Y
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Number of SOP

Begin of validity

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User of this copy

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Number of version

Name of QM folder

No. of copy or Original

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ToC is identical for all SOPs.





# SOP - Table



Shenyang Institute of Aeronautical Engineering (SIAE) Shenyang University, Institute of Clean Energy and Environmental Engineering (ICEEE), Environmental Laboratory, No. 22 Gaoxi South Street, Shenyang 110138, P.R. China

	Author	Reviewed (Responsible)	Authorized	Info copy
Name	QMR:	D:	D:	N
Signature				Subject to updating
Date	2007-04-03			Y
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