



Earth Science Serving Society: *Air Quality Training Opportunity*

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USA

*UN Symposium on Space Tools and Solutions for Monitoring the Atmosphere in
Support of Sustainable Development*

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Institute for Space Research • Graz, Austria

Training materials based on work by Amy Huff and Jill Engle-Cox



Air Quality Training

Overview

Purpose

The training will provide an introduction to satellite remote sensing and Earth observations and their application to air quality management *//in particular//* and decision making.

Audience

- Air quality managers, planners, and forecasters
- People with technical knowledge of air quality planning, monitoring, and forecasting development within their organization and how that supports decision-making

Expectations

Prior to the training, each participant will need to identify and describe a specific air quality problem or decision that his/her organization faces. Participants will need to work in groups during the training, and participants will need to give brief presentations during the training



Air Quality Training

Overview

Day 1	Day 2	Day 3	Day 4	Day 5
Introduction to Satellite Remote Sensing of Earth	In-depth Focus On Satellite Remote Sensing for Air Quality	Hands-on Exercise: Applying Satellite Observations to Air Quality Decision Making	Hands-on Exercise: Participants Work on An Individual Project They Bring to the Training	Finish Individual Projects & Briefly Present It Discussion & Course Wrap-up



Air Quality Training

Day 1

- Course Overview
- Introduction to Remote Sensing
- Remote Sensing of the Earth
- Exercise
- Principles of Satellite Measurements
- Types of Satellite Observations
- General Limitations of Satellite Measurements



Air Quality Training

Day 2

- Introduction to Using Satellite Remote Sensing for Air Quality
- List of Commonly-Measured Species and Associated Sensors
- Supplemental Ground-Based Instruments
- Examples and Explanation of Air Quality Satellite Data
- Where to Find Satellite Data and Images
- Limitations of Using Satellite Data for Air Quality Applications
- General Limitations of Satellite Measurements



Air Quality Training

Day 3

Group Project - Each group will analyze the following case studies:

- Haze Event
- Wildfire
- Dust Storm

Each group will briefly present their approach, findings, and recommendation for each case study.



Air Quality Training

Day 4

Individual Project - Each participant will work on the specific air quality problem that he/she brought to the training.

The participant will use information sources and knowledge gained in Days 1-3 to analyze the issue, identify satellite observations to apply to the problem, assess alternatives, and make recommendations on how to proceed.



Air Quality Training

Day 5

Morning – Participants will complete their individual projects.

Each participants will give a brief presentation on their specific air quality problem, their approach, and their findings and recommendations.

Afternoon – Review and Discussion

Brief review of the course:

- Advantages of Using Satellite Remote Sensing
- Limitations of Satellite Remote Sensing
- Summary and Wrap-up

Open Forum for Questions and Discussion



Air Quality Training

Logistics - TBD

Cost:

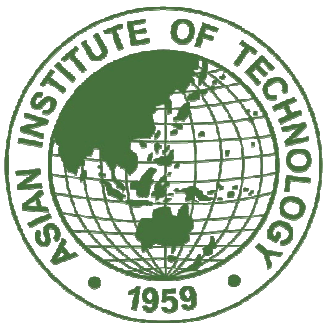
- Training Materials
- Expenses (travel and others) for participants
- Training Facility
- Trainers

Location:

Asian Institute of Technology

Pathumthani, Thailand

Date: 2007-2008

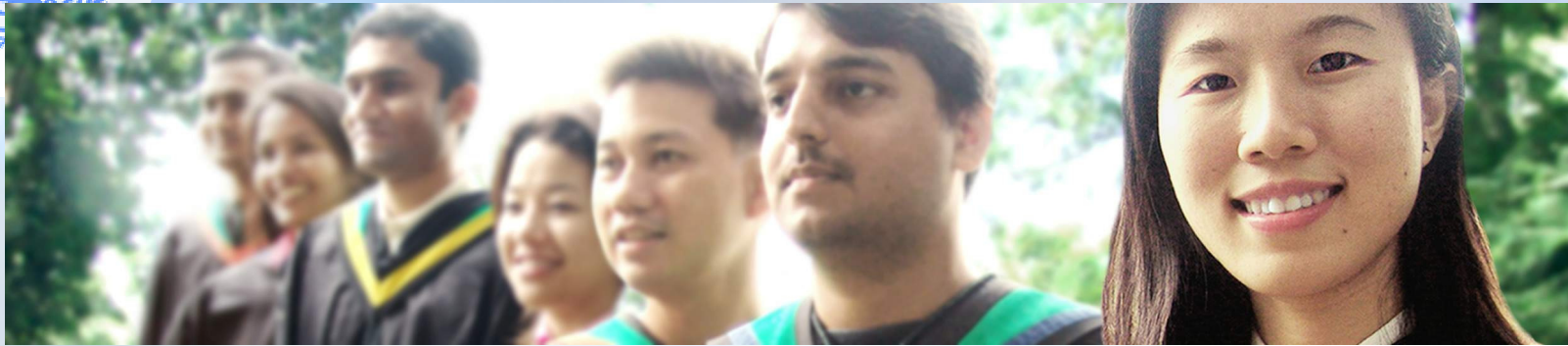


AIT

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university**



AIT: MISSION

To develop highly qualified and committed professionals who will play a leading role in the sustainable development of the region and its integration into the global economy



MULTICULTURAL ENVIRONMENT

- **2000 Students from 40 + Countries/Territories**
- **15000+ Alumni from 80 Countries/Territories**
- **23000 Short-term Trainees from 70+ Countries/Territories**
- **130 World Class Faculty from 20+ Countries**
- **800 Research and Support Staff from about 30 Countries**
- **About 200 Sponsored Research Projects**
- **29 Board of Trustee members from 21 Countries**

ACADEMIC OFFERING & PROFESSIONAL TRAINING

School of
Engineering
and
Technology
(SET)

School of
Environment,
Resources and
Development
(SERD)

School of
Management
(SOM)

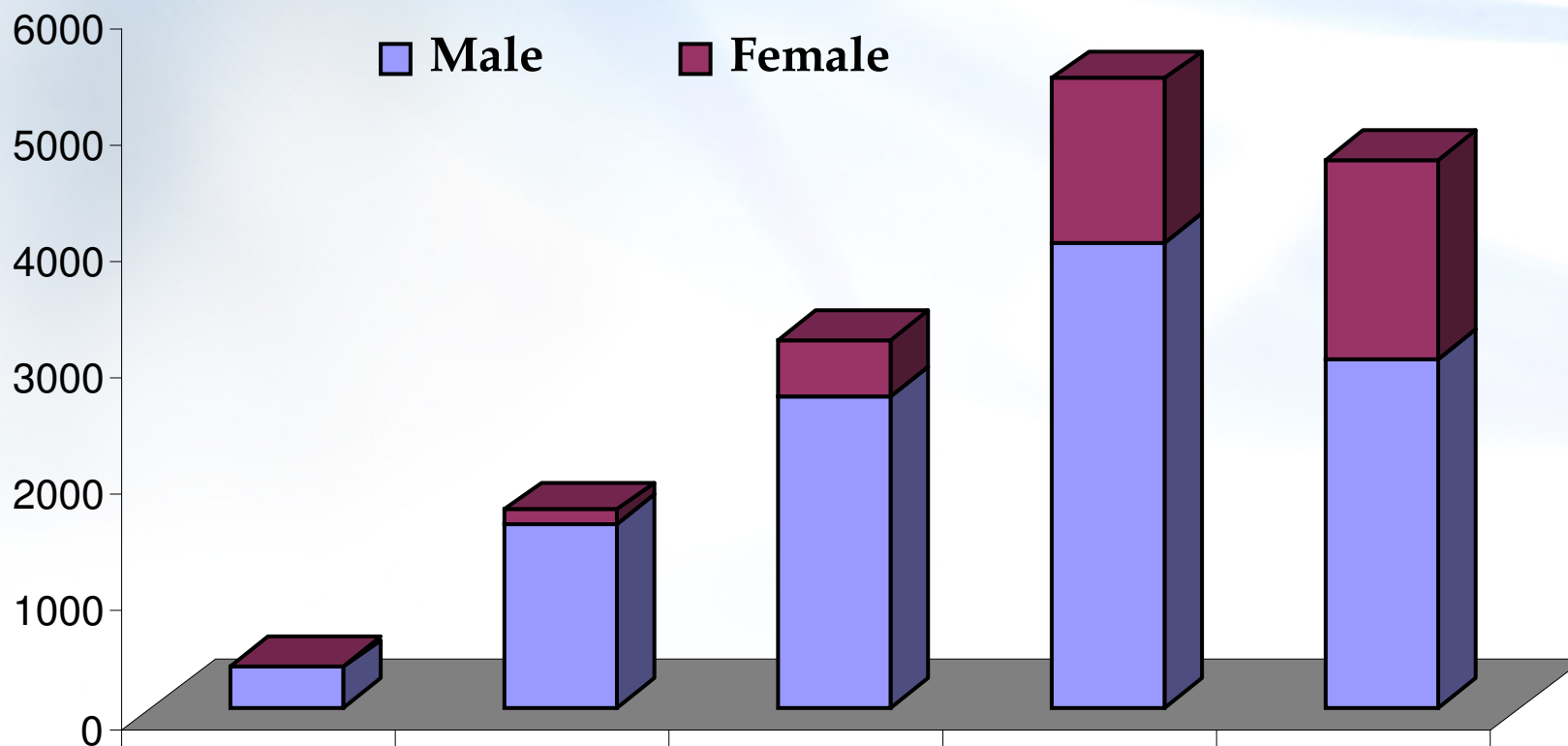
AIT
EXTENSION

AIT CENTERS
Vietnam
Indonesia
.....



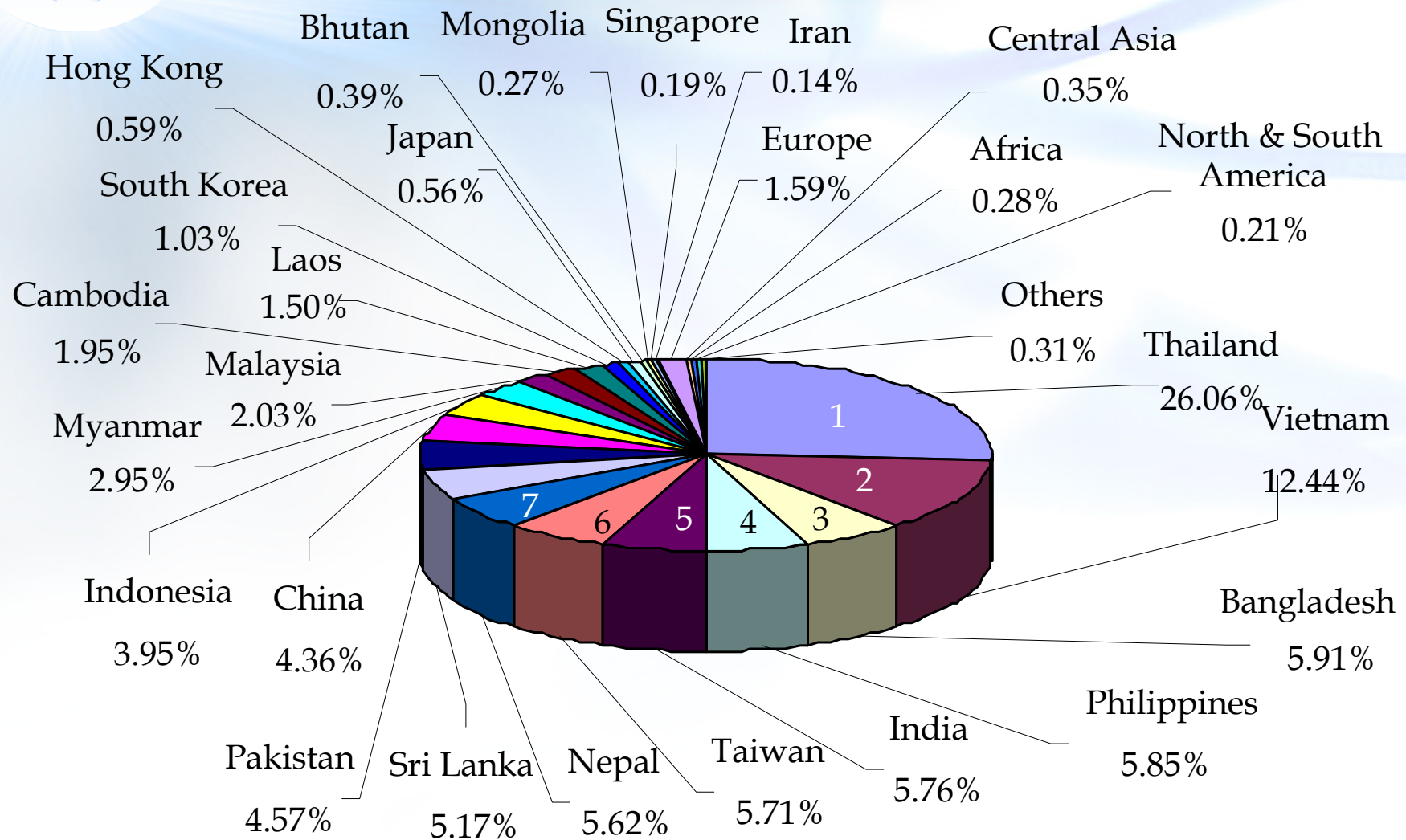
DISTRIBUTION OF GRADUATES by Gender

(1961 - 2007)



	1961 - 1970	1971 - 1980	1981 - 1990	1991 - 2000	2001 - 2007	
Female	11	118	488	1414	1708	= 3739
Male	346	1577	2673	3993	2992	=11581

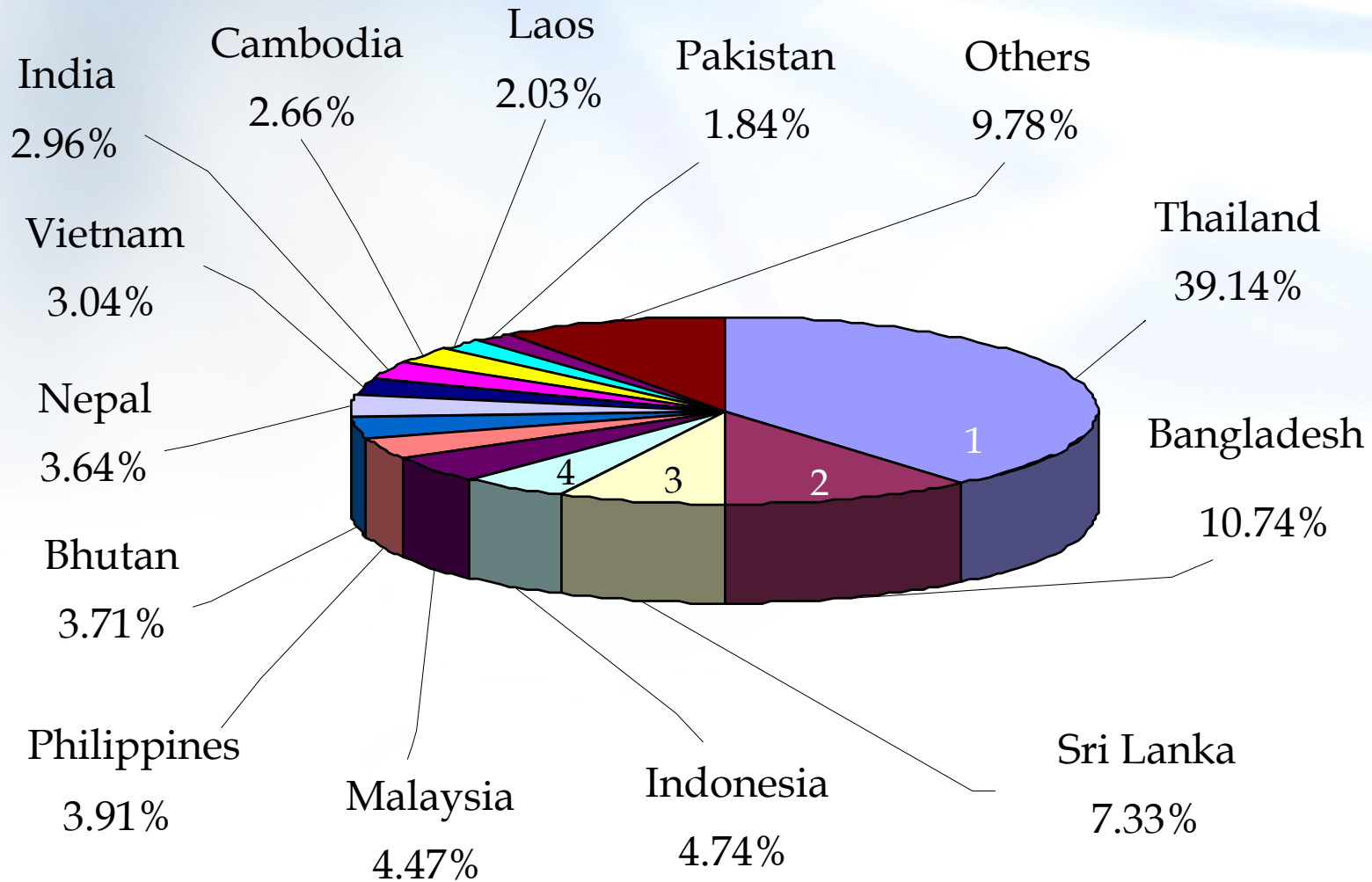
15000+ ALUMNI from 80 Countries/Territories



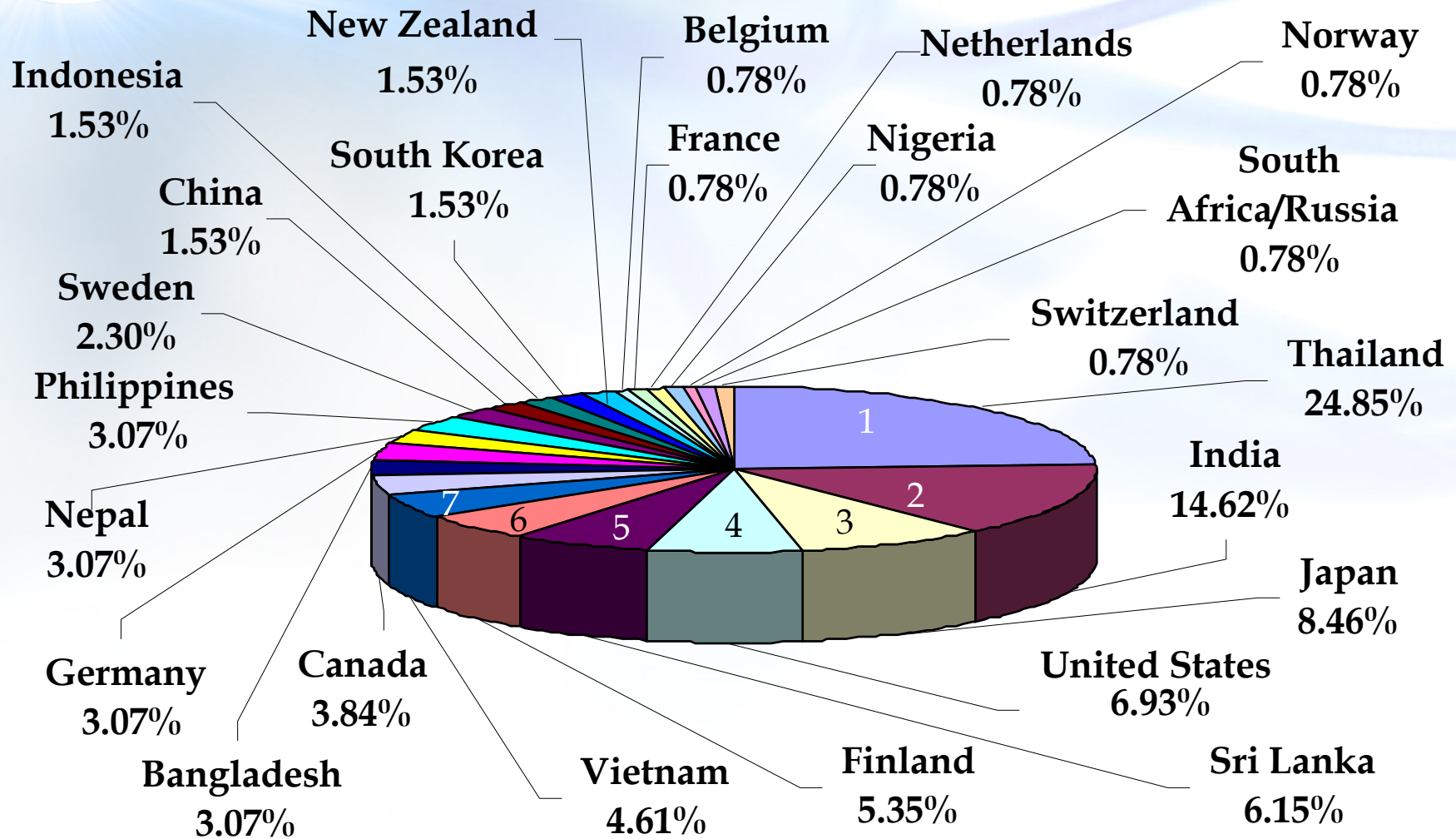


AIT EXTENSION ALUMNI (1977 – 2006)

23000 Short-term trainees from 70+ Countries/Territories



NATIONALITY DISTRIBUTION OF FACULTY (Total: 130)





CURRENT STUDENTS

(1909 Students from 45 Countries/Territories)

<u>Countries</u>		<u>Countries</u>	
1. Thailand	867	22. Maldives	04
2. Vietnam	318	23. Malaysia	03
3. Nepal	75	24. Turkmenistan	03
4. India	74	25. Uzbekistan	03
5. Pakistan	72	26. Canada	02
6. Sri Lanka	64	27. East Timor	02
7. Myanmar	63	28. Iran	02
8. Bangladesh	61	29. Italy	02
9. Indonesia	49	30. Nigeria	02
10. Lao PDR	40	24. Germany	01
11. Cambodia	38	25. Kyrgyzstan	01
12. PR China	36	29. Cameroon	01
13. Philippines	18	30. Guinea	01
14. Bhutan	17	34. Israel	01
15. Mongolia	14	36. Malawi	01
16. France	13*	37. Morocco	01
17. Afghanistan	08	38. Russia	01
18. Taiwan	08	39. Switzerland	01
19. South Korea	06	40. Togo	01
20. Japan	05	41. Turkey	01
21. United States	05	42. United Kingdom	01

Exchange Students

France	06
Germany	06
Finland	03
PR China	02
Sweden	02
Bangladesh	01
Netherlands	01
Indonesia	01
Russia	01

*Exchange and Dual Degree