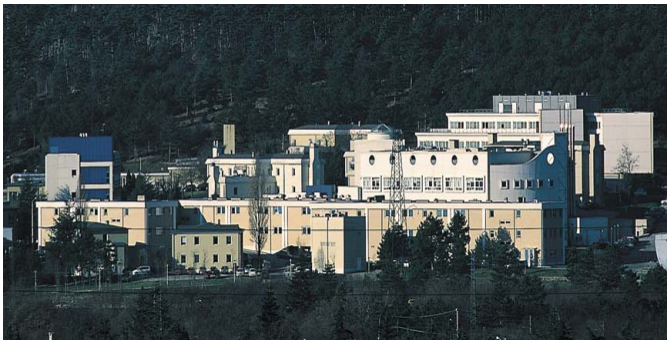
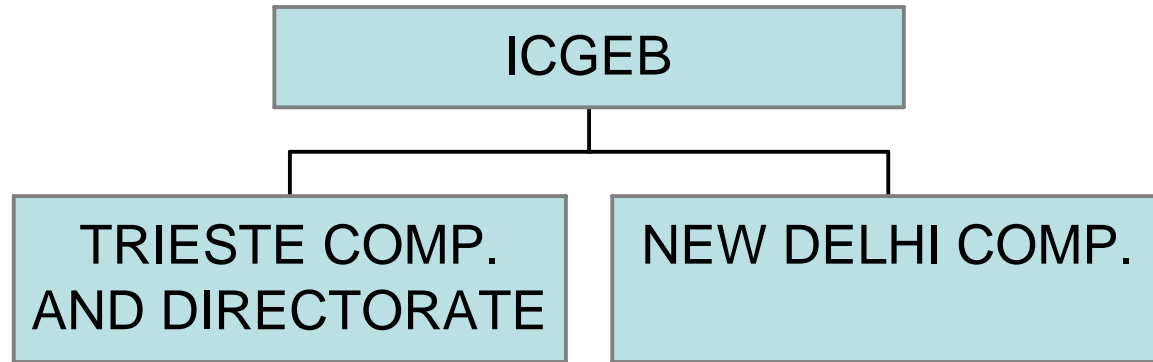




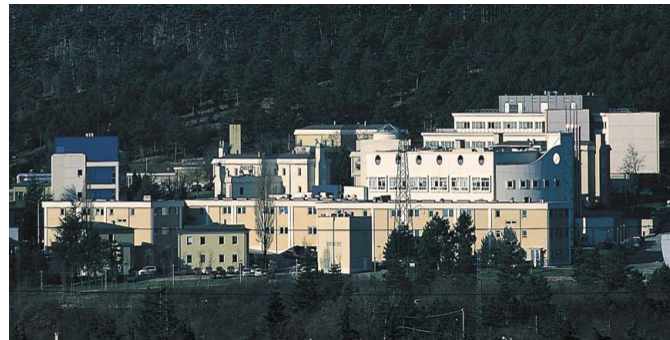
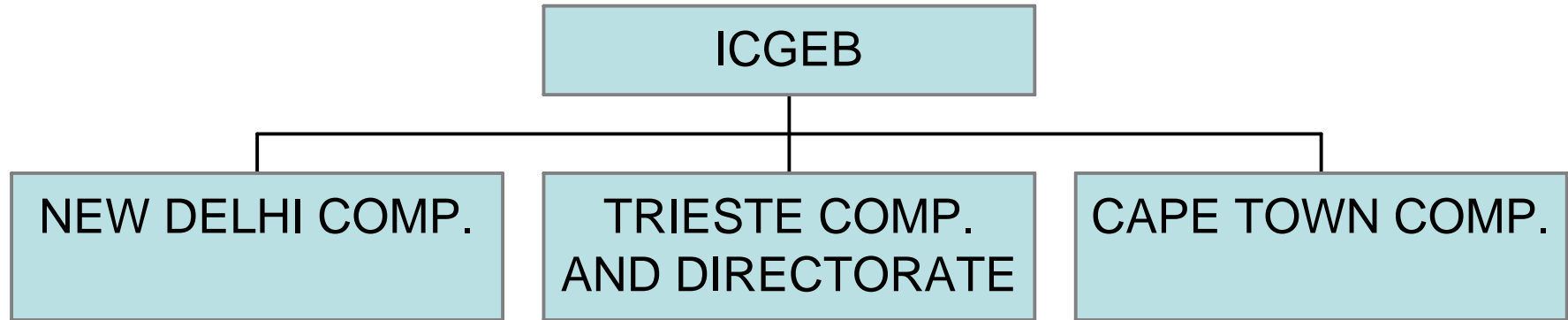
BIOSECURITY AND ETHICS FOR LIFE SCIENTISTS

Decio Ripandelli - Johannesburg, 30 May 2008

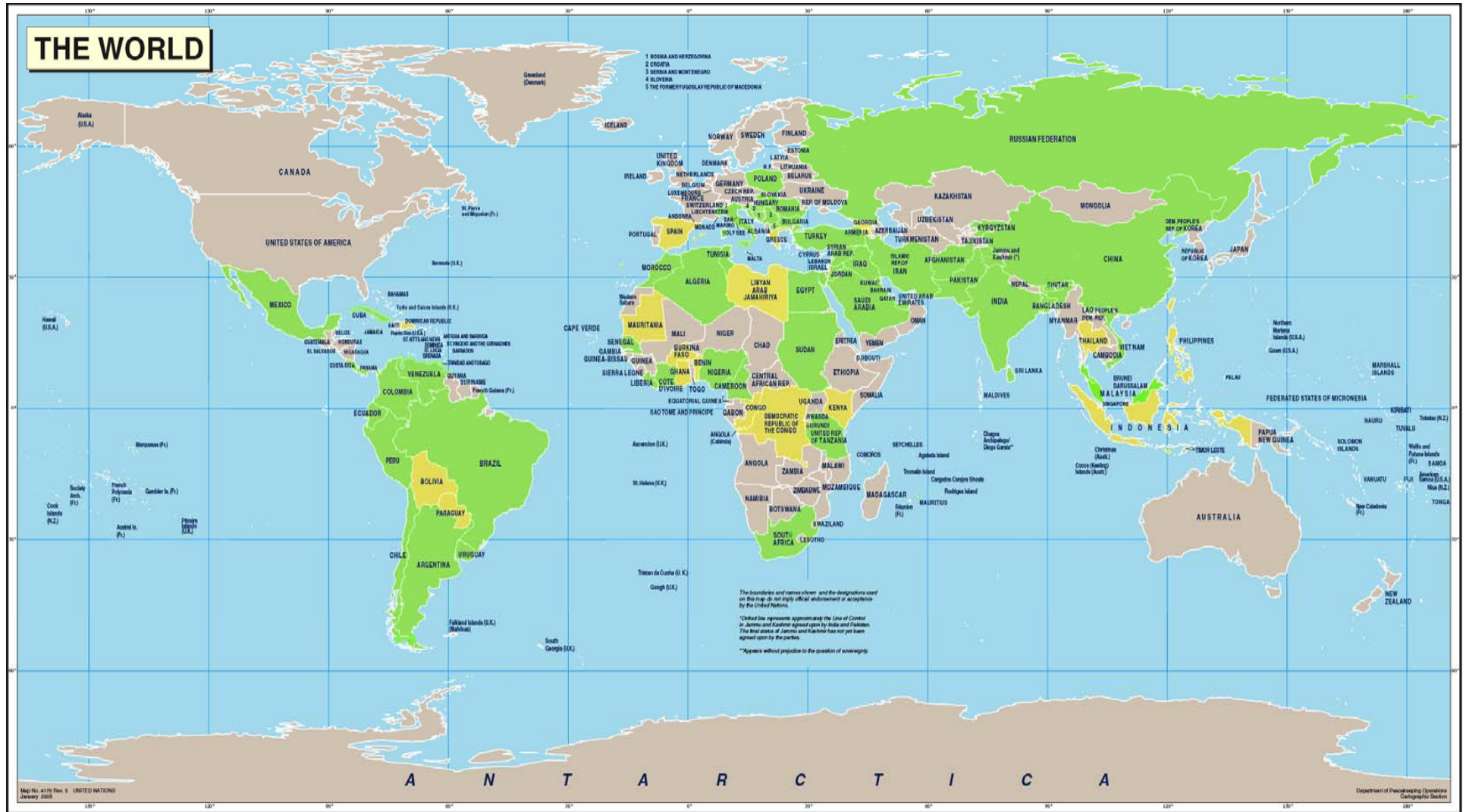








THE ICGEB CONSTITUENCY



**77 SIGNATORY COUNTRIES - 57 FULL MEMBER STATES
3 COMPONENTS - 2 OUTSTATIONS - 38 AFFILIATED CENTRES**



INSTRUMENTS OF ACTION

- **RESEARCH PROJECTS**
- **LONG TERM TRAINING**
- **SHORT TERM
TRAINING**
- **COLLABORATIVE
RESEARCH
PROGRAMME**
- **COOPERATION WITH
INDUSTRIAL SECTOR**
- **SCIENTIFIC SERVICES**
- **INSTITUTIONAL
SERVICES**



INSTITUTIONAL ACTIVITIES

- **CO-OPERATION AGREEMENT WITH THE UNITED NATIONS (+UNIDO, UNESCO, WHO, ETC.)**
- **JOHANNESBURG SUMMIT ON SUSTAINABLE DEVELOPMENT (RIO +10)**
- **OBSERVER STATUS WITH THE ECONOMIC AND SOCIAL COUNCIL (ECOSOC)**
- **ARTICLE X OF THE BIOLOGICAL WEAPONS CONVENTION**
- **BIOSAFETY AND RISK ASSESSMENT OF GMOs**
- **UN-BIOTECH (GA RESOLUTIONS A/58/200 AND A/60/205)**
- **INTELLECTUAL PROPERTY RIGHTS**





Biological Weapons Convention

Article X

Calls for

- **Peaceful use of Biotechnology**
- **Establishment of international scientific co-operation**

This is also the mandate of ICGEB.



UN - ICGEB Co-operation Agreement 2003-2005



**ICGEB TO ASSIST THE UN SECRETARIAT
IN FULFILLING THE MANDATE RECEIVED
FROM THE SECURITY COUNCIL TO
REINFORCE ETHICAL NORMS AND THE
CREATION OF CODES OF CONDUCT FOR
SCIENTISTS THROUGH INTERNATIONAL
AND NATIONAL SCIENTIFIC SOCIETIES
AND INSTITUTIONS THAT TEACH
SCIENCES OR ENGINEERING SKILLS
RELATED TO WEAPONS TECHNOLOGIES**



WHAT KIND OF CODE?

- **ESSENTIAL ELEMENT OF SCIENTIFIC DEONTOLOGY, ADDRESSED TO THE INDIVIDUAL CONSCIENCE OF THE SCIENTIST (NO JURIDICAL IMPLICATIONS);**
- **FOCUS ON INDIVIDUAL RESPONSIBILITY OF SCIENTISTS AND ON THE PRINCIPLE THAT ETHICAL VALUES SHALL OVERCOME HIERARCHY;**
- **DIMENSIONAL ASPECT: LIFE SCIENTIST IS IN A POSITION TO FOLLOW THE COMPLETE PROCEDURE RELATED TO THE POTENTIAL MISUSE OF THE EXPERIMENT (≠ NUCLEAR)**
- **NOT A DEFINITION OF PERMISSIBLE OR FORBIDDEN EXPERIMENTS BUT THE CONCEPT OF ACCEPTABLE OR UNACCEPTABLE INTENTS OF THE RESEARCH;**
- **NOT AIMED AT ESTABLISHING PRINCIPLES OF SELF-CENSORSHIP BUT EXAMPLE OF SELF-GOVERNANCE BY THE SCIENTIFIC COMMUNITY.**



WHAT KIND OF CODE? (ctd)

- CODES OF CONDUCT SHOULD BE THE MAIN DRIVING FORCE OF ARTICLE X OF THE BIOLOGICAL WEAPONS CONVENTION.
- THREE LEVELS OF CODES:
 - Local: operational codes developed by research institutions
 - National: developed by national scientific bodies
 - International: universal code with ethical norms and principles
- WHILE A UNIVERSALLY ACCEPTED CODE MAY BE DIFFICULT TO DEFINE, THE SMALLEST COMMON DENOMINATOR SHOULD BE POSSIBLE.

==> THE “BUILDING BLOCKS”



5 BUILDING BLOCKS FOR THE SAFE AND ETHICAL USE OF LIFE SCIENCES

- 1. CONSCIENCE OF THE POSSIBLE DUAL USE OF LIFE SCIENCES;**
- 2. THE NECESSITY OF GOOD PRACTICE;**
- 3. DEMANDS ON THE CONSCIENCE OF INDIVIDUAL SCIENTISTS;**
- 4. PREVALENCE OF MORAL DUTY OVER HIERARCHY;**
- 5. NEED FOR EDUCATION AND PUBLIC AWARENESS.**



1 - CONSCIENCE OF THE POSSIBLE DUAL USE

SCIENTISTS OPERATING IN LIFE SCIENCES MUST BE CONSTANTLY AWARE OF:

- **THE EXTRAORDINARY OPPORTUNITIES MADE AVAILABLE BY THE KNOWLEDGE AND THE TECHNOLOGIES RECENTLY DEVELOPED OR FORESEEABLE IN THE NEAR FUTURE.**
- **THE POSSIBILITY OF A MISUSE OF THESE TECHNOLOGIES, INsofar AS THE RESULTS OF ANY GIVEN EXPERIMENTATION MIGHT BE UTILISED EITHER FOR THE BENEFIT OF HEALTH AND THE ENVIRONMENT OR FOR THE SPREAD OF DISEASE OR ENVIRONMENTAL DAMAGE.**
- **THE NEED TO RECOGNISE THAT PERSONAL BENIGN INTENT DOES NOT JUSTIFY NEGLECT OF THE POSSIBLE HOSTILE UTILISATION OF THEIR SCIENTIFIC ENDEAVOUR.**
- **THE ETHICAL IMPLICATIONS OF THEIR WORK AND OF THEIR DUTY TO SOCIETY AND HUMANKIND: IT IS THEIR MORAL DUTY THAT THEIR ACTIVITY BE ONLY AIMED AT ADVANCING KNOWLEDGE AND AT BRINGING BENEFIT TO HUMANKIND AND THE ENVIRONMENT.**



2.-ABSOLUTE NECESSITY OF GOOD PRACTICE

- **THE USE OF GOOD AND SAFE LABORATORY PROCEDURES, WHETHER CODIFIED BY LAW OR BY COMMON PRACTICE, MUST ALSO BE CONSIDERED AS PART OF THE MORAL DUTIES OF SCIENTISTS, PARTICULARLY THOSE INVOLVED IN THE WORK WITH PATHOGENIC ORGANISMS OR WITH DANGEROUS TOXINS, SO THAT ALSO THE RISK OF UNINTENTIONAL DAMAGE BE ELIMINATED.**



3- DEMANDS ON THE CONSCIENCE OF THE INDIVIDUAL SCIENTISTS

- **WHENEVER ANY SUSPICION ABOUT THE POSSIBLE HOSTILE USE OF THEIR RESEARCH ARISES, THE INVOLVED SCIENTISTS MUST RAISE THE ISSUE AT THE APPROPRIATE LEVEL. THEY SHOULD ALSO TAKE INTO DUE ACCOUNT THE INTRINSIC CONTINUITY OF SCIENTIFIC ENDEAVOURS, WHEREBY ALSO EXPERIMENTATION PERFORMED UPSTREAM OR DOWNSTREAM OF A GIVEN SCIENTIFIC PROJECT MAY ORIENT IT IN A VERY DIFFERENT, AND HOSTILE, CONTEXT AND DIRECTION.**
- **SCIENTISTS WITH POSITIONS OF RESPONSIBILITY, WHETHER FOR OVERSIGHT OF RESEARCH OR EVALUATION OF PROJECTS OR PUBLICATIONS, HAVE THE DUTY, INDIVIDUALLY AND COLLECTIVELY, TO ASSURE THE KNOWLEDGE AND RESPECT OF THOSE PRINCIPLES AND PRECAUTIONS BY THOSE UNDER THEIR CONTROL, SUPERVISION OR EVALUATION, SO THAT THEY BECOME AN INTEGRAL PART OF THE EDUCATIONAL CURRICULA AND OF INSTITUTIONAL REGULATIONS.**
- **AT THE BEGINNING OF THEIR SCIENTIFIC CARREER, SCIENTISTS SHOULD ACCORDINGLY TAKE AN OATH/MAKE A PLEDGE: THIS ACTION WOULD CERTAINLY INCREASE THE ETHICAL RETENTION AGAINST ANY UNLAWFUL USE OF THE RESULTS OF THEIR RESEARCH**



4. PREVALENCE OF MORAL DUTY OVER HIERARCHY

- **THE DUTY TO AVOID ANY POSSIBLE HOSTILE USE OF RESEARCH MUST TAKE PRECEDENCE OVER ANY OTHER COMMITMENT, INCLUDING PROFESSIONAL AND MILITARY DUTIES. SUCH AN OBLIGATION MUST BE CONSIDERED AS AN ESSENTIAL ELEMENT OF GENERAL PRINCIPLES OF SELF-GOVERNANCE BY SCIENTISTS.**



5- NEED FOR EDUCATION AND PUBLIC AWARENESS

- **SCIENTISTS MUST STRIVE TO KNOW, DIFFUSE AND TEACH THE KNOWLEDGE OF NATIONAL AND INTERNATIONAL REGULATIONS AIMED AT ABOLISHING THE HARMFUL USE OF BIOLOGICAL AGENTS, INCLUDING, IN PARTICULAR, THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION AND STOCKPILING OF BACTERIOLOGICAL (BIOLOGICAL) AND TOXIN WEAPONS AND ON THEIR DESTRUCTION.**
- **SCIENTISTS MUST ALSO FAVOUR THE RAISING OF PUBLIC AWARENESS THAT THE PRODUCTION OR USE OF BIOLOGICAL WEAPONS SHOULD BE UNIVERSALLY PROHIBITED, PROSECUTED AND PUNISHED.**



ICGEB Actions

Member Country
Research Laboratories

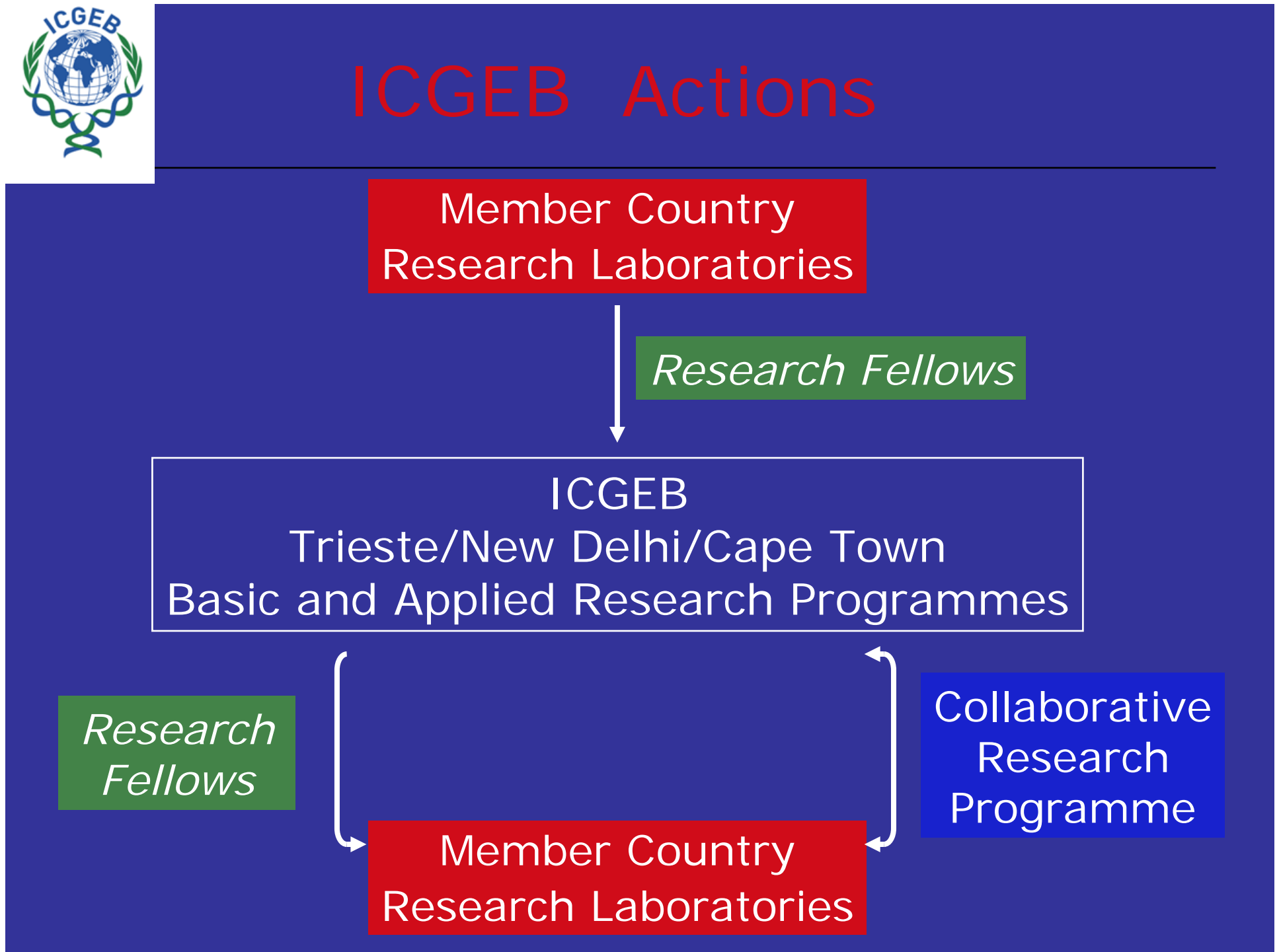
Research Fellows

ICGEB
Trieste/New Delhi/Cape Town
Basic and Applied Research Programmes

*Research
Fellows*

Member Country
Research Laboratories

Collaborative
Research
Programme





ICGEB Actions

... MEANING:

CA. 2,000 SCIENTISTS INVOLVED EVERY YEAR...