International Union of Basic and Clinical Pharmacology
Organizational Structure

IUPHAR Executive Committee

IUPHAR Division
Clinical Pharmacology

Subcommittees
Pharmacoepidemiology - vigilance
Clinical Pharmacology in Developing Countries
Geriatric Clinical Pharmacology
Pediatric Clinical Pharmacology
WHO Liaison Committee

Committee on Receptor Nomenclature and Drug Classification
GuideToPharmacology.org
GuideToImmuno pharmacology.org
PharmacoCareers.org

IUPHAR Sections
Drug Metabolism and Drug Transport
Education
Gastrointestinal Pharmacology
Immunopharmacology (ImmuPhar)
Pharmacology of Natural Products
Neuropsychopharmacology
Pharmacogenetics-genomics
Where IUPHAR Can Make an Impact:

The Two Worlds of Healthcare

Global Deaths High Income  Global Deaths Low Income

Blue: non-communicable, Red: communicable, Green: Injuries
http://vizhub.healthdata.org/gbd-compare/

WHO:
>4800 million people live in developing countries
>2700 million people live on <2$/day.
Some relevant WHO Priorities where IUPHAR is active

- Promote Drug Discovery R&D, with open-source knowledge, databases, compound libraries,
- Support early-stage drug discovery and development, particularly in developing countries,
- Stimulate global cooperation in R&D
- Encourage research on mechanisms of action and PK of natural products and traditional medicines. Evidence-based medicine.
- Capacity building for clinical trials, particularly in developing countries,
- Encourage development of regulatory affairs in developing countries
The IUPHAR Portal to worldwide resources and collaboration opportunities

www.IUPHAR.org
A very short history of NC-IUPHAR

I. International Union of Pharmacology Committee on Receptor Nomenclature and Drug Classification


The initial 1983 efforts on the WHO classification of calcium-antagonists evolved into:

Now >100 Reviews, H-Index 76
In 1994: 19 subcommittees
Now 90 subcommittees, >700 scientists
An opportunity to contribute to a global initiative in clinical and preclinical healthcare and education, bridging the gap between preclinical molecular targets, translational medicine, clinical pharmacology, and aid pharmacology in developing countries.
Recent extensions of IUPHAR

- Immunopharmacology
- Antibodies
- Kinases
- Orphan and Rare Diseases (collaboration Orphanet)
- Proteases and hydrolases
- Epigenetic targets
- Natural Products
- Allostery
- Alternative Splicing
The Clinical Pharmacology Division of IUPHAR has developed an innovative new strategy to support building capacity in clinical pharmacology internationally, called the “Mentoring Centers” program. There is a pressing need to improve and optimize the use of medicines to maximize their effectiveness and minimize their harms. This can best be achieved by expanding the influence of clinical pharmacology and therapeutics (CPT) expertise around the world, especially in developing areas of the world. All countries face challenges over using medicines effectively, safely and cost effectively and CPT knowledge and skills are a key part of that strategy.

An important part of this strategy will be capacity building and this, in turn, will depend on centers that are willing to support, mentor or train future generations with skills to undertake CPT research and teaching, and to serve on governmental organizations involved in regulation and health technology assessment. One approach is to identify a list of high performing and recognised CPT departments that are willing and able to mentor newly established departments or those in developing areas. The Clinical Pharmacology Division has resolved to undertake a pilot program to establish the demand for, and value of, such a strategy.

The roles of the listed mentor centers might range from basic email contact and advice to collaborative research and researcher exchange. The Clinical Pharmacology Division identified several CPT Centers with expertise in specific areas of clinical pharmacology that are willing to provide mentorship and advice to developing clinical pharmacologists and departments. These include centers in Edinburgh, Scotland; Malaga, Spain; Busan, South Korea; Stockholm, Sweden; Sydney, Australia; and Toronto, Canada. The details of this program are available on the IUPHAR website at the following address:

www.iuphar.org/index.php/clinical-division/mentoring-centers
Natural Product Research and IUPHAR

• IUPHAR plays a major role in bringing together two different worlds by creating synergies between them, rather than independent research:

  • **Natural/traditional products (NPs)**
  • **New Molecular Chemical Entities (NMEs).**
  • Plant, Microbial, Animal, Marine-based
  • Synthetic chemistry-based
  • Sometimes Mixtures
  • Frequently multiple metabolites
  • Chinese, Indian, African-based research
  • USA and European-based research
  • Benefits from centuries of natural practice
  • Benefits from molecular research
  • Biological Synthesis
  • Organic/Aqueous phase separation
  • Novel?
  • NPs Starting points for NMEs

**Strategies:**

How do we get out of the mechanistic ‘soup’ of poorly defined redox, antinflammatory, immunological, antiaging effects claimed for some NPs

Encourage mechanism of action studies and clear effects in clinical pharmacology.

Multiple compounds with small structural similarities are also found in classical medicinal chemistry.

Cross-over technologies, increase database access

Can we synthesise them in sufficient quantity?
Dissemination

• IUPHAR and NC-IUPHAR newsletters
• Receive email/RSS alerts for latest database updates and news
• Followers on  @GuidetoPHARM  @PharmacologyEd  @IUPHAR
• Download slides and posters  slideshare
• myIUPHAR intranet  Join myIUPHAR