

# A Virtual College of Pharmacy

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**EUFEPS November 2008**

**Universität Wien**





**University of Bath,**



**Pharmacy Consortium for  
Computer Aided Learning**



**[www.collegeofpharmacy.com](http://www.collegeofpharmacy.com)**



**Commercial and Academic  
Services Ltd.**



**University of Bath**  
**School of Pharmacy and Pharmacology**

**Most highly rated School of Pharmacy  
in the UK for Research and Teaching**



## Pharmacy Consortium for Computer Aided Learning

**A consortium of all 20 schools of pharmacy in the UK to promote and co-ordinate the use of computers in undergraduate teaching. Founded in 1992**

**In 2008, over 800 affiliated Schools of Pharmacy in 40 countries**





# Objectives of the consortium

- to encourage best practice in the use of computers in pharmaceutical education.
- decide on academic content
- to avoid duplication of effort
- to share resources
- to plan software production
- to ensure a common delivery platform
  - for hardware
  - for software
- sustainability



## **Commercial and Academic Services Ltd. (CoAcS Ltd)**

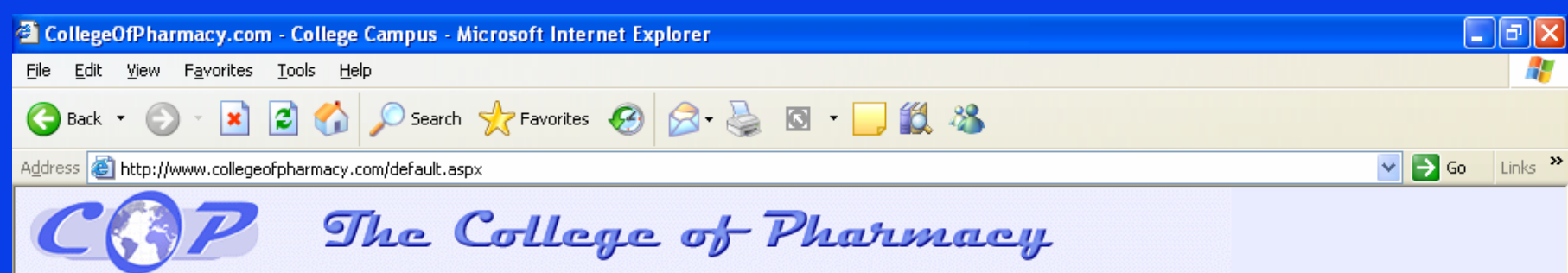
**A UK based company specialising in the application  
of computers and information technology to the  
pharmaceutical profession**

**Activities include marketing, distribution and support of  
PCCAL software**

**[www.coacs.com](http://www.coacs.com)**

# Computer Aided Education and Training - Pharmaceutical applications

<b>Content</b>	-	<b>Content</b>
<b>Pedagogy</b>	-	<b>Educational methodology</b>
<b>Technology</b>	-	<b>Hardware, software delivery</b>
<b>Operation</b>	-	<b>Maintenance, support, sustainability.</b>



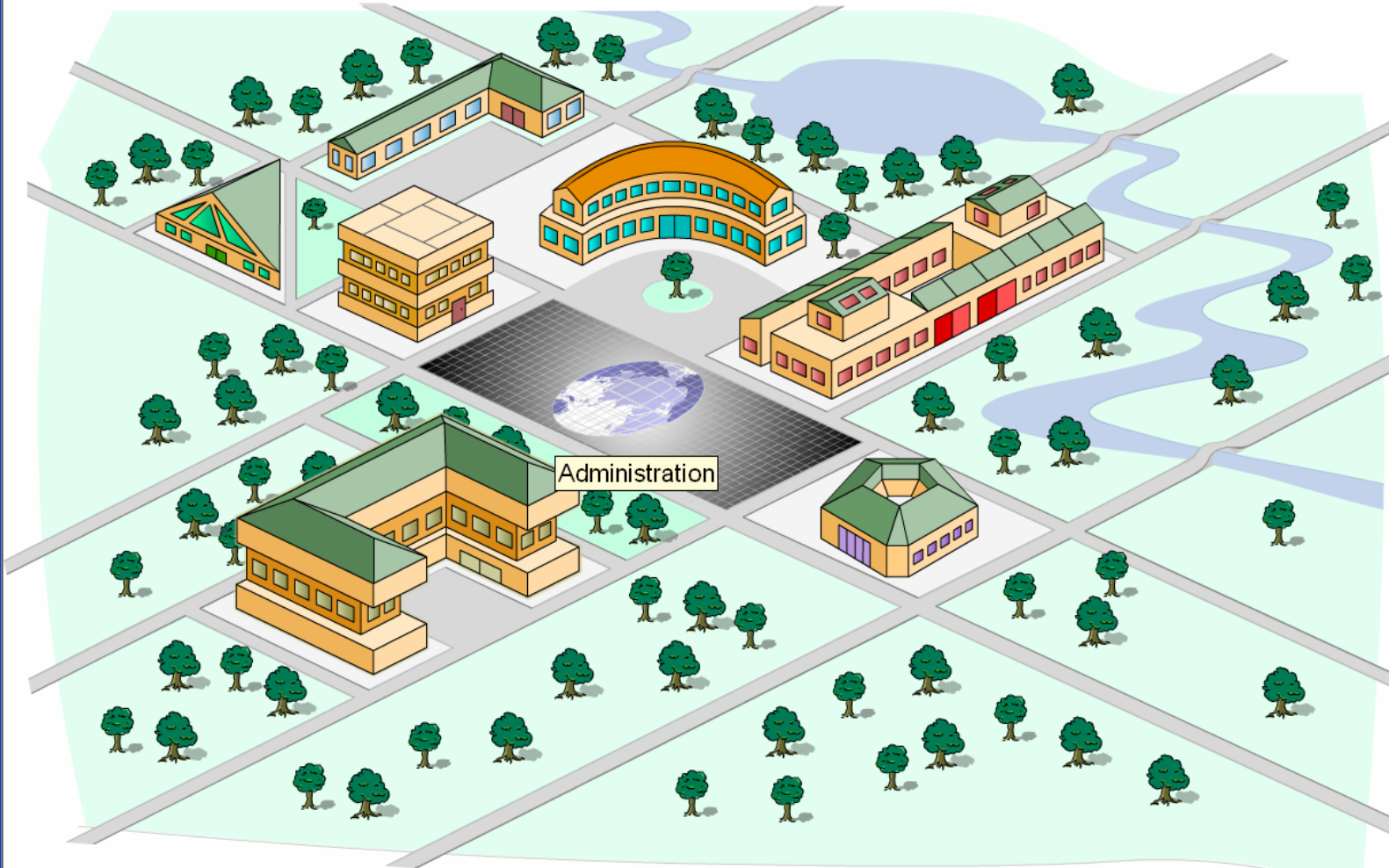
**www.collegeofpharmacy.com** illustrates a different concept in delivery and also a variety of educational approaches,

It is a website designed for use by pharmacy students, faculty and practicing pharmacists and provides access to a variety of educational resources from any computer connected to the internet.

**Resources include :**

- CAL packages
- Library
- Herb garden
- Lecture theatre
- Pharmacy museum
- Poster hall
- Pharmacy directory (pharmindex)
- Careers centre

# The College of Pharmacy



Administration



Welcome to the College of Pharmacy! If you are a new user, click on the pile of papers on the desk to register. If you are an existing member, click on the red book on the desk and sign in.



## Notice Board

### News

Students of Manchester University - Welcome!

### About the College

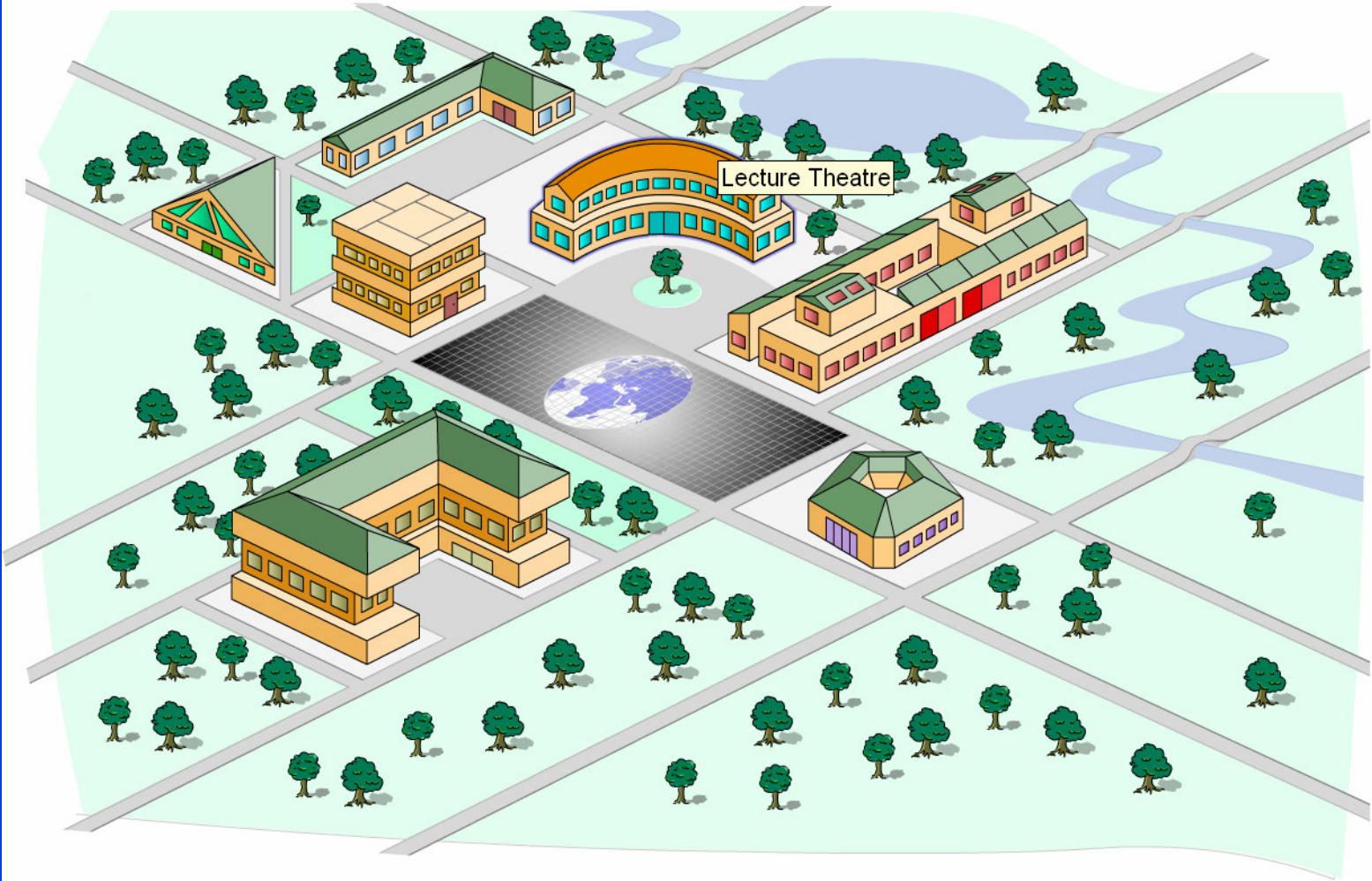
The College is open to all pharmacy students, faculty members of pharmacy schools and to pharmacy graduates. The purpose of the College of Pharmacy is to provide a resource for pharmacy students and pharmacists and act as a forum for discussion and ideas. The College does not issue degrees or qualifications of any sort. Membership is free with the exception of access to some computer aided learning (CAL) packages.

### About Registration

If you are a member of a University Department or Academic Institution which has paid for access to CAL Packages you MUST register using your institutional email address in order to gain access to the packages. If at a later date you change your email address, for example when you leave the institution, it is our intention that you'll retain access to the packages.

If you are NOT a member of an institution that has already subscribed you are welcome to register with the College of Pharmacy as an individual. You will then have access to all the facilities except the CAL packages - which require payment. We are planning to introduce a facility for individuals to pay for access to CAL packages but in the meantime you can see info about the packages and some demos.







Lectures	COP LECTURES:
<b>Dr. Steve Moss</b> An introduction to sterilisation History of Sterilization	<p>The lectures shown are an example of what is to come in the Lecture Theatre. We are still in the process of up-loading and acquiring lectures so please check regularly for updates.</p> <p>All lectures on the CollegeofPharmacy are accessible free of charge to all members.</p> <p>The Lecture Theatre provides access to a collection of lectures on pharmaceutical subjects that have been donated by academics and other qualified individuals. Each lecture consists of a power point slide show in some cases with additional notes, brief notes about the author, and in some cases a list of associated references. While we try to ensure the quality and accuracy of the lectures, neither the College of Pharmacy nor the authors accept any liability for errors.</p>
<b>Prof. Colin Pouton</b> Formulation of poorly water-soluble drugs GeneticToxicology malaria	
<b>Dr. Ivor Williams</b> Statins 5-Hydroxytryptomine(5-HT) Cardiovascular Diseases Eicosanoids Histamine Kinins Renin-Angiotensin System	<b>STUDENTS:</b>
<b>Prof. Raymond Tallis</b> Epilepsy pharmacist training	<p>To view a lecture click on the desired title from the list on the left. This will take you to the lecture page where you can also view details about the author of the chosen lecture.</p> <p>If you see a blank white box on the lecture page instead of a lecture then you may need to adjust your security settings. If a bar appears at the top of the screen click on it for options and select 'Download file' then 'Open' the file.</p>
<b>Prof. Lloyd Kelland</b> In vivo models to pre-clinical cancer drug discovery Contemporary academic drug discovery	<b>LECTURERS:</b>
<b>Prof. Peter Redfern</b> Local Anaesthetics	<p>If you are an academic faculty member or a pharmacist or related professional and would like to donate one or more lectures please email the College of Pharmacy at <a href="mailto:help@collegeofpharmacy.com">help@collegeofpharmacy.com</a>. We will appreciate your contribution.</p>
<b>Eamonn Hoxey</b> Application of ISO 13485:2003	

The Virtual Lecture Theatre provides lectures from academics and other professionals on pharmaceutical topics.




Lecture - Windows Internet Explorer

http://www.collegeofpharmacy.com/LectureTheatre/Lecture.aspx?SlideURL=Colin\_P...

File Edit View Favorites Tools Help

Lecture BBC - Homepage Google

**CoP** The College of Pharmacy

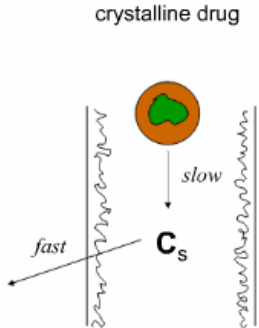


Prof. Colin Pouton  
Professor of Pharmaceutical Biology  
at the Victorian College of Pharmacy,  
Monash University

>> View lecture full screen

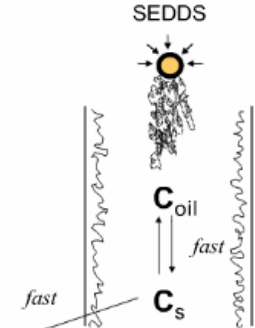
SEDDSs can provide a reservoir of drug in oil solution

crystalline drug



*may be insufficient time  
for this process during  
intestinal transit*

SEDDS

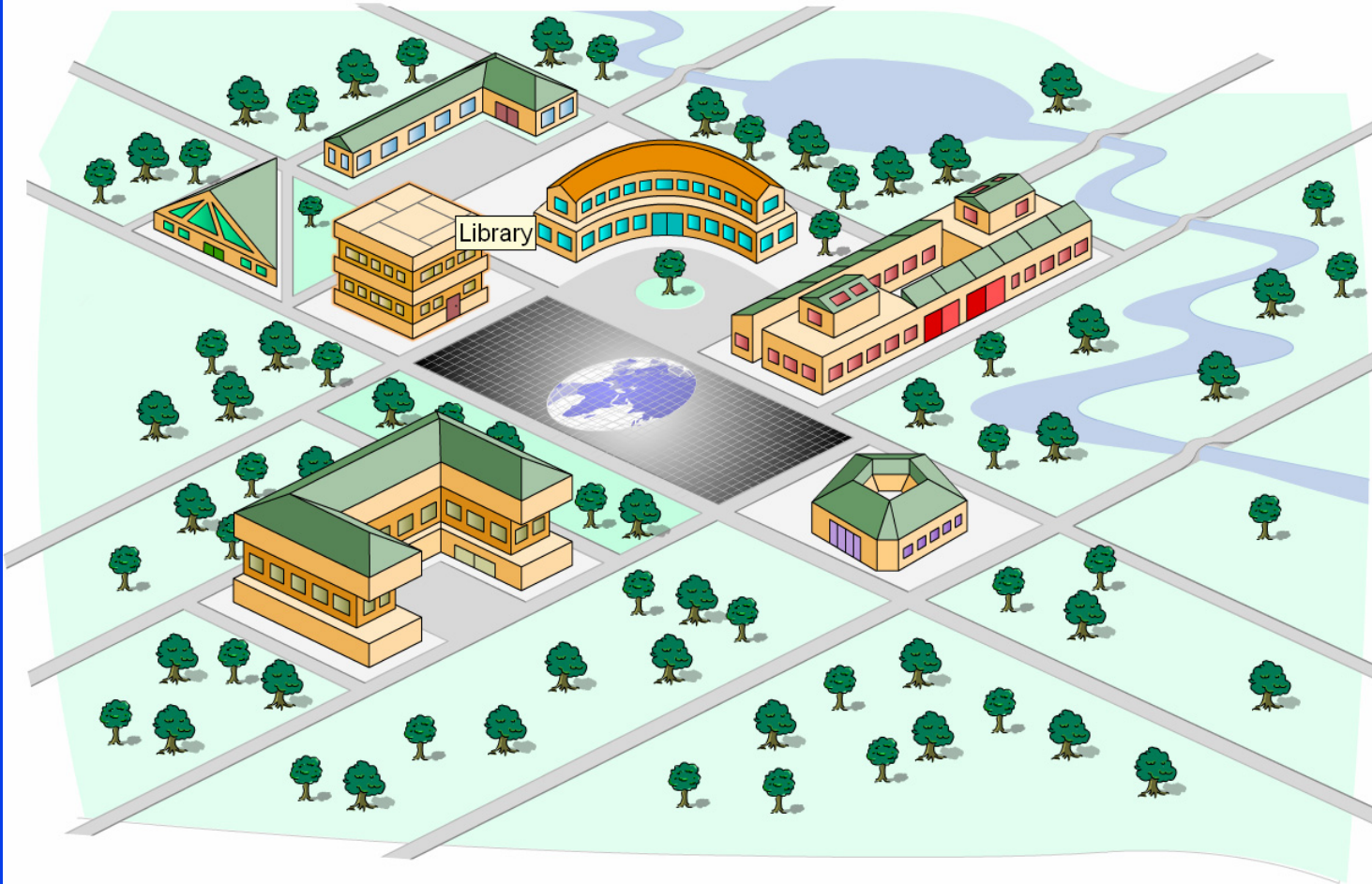


*dissolution step is avoided  
provided that the drug  
remains in solution*

Done Internet 100%

Currently the lectures are displayed as Flash files derived from Power Point presentations.

The facility is provided for references, extra notes and video presentations





### Library Stock

- » Journals
- » Text Books
- » Pharmacopoeia & Formularies

### COP LIBRARY:

The College of Pharmacy library is a virtual library but it is unlike other online databases or sites where you can read books and journals on line.

#### BOOKS :

When you search a typical database of books you usually know what you are looking for and the search engine finds titles that match your request. Sometimes the online database will link you to an electronic version of the books but almost always you will have to pay. The College of Pharmacy Library has been created with a different purpose in mind. Sometimes when you go to a real library you browse the shelves or the new books on display and see interesting books that you recognise might be useful but which you might never have searched for. Browsing can be useful and the College of Pharmacy library allows you to browse by looking at the spine, the covers and where the publishers allows, the table of contents. When you locate a book of interest you can see links to the publisher and you have the option to see if it's available in a real local library or on an online service if you subscribe to one. We also intend to introduce a way in which you can rate the books value to you as a pharmacy student, faculty member etc

#### JOURNALS :

The philosophy behind the Library's display of Journals is also to encourage browsing and specifically to introduce students, and others, to journals they may not have heard of or may not be listed in the major databases but may however be valuable to pharmacy students, staff and others. In the case of journals, where free on line access is provided by the publisher a link is available. In some cases we are negotiating with publishers to give the College of Pharmacy Library access to the full text of previous older issues of journals. The journal display also differs from the book display in that we show the front covers of all issues available for each journal. Often the images on the covers, which are not seen in conventional online databases, can be of interest when browsing

#### NEWS:

We are pleased to announce that we have recently received permission from RPS Publishing (previously the Pharmaceutical Press) to show all their books with tables of content and they have offered to keep us up to date with their new publications.

The virtual library is not a collection of electronic books and journals

It is a resource to allow browsing and then directs users to places where texts can be found



COP Library - Journals - Windows Internet Explorer


http://www.collegeofpharmacy.com/Library/Journals.aspx

File Edit View Favorites Tools Help

COP Library - Journals x BBC BBC - Homepage Google

# COP The College of Pharmacy

Journals search



**HOSPITAL PHARMACIST**

**Hospital Pharmacist**

Journal website: <http://www.pjonline.com/hp>

Publisher: **The Pharmaceutical Press**

Publisher website: <http://www.pharmpress.com/>

This journal publishes reviews and original articles chosen to be of interest to hospital pharmacists, in particular in the UK.

ISSN: 1352-7967

[View Contents](#) [View More Editions](#)

Internet 100%

[www.pjonline.com](http://www.pjonline.com)

**Journals – where freely available there is a link to the online journal  
- where allowed a table of contents is also displayed**

COP Library - Books - Windows Internet Explorer


http://www.collegeofpharmacy.com/Library/Books.aspx

File Edit View Favorites Tools Help

COP Library - Books x BBC - Homepage Google

**COP** The College of Pharmacy

Books



**Title: Hospital Pharmacy**

Edited By: *Martin Stephens*

Publisher: *Pharmaceutical Press*

[View Contents](#) [View More Editions](#)

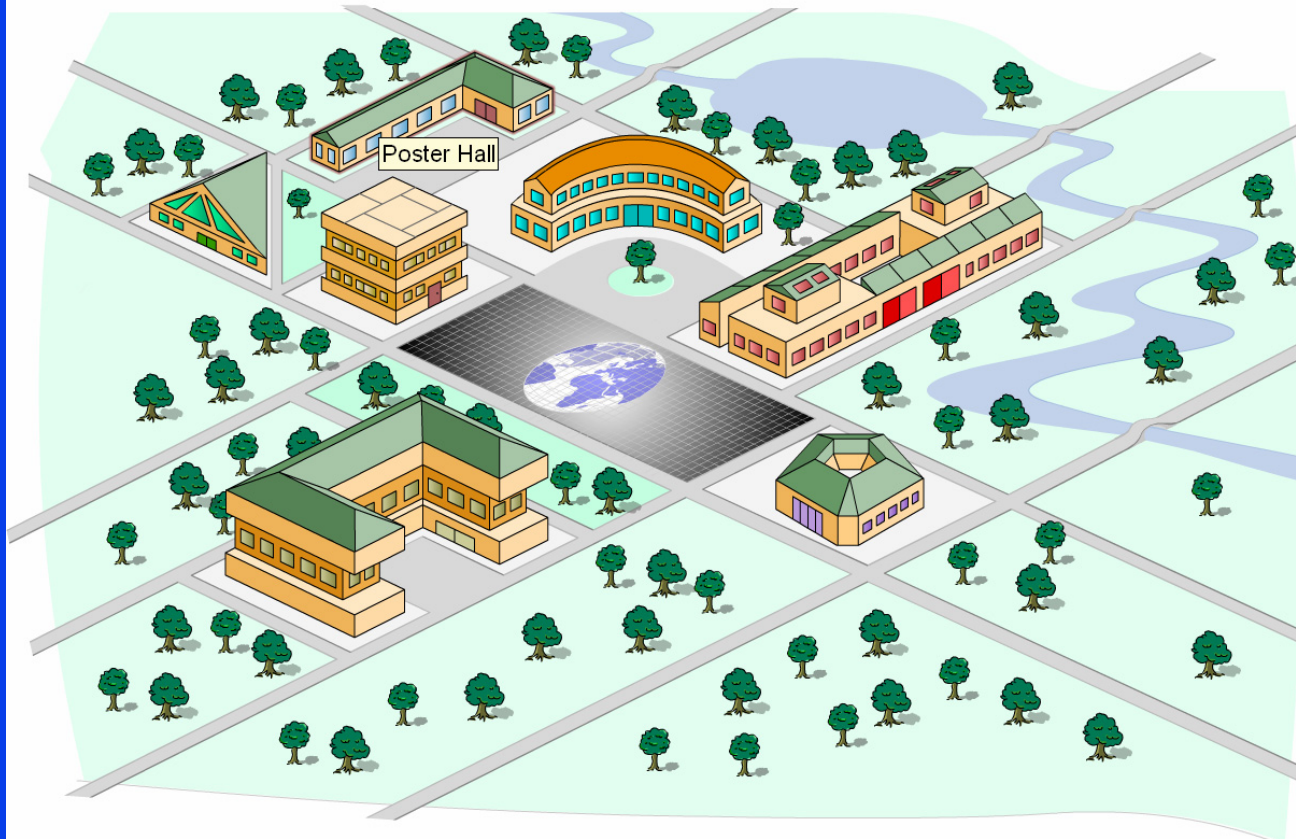
Done Internet 100%

Spine	Cover	<<	<	Content	>	>>
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	Structure and activities 92					
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	Roles and skills 95					
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	Activities 105					
	Specialist information services 113					
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Spine Cover << < Content > >>

## Books

- Clicking on the spine of the book shows the cover.
- Clicking on the View Contents button shows the Table of Contents
- If the book is available on line a link is provided



Posters presented by academic staff and students at conferences throughout the world can be displayed on [www.collegeofpharmacy.com](http://www.collegeofpharmacy.com)



College of Pharmacy - Poster Hall - Windows Internet Explorer

http://www.collegeofpharmacy.com/PosterHall/PosterHall.aspx?cacheKiller=1213509


File Edit View Favorites Tools Help

College of Phar... BBC - Homepage Google

# COP The College of Pharmacy

## Poster Hall

- Lipophilic compound and hydrophilic s.m.e lipid formulations
- Non-ionic surfactant and s.m.e. lipid formulations
- Emulsification of SEDDS
- Quinoxaline
- Iranian TB
- Cervarix
- Counseling cancer patients
- Celecoxib in Capsules



Error on page. Internet 100%

**Clicking on an individual poster will provide an enlarged view.**

Poster Hall

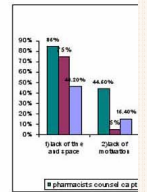
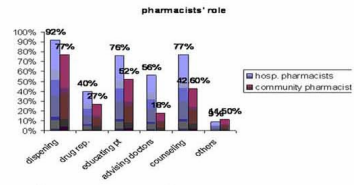
- Lipophilic compound and hydrophilic s.m.e lipid formulations
- Non-ionic surfactant and s.m.e. lipid formulations
- Emulsification of SEDDS
- Quinoxaline
- Iranian TB
- Cervarix
- Counseling cancer patients
- Celecoxib in Capsules

**A role for pharmacists In counseling cancer patients**  
 Students: Athmer Juma, Nouran Haboubi, Khem Nabati and Nesha Elsharawi. Supervised by: Prof. Dr. Zaidah

conclude if an pharmacist in the study including community pharmacists, hospital pharmacists and cancer patients where conclude if counseling provided by pharmacists to cancer patients is unique.

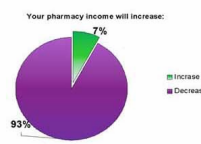
**Results and discussion:**

- 1) Comparing the opinions of the community pharmacists and the hospital pharmacists about the role of pharmacists nowadays:
- 6) Obstacles the pharma



- 2) Pharmacists' perception of the importance of counseling: The majority, 97.4% of the hospital pharmacists and 86.2% of the community pharmacists, perceive the importance of counseling

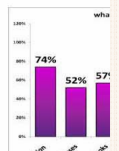
- 3) Pharmacists' opinions if counseling will be an overload on them economically:



- 4) Practising counseling in your pharmacy (A question directed to Community pharmacists):

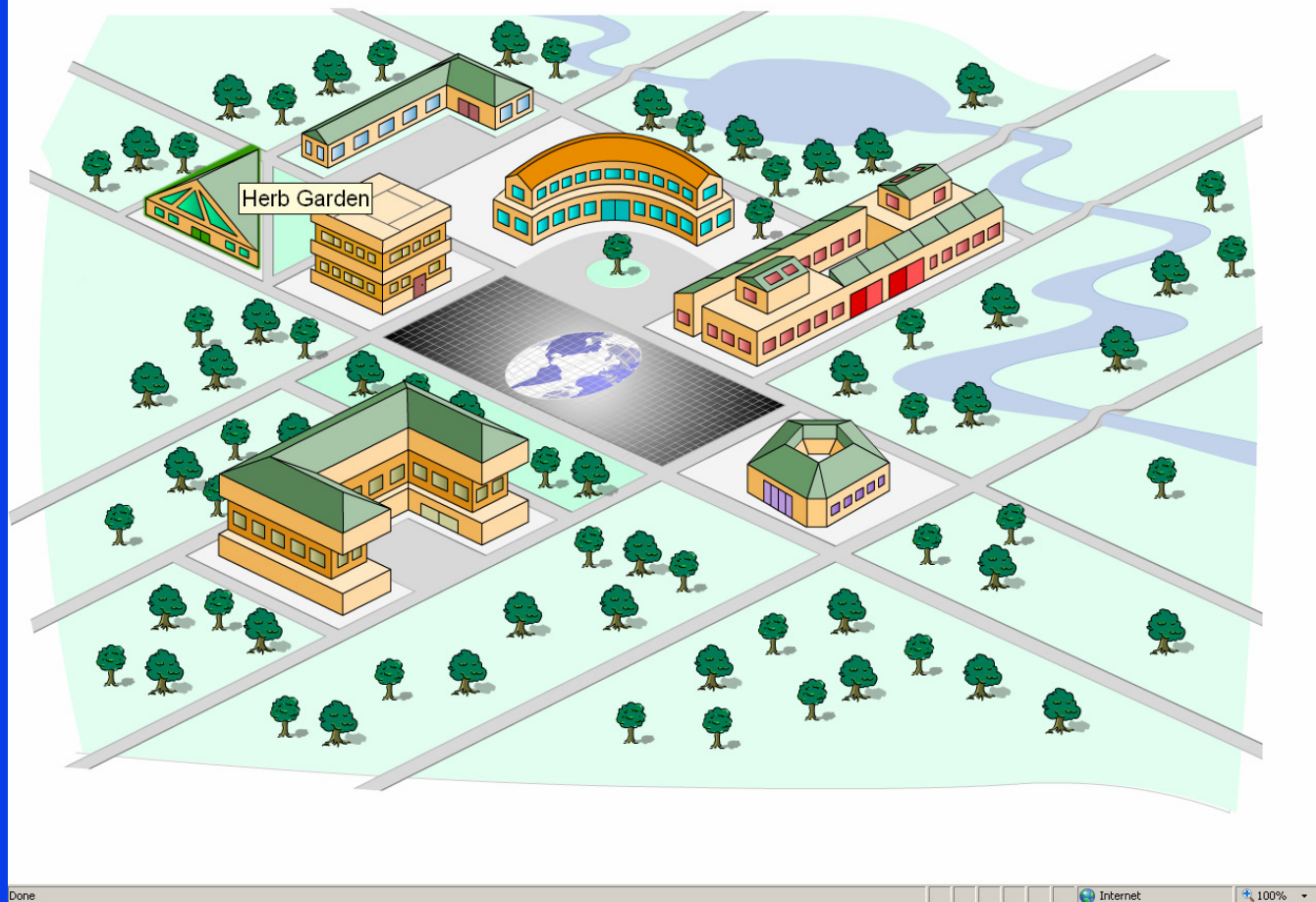
- 7) Have you ever received hospital pharmacists who have approximately half of the

- 8) What is the source of information? A question directed to the hospital



**Clicking a second time will provide a further magnification.**





**The Virtual Herb Garden is formed around a database of medicinal herbs with an emphasis on chemical substituents and medicinal uses**

College of Pharmacy - Herb Garden (Search) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address http://www.collegeofpharmacy.com/HerbGarden/search.aspx Go Links

# Herb Garden

INDEX SEARCH Back Forward

Search Herbs By:

- Name
- Family
- Group

ADMINISTRATION

Common Name

Latin Name

wort

**Search**

soldier's woundwort - *Achillea millefolium*  
soldier's woundwort - *Achillea millefolium*  
bishopweed/wort - *Aegopodium*  
sticklewort - *Agrimonia eupatoria*  
bullwort - *Ammi majus*  
mugwort - *Ariemisia*  
birthwort - *Aristolochia clematis*  
heartwort - *Aristolochia clematis*  
frail birthwort - *Aristolochia debilis*  
long birthwort - *Aristolochia debilis*  
Indian birthwort - *Aristolochia indica*  
white mugwort - *Artemisia lactiflora*  
western mugwort - *Artemisia ludoviciana*  
Japanese mugwort - *Artemisia princeps*  
feverwort - *Centaurium erythraea*  
Indian pennywort - *Centella asiatica*  
swallow wort - *Chelidonium majus*

Done Internet

## The database is searchable

- by Common or Latin name of medicinal plants and herbs
- by botanical families
- by groups of Classical Pharmaceutical or Topically important herbs


College of Pharmacy - Herb Garden (HerbDetails) - Microsoft Internet Explorer


File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Mail Print Internet Options User Accounts

Address <http://www.collegeofpharmacy.com/HerbGarden/HerbDetails.aspx?HerbID=2320> Go Links

# Herb Garden

INDEX SEARCH  Back Forward



*Click on photo for more*

**Common Name:** [common St John's wort](#)

**Latin Name:** [Hypericum perforatum](#)

**Family:** [Hypericaceae](#)

**Constituents:** [Straight chain saturated hydrocarbons C30](#)

**Preparations & Products:**

**Medical Properties:** [astringent](#)

**Used in Treatment of:** [menopausal neurosis](#)

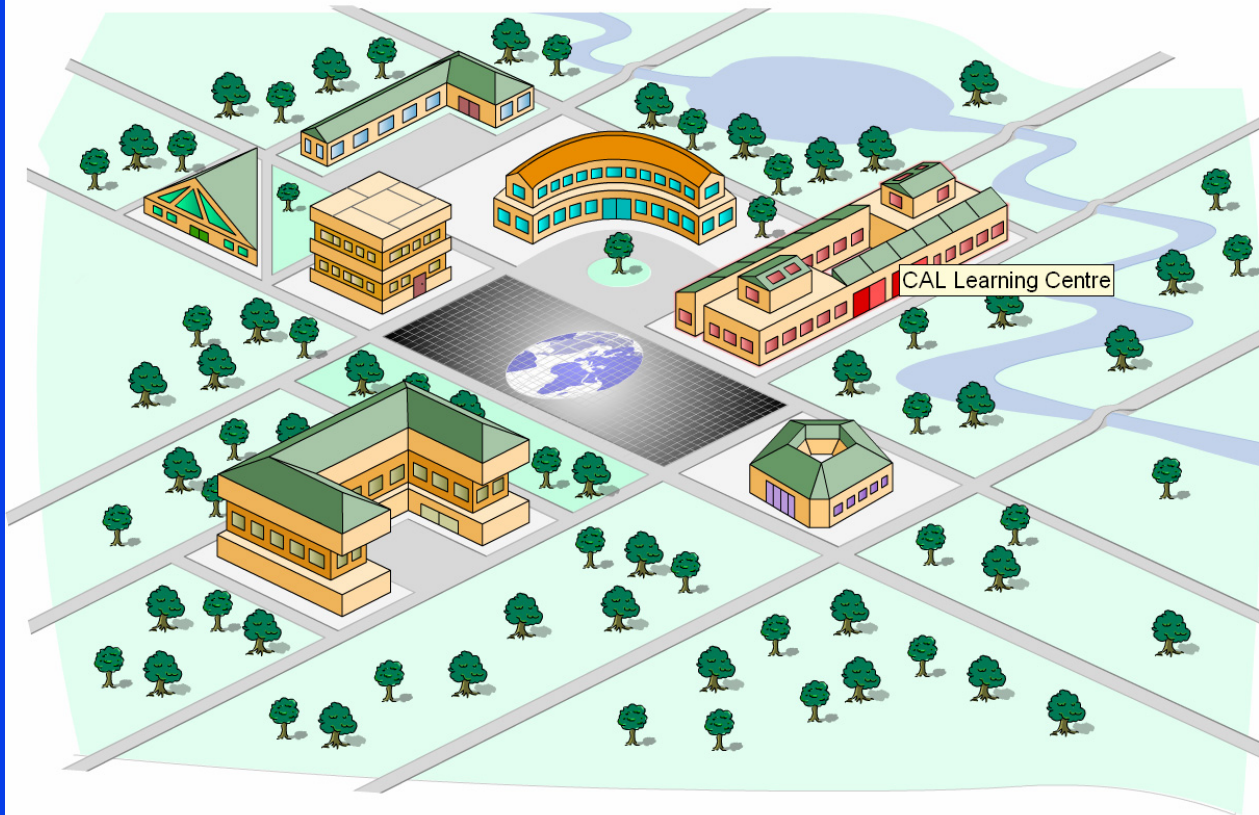
**Pharmacopoeia Monograph:** [BHP](#), [Cz P](#)

**Listed in:** [Commission E](#)

[Click here](#) to update information

Done Internet

It is intended that academic staff and students will contribute information about medicinal plants in their part of the world and that the virtual herb garden will encourage participation in phytochemical projects and collaboration between groups in different universities.



**The CAL centre provides access to Computer Aided Learning packages on a wide variety of pharmaceutical subjects. Access can be provided on an institutional basis by subscription or to individuals on a pay per view basis.**



College of Pharmacy - CAL Learning Centre - Windows Internet Explorer

http://www.collegeofpharmacy.com/CALLearningCentre/CALLearningCentre.aspx?cacheKiller=1213509319796

File Edit View Favorites Tools Help

College of Pharmacy - ... x BBC - Homepage Google

**CP The College of Pharmacy**

**CAL Learning Centre**

**Calculations**

- » Basic Calculations in Pharmacy ⓘ
- » Mathematics for Pharmacists ⓘ

**Clinical Pharmacy**

- » Epilepsy ⓘ
- » Labelling Dispensed Products with Supplementary Labels ⓘ
- » Hypertension ⓘ
- » Pharmacy Law and Ethics Related to Practice in the UK ⓘ
- » European Poisonous Plants ⓘ
- » Pharmlex for Windows Plus ⓘ
- » Prescriptions for Controlled Drugs in the UK ⓘ
- » Hay Fever and Its Treatment ⓘ
- » Eye Disorders ⓘ
- » Problem Solving in Community Practice in the UK ⓘ
- » Diseases of the Gastrointestinal Tract ⓘ
- » Safety in the Clinical Use of Cytotoxics ⓘ

**General Biology**

- » Biological Molecules ⓘ
- » An Introduction to Cell Biology ⓘ
- » Basic Histology of Tissues ⓘ

**Genetics**

- » Introduction to Recombinant DNA Technology ⓘ

**Medicinal Chemistry**

- » Simple Halogen Compounds ⓘ
- » Introduction to Mass Spectrometry ⓘ
- » Using Chromatographic Data to Calculate Drug Content in Formulations ⓘ
- » Introduction to NMR ⓘ
- » Shapes and Mechanisms ⓘ
- » Foundation Organic Chemistry Assesment ⓘ
- » Introduction to QSAR ⓘ
- » Introduction to Pharmaceutical Stereochemistry ⓘ
- » Nomenclature of Organic Compounds ⓘ

**Pharmaceutical Technology**

- » Methods of Filling Hard Gelatin Capsules ⓘ



**PLEASE NOTE:**

To view a CAL Package, you must have the latest "Authorware Web Player" and "Flash Player" installed on your machine. These can be installed by clicking on the relevant logo/image below.

There are known issues with viewing the CAL Packages using Firefox. We strongly recommend that you use Internet Explorer to view this website.

If you are using a low resolution on your monitor, pressing the F11 button on your keyboard will enable you to see the full package. (Press F11 to return your screen to normal when finished).

For more information on how to successfully view a CAL Package go to the [FAQ](#) section.

**CAL PACKAGES:**

To view a CAL Package click on the desired title from the list on the left.

Packages you have subscribed to are highlighted in red.

Demonstration (demo) packages are highlighted in blue.

You can also view information about each CAL package by clicking on the relevant ⓘ symbol.

**FAQ**

We advise you to visit the [FAQ](#) section for more information before accessing the packages.

Information on viewing CAL Packages on Vista machines can be found at the bottom of the [FAQ](#) page.

Done

Start Microsoft PowerPoint - [...] College of Pharmac... Internet 100% 06:55

**CAL packages are available in pharmacology, pharmaceutical, pharmaceutical chemistry, industrial pharmacy and pharmacy practice**

# Pharmacological Experiments On Isolated Guinea Pig Ileum (version 4.0)



## ● Experimental Setup

### Agonists

- Agonists: Theory
- Constructing Dose-Response Curves
- Comparing Dose-Response Curves
- Agonists On Guinea Pig Ileum

### Antagonists

- Antagonists: Theory
- Constructing Dose-Response Curves
- Comparing Dose-Response Curves
- Agonists/Antagonists On Guinea Pig Ileum

## ● Receptors

## ● EXIT



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# Pharmacology

# Basic Psychopharmacology Version 2.0



- Neuroscientific Foundation**
- Clinical Application**
  - Hypnotics (" Sleeping Pills ")
  - Anxiolytics
  - Antidepressants
  - Antipsychotics
- Research Methods**

## ● Exit

## ● Reset



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# Basic Calculations In Pharmacy

Version 4.0

SI Units And Terminology Percentages Moles, Molarity etc  —  Moles And RMMOther Ways To Express Concentration   MolarityConversion Between Concentrations   Mole FractionChemical Yields   MolalityPharmacy Practice Calculations  ResetEXIT 

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## Pharmaceutical Calculations

# Mathematics For Pharmacists

(Version 2.0)

Introduction To Numbers

Indices

Logarithms

Graphs

EXIT

Map



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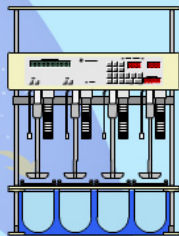


# Dissolution Testing



Version 1.0

- Introduction to Dissolution Testing
- USP Apparatus 1 and 2
- Calibration of USP Apparatus 1 and 2
- The Concept of Automated Dissolution
- Reference Material



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PCCAL: Methods of Filling Hard Gelatin Capsules

CAL Centre Menu

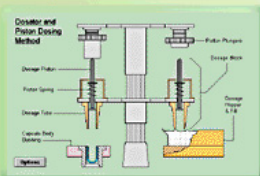
# Methods Of Filling Hard Gelatin Capsules

Version 3.0



CAPSUGEL®

- Introduction
- Dosing of Liquids
- Dosing of Powders
- Dosing of Pellets
- Dosing of Solids
- Capsule Specifications
- Capsule Defects
- Stroking in the Fill
- Auger Dosing Method
- Tamping & Disk Dosing Method
- Dosator & Piston Dosing Method (Intermittent)
- Dosator & Piston Dosing Method (Continuous)



Exit

Reset

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## Pharmaceutical Technology





# INDUSTRIAL DEVELOPMENT OF DRUGS

A computer aided learning package designed to help an understanding of the industrial pharmaceutical development process.

Sponsored by the  
**INDUSTRIAL PHARMACISTS GROUP (RPSGB)**



Royal  
Pharmaceutical  
Society  
of Great Britain

NB: The RPSGB does not endorse any drug or product mentioned in the package.

[Click to continue.](#)

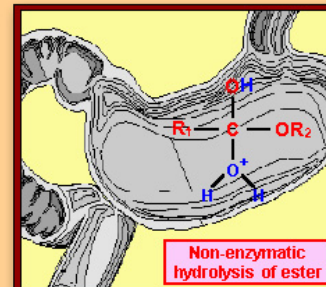
## Pharmaceutics

# Biopharmaceutics

Version 2.0



- Basics of Biopharmaceutics
- Controlled - Release Dosage Forms
- Gastrointestinal Tract Factors
- Exit



*Non-enzymatic and Enzymatic Degradation*



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## Using Chromatographic Data To Calculate Drug Content In Formulations

Version 2.0

- Determinations by HPLC Using Internal Standards
- Determinations by HPLC Using External Standards**
- Determinations by GC Using Internal Standards
- Introduction to Method: Determination of Paracetamol in Oral Solution
- Example 2: Determination of Cefuroxime in Injection
- Example 3: Determination of Sodium Fusidate in Ointment

 Exit Reset

Please note: A Calculator is required to use this package



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**Pharmaceutical and  
Medicinal Chemistry**

# Introduction To N.M.R.

## Version 2.0

Introduction To N.M.R.

Interpreting N.M.R. Spectra

Coupling in N.M.R. Spectra

Exit

Map



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# AN INTRODUCTION TO STERILIZATION

- ★ *A Brief History Of Sterilization*
- ★ *Sterilization: An Overview*
- ★ *Introduction To Survival Curves*
- ★ *Non-Exponential Survival Curves*
- ★ *Parameters*

Version...

Produced By

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Use

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## Pharmaceutical Microbiology

PCCAL: Pharmaceutical Microbiology Assessment

CAL Centre Menu

## Pharmaceutical Microbiology Assessment

(v3.0)

- Microbial Detection, Enumeration and Identification
  - Microscopy and Staining
  - Counting Methods
  - Biochemical and Immunological Methods
- Microbial Physiology
- Sterilisation and Aseptic Handling
- Antibiotics, Disinfectants and Preservatives
- Methods of Evaluating Antimicrobial Activity
- Exit



Reset



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MiDatabank Demo

File Edit Windows MICAL Help

New Enquiry Work In Progress Search Adv. Search Sam Smith (SS) Timer is On Mi CAL+Mi Databank

Work In Progress

In Tray

Show My Enquiries Show All Enquiries Sort By Due By Date

In Tray	2	Carbamazepine - Various Adverse Effects	Open
In Progress	1	Atorvastatin And Erythromycin - Clinical Significance Of The Interaction?	Open

Due By: 25/09/2008 Enquirer: Pinder Alan Allocated to JR  
Taken By JR on 04/09/2008

Due By: 28/11/2008 Enquirer: Butler Caroline Allocated to SS  
Taken By DW on 02/09/2008

Quick Search of Pending Enquiries:

Search

Enquiries Summary:

Today  
 This Week  
 This Month  
 This Year

Received Completed

MICAL

## MICAL 8 With MiDatabank Trainer

# Section 1 - Teaching Activities

- ▶ Guide To Package
- ▶ Introduction To Medicines Information Services
- ▶ Ethical Issues
- ▶ Information Sources
- ▶ Searching The Literature
- ▶ Critical Appraisal
- ▶ Writing And Referencing Skills
- ▶ EXIT

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Tutor's Handbook Objectives About

An example of a postgraduate  
CAL package for  
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**Thank you**



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**Contributions in the form of lectures, posters, journal and book titles and collaboration in developing CAL packages are all welcome**