

RO 6306

(16,1)

UB/TIB Hannover

16th

***Pharmaceutical
Technology
Conference and Exhibition***
*Divani Caravel Hotel
Athens, Greece*



**Volume 1
Oral Presentations**

**Tuesday
April 15th 1997**

April 15th, 16th and 17th 1997, Athens, Greece

TUESDAY April 15th

**Pharmaceutical
Technology**
Conference and Exhibition
Athens, Greece

Plenary Lecture: OLYMPIA HALL

9.00 - 10.00 **TRANSDERMAL DRUG DELIVERY:
TECHNIQUES FOR OPTIMISATION**
Professor Brian W Barry, University of
Bradford, U.K.

10.00 - 10.20 **COFFEE**

Research Papers

**CONTROLLED DRUG DELIVERY:
OLYMPIA HALL**

PAGE

10.20 - 10.50 **PEPTIDE RELEASE FROM HYDROPHILIC AND
HYDROPHOBIC PLGA MICROSPHERES** 14
P.P. DeLuca, University of Kentucky, U.S.A.

10.50 - 11.20 **FURTHER INVESTIGATIONS INTO THE
MECHANISMS OF DRUG RELEASE FROM
STEARIC ACID MICROSPHERES** 27
H.J. Robson, D.Q.M. Craig & D. Deutsch,
University of London and Glaxo Wellcome R & D,
U.K.

11.20 - 11.50 **STABILITY AND RELEASE OF THIORIDAZINE
AND BOVINE INSULIN FROM
BIODEGRADABLE MULTIPHASE
MICROSPHERES OF PLGA PRODUCED BY
POTENTIOMETRIC DISPERSION** 32
P.B. O'Donnell & J.W. McGinity, University of
Texas at Austin, U.S.A.

11.50 - 12.20 **MODIFIED RELEASE MICROSPHERES: THE
MICROENCAPSULATION OF IBUPROFEN BY
THE EMULSION SOLVENT DIFFUSION
TECHNIQUE USING EUDRAGIT RS100 AS
POLYMER** 35
D. Perumal, C.M. Dangor, R.S. Alcock, K.
Moopanar & N. Hurbans, University of Durban-
Westville, South Africa.

12.20 - 12.50 **ORAL DELIVERY OF HEPARIN FROM
BIODEGRADABLE POLY-DL-LACTIDE MICRO-
PARTICLES** 51
Z. Ramtoola, Elan Corporation Research Institute,
Dublin, Ireland

**International
Advisory Board**

F. Carli
Trieste, Italy

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom.

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

- 12.50 - 13.20 **NOVEL CONTROLLED DELIVERY SYSTEMS INCORPORATING HIGH ENERGY COPRECIPITATE OF NONOXYNOL-9 WITH POTENT SPERMICIDAL AND ANTI-HIV PROPERTIES** **53**
G. A. Digenis, University of Kentucky, U.S.A.
- 13.20 - 14.20 **LUNCH: ATHENS VIEW ROOM**
- 10.00 - 13.20 **TABLE-TOP EXHIBITION:**
14.20 - 17.00 **OLYMPIA FOYER**
- 14.20 - 15.30 **POSTER-SESSION: OLYMPIA HALL**
- CONTROLLED DRUG DELIVERY:
OLYMPIA HALL**
- 15.30 - 16.00 **A POTENTIAL ROLE FOR LIPOSOMES IN DNA VACCINATION** **74**
G. Gregoriadis & R. Saffie, School of Pharmacy, University of London, U.K.
- 16.00 - 16.30 **COMPARISON OF BIODISTRIBUTION AND CLEARANCE OF ^{99m}Tc-LABELLED LIPOSOMES IN AN ANIMAL MODEL AND IN HEALTHY VOLUNTEERS** **81**
M. Vidgren, M.S. Saari, A. Palander, A. Vidgren & M. Nieminen, University of Kuopio and University Hospital of Tampere, Finland.
- 16.30 - 17.00 **DEVELOPMENT OF A THREE COMPARTMENT ORAL SUSTAINED RELEASE DELIVERY SYSTEM FOR NIFEDIPINE** **90**
G.A. Digenis, H.S. Anwar & R.C. Page, University of Kentucky, U.S.A.
- 17.00 - 17.30 **IN-VITRO/IN-VIVO PERFORMANCE OF BIOADHESIVE TETRACYCLINE-CONTAINING SEMI-SOLIDS FOR THE TREATMENT OF PERIODONTAL DISEASES** **108**
D.S. Jones, A.F. Brown, A.D. Woolfson, C.R. Irwin, W.A. Coulter & C. McClelland, The Queen's University of Belfast and Queen's University School of Clinical Dentistry, Belfast, U.K.

**International
Advisory Board**

F. Carli
Trieste, Italy

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom.

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

17.30 - 18.00 **PHYSICO-CHEMICAL CHARACTERISATION OF ALGINATE GEL SYSTEMS** 112

D. Banning, D.Q.M. Craig, F.C. Hampson, P.W. Dettmar & E. Onsoyen, University of London, Rekitt and Colman Products, U.K. and Pronova Biopolymer, Norway.

18.00 - 18.30 **CHARACTERISATION OF THE VISCOELASTIC PROPERTIES OF BIOADHESIVE CHLORHEXIDINE-CONTAINING GELS FOR APPLICATION TO THE ORAL CAVITY** 123

A.F. Brown, D.S. Jones & A.D. Woolfson, The Queen's University of Belfast.

Plenary Lecture: OLYMPIA HALL

18.30 - 19.30 **IMAGING INSIDE CONTROLLED RELEASE AND OTHER SOLID DOSAGE FORMS: NEW METHODS FOR UNDERSTANDING AND QUANTIFYING DRUG RELEASE PROCESSES**

Dr C.D. Melia, University of Nottingham, U.K.

**International
Advisory Board**

F. Carli
Trieste, Italy.

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom.

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

TUESDAY April 15th

**Pharmaceutical
Technology**
Conference and Exhibition
Athens, Greece

Research Papers

FILM COATING: VERGINA ROOM

- 10.20 - 10.50 **SWELLING RESTRICTION OF HYDROPHILIC MATRICES BY AQUEOUS COATING: AN EFFICIENT WAY TO CONTROL THE DISSOLUTION PROFILE OF A WATER SOLUBLE DRUG SUBSTANCE** 126
B. Huet de Barochez, M. Rosovsky, C. Dauphant & P. Wuthrich, Technologie Servier, Orleans and Les Laboratoires Servier Industrie, Gidy, France.
- 10.50 - 11.20 **EFFECTS OF ADDITIVES IN THE COATING FORMULATION ON THE ADHESIVE PROPERTIES OF AN ACRYLIC RESIN COPOLYMER** 143
L.A. Fenton & J.W. McGinity, The University of Texas at Austin, U.S.A.
- 11.20 - 11.50 **AQUEOUS FILM COATING: EXAMINATION OF CRITICAL PROCESS CONDITIONS THAT AFFECT PRODUCT QUALITY** 146
S.C. Porter, Colorcon, U.S.A.

POWDER MIXING: VERGINA ROOM

- 11.50 - 12.20 **AN INVESTIGATION INTO THE MIXING ACTION OF A V-CONE POWDER BLENDER** 162
P.J. Davies, A.M. McDonnell & D.J. Pullen, University of Brighton and Pharmacia & Upjohn, U.K.

COMPACTION: VERGINA ROOM

- 12.20 - 12.50 **EFFECT OF TABLET COMPRESSION FORCE ON THE CRYSTALLINITY OF SODIUM CHLORIDE AND POTASSIUM CHLORIDE** 172
J. Yliruusi, V-P. Tanninen, J. Rahikka & E. Kristoffersson, University of Helsinki and Orion Corporation, Espoo, Finland.
- 12.50 - 13.20 **COMPRESSING POLYETHYLENE GLYCOLS: THE EFFECT OF THERMAL HISTORY** 200
H. Larhrib, J.I. Wells & M.H. Rubinstein, Liverpool John Moores University, U.K.

International Advisory Board

F. Carli
Trieste, Italy.

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom.

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France

Conference Co-ordinator
M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone
National 0151 737 1993,
International +44 151 737 1993

Fax.
National 0151 737 1070,
International +44 151 737 1070

13.20 - 14.20 **LUNCH:** ATHENS VIEW ROOM

10.00 - 13.20 **TABLE-TOP EXHIBITION:**

14.00 - 17.00 **OLYMPIA FOYER**

14.20 - 15.30 **POSTER-SESSION: OLYMPIA HALL**

COMPACTION: VERGINA ROOM

15.30 - 16.00 **COMPRESSING POLYETHYLENE GLYCOLS: THE EFFECT OF DICALCIUM PHOSPHATE 217**

H. Larhrib, J.I. Wells & M.H. Rubinstein, Liverpool John Moores University, U.K.

16.00 - 16.30 **ANALYSIS OF THE COMPRESSIONAL BEHAVIOUR OF ORTHORHOMBIC PARACETAMOL 235**

E. Joiris, P. Di Martino, C. Berneron, A-M. Guyot-Hermann & J-C. Guyot, University of Lille II, France.

16.30 - 17.00 **COMPACTION PROPERTIES OF HYDROXYPROPYLMETHYLCELLULOSE-IBUPROFEN COMPACTS 251**

A. Nokhodchi & M.H. Rubinstein, Liverpool John Moores University, U.K.

17.00 - 17.30 **PHYSICO-CHEMICAL PROPERTIES OF SOME MATERIALS COMPACTED USING AN ULTRASOUND-ASSISTED TABLETING MACHINE 267**

L. Rodriguez, M.F. Saettone, M. Cini, C. Cavallari, N. Passerini, A. Fini & O. Caputo, Universities of Bologna, Pisa and Turin, Italy.

17.30 - 18.00 **EVALUATION OF CARBOWAX COMPOUND 20M AS A BINDER/LUBRICANT FOR ROLLER COMPACTION 280**

M. Murray, M. Turkoglu & A. Sakr, University of Cincinnati Medical Center, U.S.A.

18.00 - 18.30 **TOOLING PROBLEMS 296**

M.Glover & T.J. Lewis, I. Holland Ltd., Nottingham, U.K.

Plenary Lecture: OLYMPIA HALL

18.30 - 19.30 **IMAGING INSIDE CONTROLLED RELEASE AND OTHER SOLID DOSAGE FORMS: NEW METHODS FOR UNDERSTANDING AND QUANTIFYING DRUG RELEASE PROCESSES**

Dr C.D. Melia, Univ. of Nottingham, U.K.

**International
Advisory Board**

F. Carli
Trieste, Italy.

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom.

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

TUESDAY April 15th

**Pharmaceutical
Technology**
Conference and Exhibition
Athens, Greece

POSTERS

ON DISPLAY 14.00 - 15.30

Olympia Foyer

CONTROLLED DRUG DELIVERY

- 1. ADVANTAGES OF USING THE PHILIPPOFF CONSTANT AND EXPERIMENTAL TABLE DESIGNS IN THE FORMULATION OF HYDROXYPROPYL METHYL CELLULOSE BASED HYDROPHILIC MATRICES 301**
J.L. Avan, E. Le Doeuff J. Bougaret, Institut de Recherche Pierre Fabre, Labege Innopole, France.
- 2. DESIGN AND EVALUATION OF SUSTAINED-RELEASE AND BUCCAL ADHESIVE HYDROCORTISONE ACETATE TABLETS 306**
G.C. Ceschel, P. Maffei, C. Ronchi & A. Ferrante, University of Bologna and Monte Research, Milan, Italy.
- 3. THE INVESTIGATION OF THE COMPRESSION AND RELEASE BEHAVIOUR OF NIFEDIPINE-LOADED ALBUMIN MICROSPHERES COMPRESSED INTO TABLETS 313**
W. H. Chuo, T.R. Tsai & T.M. Cham, Kaohsiung Medical College, Taiwan.
- 4. AMPICILLIN ENCAPSULATION IN CALCIUM ALGINATE BEADS 328**
M.L. Torre, P. Giunchedi, L. Maggi, R. Steffi & E.O. Machiste, Universities of Pavia, Italy and Central Venezuela, Venezuela.
- 5. MECHANISTIC ASPECTS OF THE RELEASE OF LEVAMISOLE HYDROCHLORIDE FROM BIODEGRADABLE POLYMER 341**
O.I. Corrigan, C.M. Gallagher & J.F. Fitzgerald, University of Dublin, Ireland
- 6. SWELLING KINETICS OF POLYBASIC/HYDROPHOBIC pH-SENSITIVE HYDROGELS WITH DIFFERENT STRUCTURAL CHANGES 349**
M. Falamarzian & J. Varshosaz, Isfahan University of Medical Sciences, Iran.

International Advisory Board

F. Carli
Trieste, Italy.

O.I. Corrigan
Dublin, Ireland

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone.
National 0151 737 1993,
International +44 151 737 19

Fax
National 0151 737 1070,
International +44 151 737 10

- | | | |
|---|-------------------|--|
| <p>7. FORMULATION OF SEMI-SOLID MATRICES: APPLICATION TO A VERY WATER SOLUBLE DRUG SUBSTANCE
G. Fonknechten, P. Genty & P. Wuthrich, Technologie Servier, Orleans, France.</p> | <p>355</p> | <p>International Advisory Board</p> <p>F. Carli
Trieste, Italy.</p> <p>O.I. Corrigan
Dublin, Ireland.</p> <p>J. Cucala
Barcelona, Spain.</p> <p>M.A. Donsmark
Copenhagen, Denmark.</p> <p>J.L. Ford
Liverpool, United Kingdom.</p> <p>M.J. Groves
Chicago, USA.</p> <p>A.M. Guyot-Hermann
Lille, France.</p> <p>T.M. Jones
London, United Kingdom.</p> <p>K.A. Khan
Nottingham, United Kingdom.</p> <p>J.W. McGinity
Austin, USA.</p> <p>J. Rak
Bratislava, Slovak Republic.</p> <p>D.M. Rekkas
Athens, Greece.</p> <p>H. Rupprecht
Regensburg, Germany.</p> <p>A. Stamm
Strasbourg, France.</p> <p>Conference Co-ordinator
M.H. Rubinstein
Liverpool, United Kingdom.</p> |
| <p>8. ETHYL CELLULOSE MICROGRANULES AS A SUSTAINED RELEASE DRUG DELIVERY SYSTEM
D. Opota, J. Joachim, G. Joachim & J. Reynier, University of Marseille, France.</p> | <p>370</p> | |
| <p>9. SALT AND SOLVENT EFFECTS ON OSCILLATORY AND TEXTURAL PROPERTIES OF POLYACRYLIC ACID GELS
D.S. Jones, M.C. Bonner & A.D. Woolfson, The Queen's University of Belfast, U.K.</p> | <p>376</p> | |
| <p>10. DEVELOPMENT OF A NOVEL METHOD FOR THE DETERMINATION OF THE MUCOADHESIVE STRENGTH OF TOPICAL PHARMACEUTICAL GELS AND SEMI-SOLIDS
A.F. Brown, D.S. Jones & A.D. Woolfson, The Queen's University of Belfast, U.K.</p> | <p>379</p> | |
| <p>11. ENCRUSTATION AND ADHESION OF URINARY ISOLATES TO METHACRYLATE POLYMERS AND COPOLYMERS
D.S. Jones, M.M. Tunney, P.F. Keane & S.P. Gorman, The Queen's University of Belfast and Belfast City Hospital, U.K.,</p> | <p>382</p> | |
| <p>12. DIFFUSION THROUGH HYDROGELS: DEPENDENCE OF DIFFUSIVITY ON DIFFUSANT MOLECULAR WEIGHT
F. Barbato, A. Boccia, M.A. Del Nobile, M.I. La Rotonda, G. Mensitieri & F. Quaglia, University of Naples 'Federico II' and National Research Council, Institute of Composite Materials Technology, Naples, Italy.</p> | <p>386</p> | |
| <p>13. LIPOSOMAL ENCAPSULATION OF LACTIC ACID: FACTORS AFFECTING LACTIC ACID ENTRAPMENT
U. Nimmannit, N. Vardhanabhuti & O. Niyompattamah, Chulalongkorn University, Bangkok, Thailand.</p> | <p>390</p> | |

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

- 14. THE EFFECT OF FORMULATION VARIABLES ON *IN VITRO* DRUG RELEASE AND MICROMERITIC PROPERTIES OF MODIFIED RELEASE IBUPROFEN MICROSPHERES** 396
D. Perumal, C.M. Dangor, R.S. Alcock, N. Hurbans & K. Moopanar, University of Durban-Westville, South Africa.
- 15. INFLUENCE OF DISSOLUTION CONDITIONS ON THE DEGRADATION PROPERTIES OF POLYLACTIDE-CO-GLYCOLIDE MICROPARTICLES** 413
M. Dunne, O.I. Corrigan & Z. Ramtoola, University of Dublin and Elan Corporation Research Institute, Dublin, Ireland.
- 16. THE INFLUENCE OF pH OF POLYMERISATION MEDIUM ON THE CHARACTERISATION OF POLYBUTYLCYANOACRYLATE NANOPARTICLES CONTAINING SODIUM FLUORESCHEIN** 427
N. Clarke, D. Barrow & Z. Ramtoola, Elan Corporation Research Institute, Dublin, Ireland.
- 17. INFLUENCE OF FORMULATION VARIABLES ON THE MORPHOLOGY OF BIODEGRADABLE MICROPARTICLES PREPARED BY SPRAY DRYING** 434
N. Clarke, K.O'Connor & Z. Ramtoola, Elan Corporation Research Institute, Dublin, Ireland.
- 18. THE EFFECT OF DRUG WATER SOLUBILITY AND POLYMER HYDRATION ON DIFFUSION CHARACTERISTICS OF POLYCATIONIC pH-SENSITIVE HYDROGELS** 444
J. Varshosaz, M. Falamarzian, Isfahan University of Medical Sciences, Iran.
- 19. LYMPHATIC TRANSPORT OF A PRODRUG OF PROPRANOLOL USING EMULSOMES** 453
S.P. Vyas, P. Kanaujia & V. Jaitely, Doctor Harisingh Gour Vishwavidyalaya, Sagar, India.
- 20. ALGINATE MICROSPHERES FOR THE DELIVERY OF ORAL VACCINES** 456
N. Venkatesan & S.P. Vyas, Doctor Harisingh Gour Vishwavidyalaya, Sagar, India.

**International
Advisory Board**

F. Carli
Trieste, Italy

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

- 21. THE APPLICATION OF ION EXCHANGE RESIN IN FILM COATED BEADS** 458
M. Sriwongjanya & R.O. Williams III, The University of Texas at Austin, U.S.A.
International Advisory Board
F. Carli
Trieste, Italy.
- 22. A NOVEL 'DRY-IN-OIL MULTIPLE EMULSION' METHOD FOR THE PREPARATION OF CHITOSAN MICROSPHERES** 460
I. Genta, P. Perugini & F. Pavanetto, University of Pavia, Italy
O.I. Corrigan
Dublin, Ireland.
J. Cucala
Barcelona, Spain
M.A. Donsmark
Copenhagen, Denmark.
J.L. Ford
Liverpool, United Kingdom.
M.J. Groves
Chicago, USA.
- 23. BIOADHESIVE MICROSPHERES FOR THE OPHTHALMIC ADMINISTRATION OF ACYCLOVIR** 471
I. Genta, B. Conti, P. Perugini, F. Pavanetto, A. Spadaro & G. Puglisi, Universities of Pavia and Catania and Fidia, Oftal Research Laboratories, Catania, Italy.
A.M. Guyot-Hermann
Lille, France.
T.M. Jones
London, United Kingdom.
K.A. Khan
Nottingham, United Kingdom.
J.W. McGinity
Austin, USA.
J. Rak
Bratislava, Slovak Republic.

FORMULATION

- 24. DIVISABILITY OF SUSTAINED-RELEASE DOSAGE FORMS: A STUDY OF ACETYSALICYLIC ACID TABLETS** 485
P. Costa, D.C. Ferreira & J.M. Sousa Lobo, University of Porto, Portugal.
D.M. Rekkas
Athens, Greece.
H. Rupprecht
Regensburg, Germany.
- 25. IMPROVEMENT OF A PARACETAMOL-CODEINE DIRECT COMPRESSION FORMULATION** 493
J. Cucala, M. Charlez & A. Munoz, Prodesfarma Research Centre, Barcelona and University of Seville, Spain.
A. Stamm
Strasbourg, France.
Conference Co-ordinator
M.H. Rubinstein
Liverpool, United Kingdom.
- 26. A STUDY OF THE REPRODUCIBILITY OF THE PHYSICAL AND DISSOLUTION PROPERTIES OF CAPTOPRIL FROM SCORED TABLETS** 501
D.C. Ferreira, P. Costa, H. Amaral & J.M. Sousa Lobo, University of Porto, Portugal.
- 27. IBUPROFEN AGGLOMERATES PREPARED BY PHASE SEPARATION: APPLICATION TO HARD GELATIN CAPSULES AND TABLETS** 508
M. Jbilou, A. Etabia, A-M. Guyot-Hermann & J-C. Guyot, Lille II University, France.
Conference Address:
24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom
Telephone:
National 0151 737 1993,
International +44 151 737 1993
Fax:
National 0151 737 1070,
International +44 151 737 1070

- 28. PREPARATION OF LYOTROPIC LIQUID CRYSTAL FORMULATIONS USING METHYL SALICYLATE, WATER AND DIFFERENT SURFACTANTS AND EXAMINATION OF THE *IN-VITRO* RELEASE CHARACTERISTICS FROM SOME TOPICAL BASES** 522
S. Uslu, A. Yuksel & T. Baykara, Ankara University, Turkey.
International Advisory Board
F. Carli
Trieste, Italy.
O.I. Corrigan
Dublin, Ireland
J. Cucala
Barcelona, Spain.
M.A. Donsmark
Copenhagen, Denmark.
J.L. Ford
Liverpool, United Kingdom.
- 29. PREFORMULATION STUDY OF SODIUM ETODOLAC PARENTERAL SOLUTION** 531
J. Milic-Askrabic, Lj. Tasic & D. Rajic, Belgrade University and Military Technical Institute, Belgrade, Yugoslavia.
M.J. Groves
Chicago, USA.
A.M. Guyot-Hermann
Lille, France.
T.M. Jones
London, United Kingdom.
- 30. PREFORMULATION STUDY OF A SECNIDAZOLE SOLID DOSAGE FORM** 537
A.B. Rivera, R.G. Hernandez, M. V. Losada & D.M. Cuellar Elizastegul, Center of Pharmaceutical Chemistry, MediCuba and CIDEM, Cuba.
K.A. Khan
Nottingham, United Kingdom.
J.W. McGinity
Austin, USA.
J. Rak
Bratislava, Slovak Republic.
D.M. Rekkas
Athens, Greece.
H. Rupprecht
Regensburg, Germany.
A. Stamm
Strasbourg, France.
- COMPACTION**
- 31. PARAMETRIZATION OF TABLET COMPRESSION CURVES** 549
O.K. Antikainen & J.K. Yliruusi, University of Helsinki, Finland.
Conference Co-ordinator
M.H. Rubinstein
Liverpool, United Kingdom.
- 32. COMPARISON OF COMPACTION AND DISSOLUTION RATES OF GROUND AND UNGROUND CRYSTALS OF ASPIRIN AND LACTOSE ALPHA MONOHYDRATE** 569
Ph. Longuemard, M. Jbilou, A-M. Guyot-Hermann & J-C. Guyot, University of Lille II, France.
- 33. COMPARATIVE STUDY ON THE COMPACTION MECHANISMS OF A NEW FAMILY OF GRAFT COPOLYMERS OF METHYL METHACRYLATE** 585
M.C. Ferrero, A. Munoz, M.V. Velasco, M.C. Monedero & M.R. Jimenez-Castellanos, University of Seville, Spain.
- 34. MECHANICAL PARAMETERS OF MALTODEXTRIN TABLETS OBTAINED AT TWO COMPRESSION SPEEDS** 599
M.C. Monedero, A. Munoz-Ruiz, T. Velasco, N. Munoz & M.R. Jimenez-Castellanos, University of Seville, Spain.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 19

Fax:
National 0151 737 1070,
International +44 151 737 10

- 35. A STUDY OF FORCE-DISPLACEMENT PARAMETERS OF MALTODEXTRINS AFTER THE ADDITION OF LUBRICANTS** 603
M.V. Velasco, A. Munoz-Ruiz, M.C. Monedero, M.C. Ferrero & M.R. Jimenez-Castellanos, University of Seville, Spain.
International Advisory Board
F. Carli
Trieste, Italy.
O.I. Corrigan
Dublin, Ireland.
J. Cucala
Barcelona, Spain.
M.A. Donsmark
Copenhagen, Denmark.
J.L. Ford
Liverpool, United Kingdom.
M.J. Groves
Chicago, USA.
A.M. Guyot-Hermann
Lille, France.
T.M. Jones
London, United Kingdom.
K.A. Khan
Nottingham, United Kingdom.
J.W. McGinity
Austin, USA.
J. Rak
Bratislava, Slovak Republic.
D.M. Rekkas
Athens, Greece.
H. Rupprecht
Regensburg, Germany.
A. Stamm
Strasbourg, France.
Conference Co-ordinator
M.H. Rubinstein
Liverpool, United Kingdom.
- 36. PREDICTING PREFERRED CRYSTAL ORIENTATION FOR TABLETING FROM PARTICLE IMAGE ANALYSIS** 617
E. Avila, E. Suihko, A. Munoz-Ruiz, M.R. Jimenez-Castellanos, A. Justo, J. Cucala, J. Ketolainen & P. Paronen, Universities of Seville, Spain, Kuopio, Finland, Institute of Materials, Seville and Prodesfarma, Barcelona, Spain.
- 37. OPTICAL HOMOGENEITY OF TABLET SURFACES** 624
J. Ketolainen, R. Silvennoinen, K-E. Peiponen, P. Laakkonen, E. Suihko, J. Rasanen, K. Matsuda & P. Paronen, Universities of Kuopio and Joensuu, Finland and AIST, MITI, Ibraki, Japan.
- 38. FRACTAL DIMENSION IN CHARACTERISATION OF TABLET SURFACES DETERMINED BY CONFOCAL MICROSCOPY** 629
S. Partio & J. Yliruusi, University of Helsinki, Finland.
- 39. SILICIFIED MICROCRYSTALLINE CELLULOSE: APPLICATIONS TO IMPROVE THE COMPACTION OF POORLY COMPRESSIBLE DRUGS AND TO HIGH SPEED TABLET MACHINE PERFORMANCE** 639
B.E. Sherwood & J.N. Staniforth, Edward Mendell Co. Inc., U.S.A. and University of Bath, U.K.
- DIRECT COMPRESSION**
- 40. FORMULATION OF DIRECT COMPRESSION ACETYLSALICYLIC ACID TABLETS** 649
J.M Sousa Lobo, A.P. Rocha & J.P. Sousa e Silva, University of Porto and Laboratories Bial, Portugal.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070

TABLET LUBRICATION

- 41. EVALUATION OF SOME LUBRICANTS USED IN PHARMACEUTICAL FORMULATIONS 655**
F. Ebba, D. Opota, P. Piccerelle, P. Prindere, E. Cature, G. Kalantzis, S. Shawky Tous & J. Joachim, Universities of Marseille, France and Assiut, Egypt and Hoechst Hellas ABEE, Greece.

POWDER CHARACTERISATION

- 42. ADVANCES IN POWDER MICRONISING TECHNOLOGY 665**
D. Fell, Hosokawa Micron Ltd., Runcorn, U.K.

GRANULATION

- 43. PELLETISATION OF AN ACID-LABILE MODEL DRUG 684**
M.C. Marques, P. Goucha & J.F. Pinto, University of Lisbon and Tecnimed S.A., Sacavem, Portugal.

- 44. PELLET PREPARATION WITH A CENTRIFUGAL-GRANULATOR 697**
P. Kasa jr., K. Pintye-Hodi, P. Szabo-Revesz & I. Eros, Albert Szent-Gyorgyi Medical University, Szeged, Hungary.

- 45. EVALUATION OF KETOPROFEN PELLET FORMULATIONS USING EXPERIMENTAL DESIGN 701**
J. Sirca, S. Srcic & B. Kofler, LEK d.d. and University of Ljubljana, Slovenia.

- 46. A COMPARISON OF WET AND FLUID-BED GRANULATION OF A MARKETED PRODUCT 706**
P. Amaral & J.M. Sousa Lobo, Janssen-Cilag Lda., Queluz and University of Porto, Portugal.

- 47. SMALL SCALE CHARACTERISATION OF WET POWDER MASSES SUITABLE FOR EXTRUSION/SPHERONISATION 711**
C. Tuleu & J.C. Chaumeil, University Rene Descartes-Paris V, France.

- 48. SURVIVAL OF BACTERIA DURING EXTRUSION-SPHERONISATION 721**
M. Kouimtzi, R.J. Pinney & J.M. Newton, School of Pharmacy, University of London, U.K.

International Advisory Board

F. Carli
Trieste, Italy.

O.I. Corrigan
Dublin, Ireland.

J. Cucala
Barcelona, Spain.

M.A. Donsmark
Copenhagen, Denmark.

J.L. Ford
Liverpool, United Kingdom.

M.J. Groves
Chicago, USA.

A.M. Guyot-Hermann
Lille, France.

T.M. Jones
London, United Kingdom.

K.A. Khan
Nottingham, United Kingdom

J.W. McGinity
Austin, USA.

J. Rak
Bratislava, Slovak Republic.

D.M. Rekkas
Athens, Greece.

H. Rupprecht
Regensburg, Germany.

A. Stamm
Strasbourg, France.

Conference Co-ordinator

M.H. Rubinstein
Liverpool, United Kingdom.

Conference Address:

24 Menlove Gardens North,
Liverpool L18 2EJ,
United Kingdom

Telephone:
National 0151 737 1993,
International +44 151 737 1993

Fax:
National 0151 737 1070,
International +44 151 737 1070