

FOURTEENTH
MONA SYMPOSIUM 1992
**NATURAL PRODUCTS &
MEDICINAL CHEMISTRY**

Mona, Jamaica
January 6 – 10
1992

*IN HONOUR OF
PROFESSOR WILFRED R. CHAN*



SCIENTIFIC PROGRAMME
AND
ABSTRACTS OF SHORT PAPERS

Department of Chemistry

THE UNIVERSITY OF THE WEST INDIES

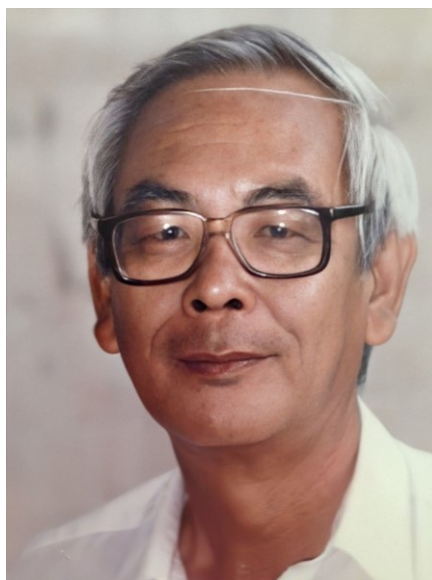
Tribute to Professor Wilfred Chan

This is the Fourteenth Mona Symposium on Natural Products and Medicinal Chemistry. The first symposium was organised in January 1966 and for this inaugural meeting, the main organiser was Professor Wilfred Chan. Since then Willie has been associated continuously with these meetings as Organising Secretary, Treasurer, Chairman of the Organising Committee and, after his shift to St. Augustine Campus of the University, as Honorary Chairman.

Willie's contribution to chemistry at Mona in particular as well as the other campuses has been outstanding. The development of organic chemistry, both teaching and research, bears the stamp of his rigorous, scholarly approach. His research in natural products chemistry is internationally recognised and his postgraduate students now occupy senior academic, research and industrial positions in the Caribbean, North America and elsewhere.

Willie is the first West Indian to be appointed to a personal chair in Chemistry. He has served the Chemistry Department at Mona and St. Augustine as Head and the Faculty of Natural Sciences as Dean. He has been actively involved in the development of Chemistry at the Cave Hill campus and at the University of Guyana.

This fourteenth meeting is dedicated to Professor Wilfred Chan in recognition of his contributions to chemistry and to the University on the occasion of his 60th birthday.



Wilfred Rupert Chan

(26 Apr 1931, New Amsterdam, British Guiana – 27 Sep 2017, Florida, U.S.A.)

14th MONA SYMPOSIUM - JANUARY 6th - 10th, 1992

ORGANISING COMMITTEE:

H.M. Jacobs
Y.A. Jackson
P.S. Manchand (North American Coordinator)
K.E. Magnus
K.O. Pascoe
P.B. Reese
E. V. Roberts (Head of Department)

ACKNOWLEDGEMENTS

The Organising Committee wishes to acknowledge the assistance from the following:

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Plenary speakers at the 1992 Mona Symposium

Prof. A. Ian Scott	University Texas A&M, U.S.A.	10.10 AM Monday
Prof. Michael Cava	University of Alabama, U.S.A..	11:20 AM Monday
Prof. Katsumi Kakinuma	Tokyo Institute of Technology, Japan	2:15 PM Monday
Prof. Harry Wassermann	Yale University, U.S.A.	9:00 AM Tuesday
Prof. Hsing-Jang Lui	University of Alberta, Canada	10:25 AM Tuesday
Prof. Jon Clardy	Cornell University, U.S.A.	2:15 PM Tuesday
Prof. Lawrence Weiler	University of British Columbia, Canada	9:00 AM Thursday
Prof. Keisuke Suzuki	Keio University, Japan	10:25 AM Thursday
Prof. Wittko Francke	Universitat Hamburg, Germany	2:15 PM Thursday
Prof. Arnold Brossi	Georgetown University, U.S.A	9:00 AM Friday
Prof. Victor Snieckus	University of Waterloo, Canada	10:25 AM Friday

THURSDAY, JANUARY 3
Morning
9:00 - 10:00

SCIENTIFIC PROGRAMME

TUESDAY, JANUARY 7
Morning
9:00 - 10:00

PLENARY LECTURES

MONDAY, JANUARY 6

Morning

10:10 - 11:10

A I Scott FRS

Department of Chemistry

Texas A & M University

College Station

Texas 77843, U S A

TITLE: Genetically Engineered Synthesis of Natural Products

11:20 - 12:20

C H Hassall FRS

M. Cava

2 Chestnut Close

Westoning MK45 5LR

Bedfordshire

U K

TITLE: From Monamycin to Cilazapril - A Drug by Design.

Afternoon

2:15 - 3:15

K Kakinuma

Department of Chemistry

Tokyo Inst. of Technology

O - Okayama, Meguro-Ku

Tokyo 152, JAPAN

TITLE: Diacetone Glucose. A Chiral Tool For Mechanistic Studies On 3-Isopropylmalate Dehydrogenase and Archaeobacterial Lipid Biosynthesis.

TUESDAY, JANUARY 7

Morning

9:00 - 10:00

H H Wasserman
Department of Chemistry
Yale University
P O Box 6666
New Haven, C T 06511-8118
U S A

TITLE: The Chemistry of Vicinal Tricarbonyl Compounds.

10:25 - 11:25

H J Liu
Department of Chemistry
University of Alberta
Edmonton, Alberta
CANADA T6G 2G2

TITLE: Diels-Alder Reactions of Some Cross-Conjugated
Dicarbonyl Compounds and their Application To
Terpenoids Synthesis.

Afternoon

2:15 - 3:15

J Clardy
Department of Chemistry
Cornell University
Ithaca, N Y 14853-1301
U S A

TITLE: The Structures of FK506 and Rapamycin Bound to FKBP.

THURSDAY, JANUARY 9

Morning

9:00 - 10:00

L Weiler
Department of Chemistry
University of British Columbia
Vancouver, B C V6T 1Z1
CANADA

TITLE: Macrolides: Molecular Modelling, Synthesis and
Reactivity.

10:25 - 11:25

K Suzuki
Department of Chemistry
Keio University, Hiyoshi
Yokohama 223
JAPAN

TITLE: New Methods For Glycoside Synthesis by Using Early
Transition Metal Complexes.

Afternoon

2:15 - 3:15

W Francke
Inst. Fur Organische Chemie
Universitat Hamburg
D-2000 Hamburg 13
FEDERAL REPUBLIC OF GERMANY

TITLE: Pheromones: Structural Principles in Chemistry
Odour Communication.

FRIDAY, JANUARY 10

Morning

9:00 - 10:00

A Brossi

Department of Chemistry
Georgetown University
Washington, D C 20057

U S A

TITLE: Of Alkaloids and Analytical Reagents.

10:25 - 11:25

V Snieckus

The Guelph-Waterloo Centre
for Graduate Work in Chemistry
University of Waterloo
Waterloo, Ontario N2L 3G1
CANADA

TITLE: Natural Product Synthesis Via Integrated Directed
ortho Metalation - Cross Coupling Strategies.

Afternoon

2:15 - 3:15

M P Cava

Department of Chemistry
The University of Alabama
Box 870336
Tuscaloosa, AL 35487-0336
U S A

TITLE: Studies in Heterocyclic Natural Products Chemistry

DAILY SCHEDULE

MONDAY, JANUARY 6

Morning

8:00 - 9:00

Completion of Registration

9:00 - 9:40

Opening Ceremony

9:40 - 9:50

Announcements

Chairman: Prof K Magnus

9:50 - 10:10

Coffee Break

Chairman: *Bert Fraser-Reid*

10:10 - 11:10

Plenary Lecture

A I Scott FRS - Genetically Engineered
Synthesis of Natural Products.

11:10 - 11:20

Question and Discussion Period

11:20 - 12:20

Plenary Lecture *Mike Cava*

C H Hassall FRS - From Monamycin to
Cilazapril - a Drug By Design.

12:20 - 12:30

Question and Discussion Period.

Chairman: John Huffman

Afternoon

2:15 - 3:15

Plenary Lecture

K Kakinuma - Diacetone Glucose, A

Chiral Tool For Mechanistic Studies
on 3-Isopropylmalate Dehydrogenase
and Archaeobacterial Lipid Biosynthesis

3:15 - 3:25

Question and Discussion Period.

3:25 - 3:40

Coffee Break

SHORT PAPERS

3:40 - 4:00

Paper #1

P S Manchand and P S Belica -
Synthesis of the Anti-Aids Drug
2',3'-Dideoxycytidine.

4:00 - 4:20

Paper #2

N Avel and R J Roth - Mechanistic
Aspects of The Conversion of
Dihydroartemisinic Acid into
Artemisinin.

4:20 - 4:30

Question and Discussion Period.

Chairman: Jim Cook

TUESDAY, JANUARY 7

Morning

9:00 - 10:00

Plenary Lecture

H H Wasserman - The Chemistry of
Vicinal Tricarbonyl Compounds.

10:00 - 10:10

Question and Discussion Period.

10:10 - 10:25

Coffee Break

10:25 - 11:25

Plenary Lecture

H J Liu - Diels-Alder Reactions of
Some Cross-Conjugated Dicarboxyl
Compounds and Their Application to
Terpenoids Synthesis.

11:25 - 11:35

Question and Discussion Period

SHORT PAPERS

11:35 - 11:55

Paper #3

B Mootoo, S McLean, W Reynolds,
W Tinto, R Dookran and D Maharaaj
- Diterpenes from Octocorals collec-
off Tobago, West Indies.

11:55 - 12:15

Paper #4

A. Bridges - Use of Electrospray Ma-
Spectrometry in the Structural Stud-
of Acyl Carrier Proteins from
Saccharopolyspora.

12:15 - 12:25

Question and Discussion Period.

Chairman: A. Rossi

Afternoon

15 - 3:15

Plenary Lecture ✓

J. Clardy - The Structure of FK506 and Rapamycin bound to FKBP.

Question and Discussion Period.

25 - 3:40

Coffee Break

SHORT PAPERS

40 - 4:00

Paper #5 ✓
L. O. Zamir - The Bitter Sweet Role of Sugar Metabolism.

00 - 4:20

Paper #6
T. J. Brocksom, U Brocksom and R B dos Santos - The Synthesis of 3- and 5-Oxy-Derivatives of Carvone.

20 - 4:40

Paper #7 ✓ (Katon)
J. M. Cook, M Allen and H Diaz - Probes to Study the Structure and Function of the Benzodiazepine (Valium) Receptor. The Synthesis of A New Selective Anxiolytic/Anticonvulsant Agent.

Question and Discussion Period.

00 - 6:00

Poster Session

Chairman: B. Meador

THURSDAY, JANUARY 9

Morning

9:00 - 10:00

Plenary Lecture ✓

L. Weiler - Macrolides: Molecular Modelling, Synthesis and Reactivity

10:00 - 10:10

Question and Discussion Period.

10:10 - 10:25

Coffee Break

10:25 - 11:25

Plenary Lecture
K Suzuki - New Methods for Glycosidic Synthesis By Using Early Transition Metal Complexes.

11:25 - 11:35

Question and Discussion Period.

SHORT PAPERS

11:35 - 11:55

Paper #8
C. M. Thompson, D L C Green and J J Kiddle - Indolizidine Natural Products Via Dianion Chemistry.

11:55 - 12:15

Paper #9
W. Kraus, B Vogler, U Benkhof and F Schell - Cyclic Vinyllogous Amides and Imides as Tools for Natural Products Synthesis.

12:15 - 12:25

Question and Discussion Period.

Chairman: Percy Marchand.

ternoon

15 - 3:15

Plenary Lecture V. Snieckus
W Francke - Pheromones: Structural Principles in Chemistry of Odour Communication.

15 - 3:25

Question and Discussion Period,

25 - 3:40

Coffee Break

SHORT PAPERS

40 - 4:00

Paper #10
J W Huffman, G H Zoerob and D Dai
- Structure Activity Relationships in Cannabinoids and The Cannabinoid Receptor.

00 - 4:20

Paper #11 M G. Nair
W C Greutas, M J Brubaker, J B Epp,
L S Chong, N Archibald-Houser and
J McClenahan - Inhibitors of Proteolytic Enzymes.

20 - 4:40

Paper #12
L von Szentpaly, C Parkanyi, H L Yuan,
M C Martin-Montes, M M Tsai, T L Aung
and H T Essoussi - Flexible and Rigid Chain-Linked Bis-Pyrimidine and Bis-Purine Derivatives as Potential Intercalating Agents.

40 - 4:50

Question and Discussion Period.

Chairman: Mike Cava

FRIDAY JANUARY, 10

Morning

9:00 - 10:00

Plenary Lecture
A Prossi - Of Alkaloids and Analytical Reagents.

10:00 - 10:10

Question and Discussion Period.

10:10 - 10:25

Coffee Break

10:25 - 11:25

Plenary Lecture
V Snieckus - Natural Product Synthesis Via Integrated Directed ortho Metalation - Cross Coupling Strategies

11:25 - 11:35

Question and Discussion Period.

SHORT PAPERS

11:35 - 11:55

Paper #13
M G Nair, G Safir and J O Siqueira
- Plant Derived Chemical Signal For Vesicular - Arbuscular Mycorrhiza - Host Relationship.

11:55 - 12:15

Paper #14
M Behforouz, X Gu, M Ahmadian,
M Horn and L S Stelzer - Diels-Alder Condensations of Activated 1-Azadienes: Synthesis of Pyridine Heterocycles.

12:15 - 12:25

Question and Discussion Period.

#14 Anthony Harper, I. Shuster, CJ
#15 Charles Carter

Afternoon

2:15 - 3:15

Plenary Lecture

M P Cava - Studies In Heterocyclic
Natural Products Chemistry.

3:15 - 3:25

Question and Discussion Period.

3:25 - 3:40

Coffee Break

SHORT PAPERS

3:40 - 4:00

Paper #15

M Kamil - Flavonoidic Constituents
of some *Juniperus* Species.

4:00 - 4:20

Paper #16

Y Kim - Development of New Antibiotics.

4:20 - 4:40

Paper #17

N L Holder - Isolation and Structure
Identification of Steryl Glycosides
from *N foetida*.

4:40 - 5:00

Closing Ceremony

REGISTERED VISITING PARTICIPANTS

ALI, A.	KRAUS, W.
BEHFOROZ, M.	LAINE, R.
BOLESSA, E.	LAKSHMIKANTHAH, M.
BRIDGES, A.	LIU, H.
BROCKSOM, T.	LLOYD, R.
BROSSI, T.	LOUGHRAN, M.
CARTER, C.	MANCHAND, P.
CAVA, M.	MARTIN, F.
CHAN, W.R.	MAXWELL, A.
CHANDLER, F.	MOOTOO, B.
CLARDY, J.	MOTILAL, R.
COOK, J.	MULQUEEN, G.
FARINA, V.	NAIR, M.
FELMAN, S.	RAMSEWAK, R.
FRANCKE, W.	RAWLINGS, B.
FRASER-REID, B.	ROTH, N.
GLETSOS, C.	SCOTT, A.
GROUTAS, W.	SNIECKUS, B.
HAGEN, T.	SUZUKI, K.
HANDA, S.	THOMAS, S.
HASSALL, C.H.	THOMPSON, C.
HILL, A.	TINTO, W.
HOLDER, N.	TROTZ, U.
HOLT, K.	VEDERAS, J.
HOOPER, T.	WAITE, D.
HUFFMAN, J.	WASSERMAN, H.
KAKINUMA, K.	WEILER, L.
KAMIL, M.	WHITTLE, Y.
KAO, W.	WITTER, D.
KIM, Y.	ZAMIR, L.