

**Palestinian Society
of
Mathematical Sciences**

First Annual Conference

Birzeit University

Birzeit - Palestine

June 16 - 18, 1993

Conference Program



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of
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Conference Committee

Marwan Awartani (*Birzeit University*), **Chairman**

Fawaz Abu Diak (*An-Najah University*)

Caramella Armanious (*Birzeit University*)

Waleed Deeb (*Jordan University for Women*)

Raymond Gedeon (*Birzeit University*)

.....

Supporting Staff

Nassir Abu Al-Rob - *Technical Assistant*

Samir Awad - *Administrative Assistant*

Palestinian Society of Mathematical Sciences

The Palestinian Society of Mathematical Sciences (**PSMS**), recently founded by a group of mathematicians in the Occupied Palestinian Territory, seeks, to promote and advance teaching and research in the mathematical sciences. This is conceived as a serious endeavor aimed at overcoming the obvious long standing impediments faced by the Palestinian academic community in the Occupied Palestinian Territory. In pursuit of its broad goals, **PSMS** has two specific objectives.

1. It aims to establish a tradition of scientific and professional cooperation and exchange among Palestinian scientists, through research, joint publications, conferences, seminars, workshops and lectures. **PSMS** seeks to provide a forum and a platform that will stimulate and enrich the scientific community. **PSMS** seeks to incorporate mathematicians, computer scientists, statisticians, and mathematics educators in the belief that this represents the most efficient use of resources and will lend itself to a much richer intellectual pool. On the other hand, **PSMS** recognizes that each of these disciplines has special



interests and needs, and is proactive in encouraging each branch to represent itself and support its individual needs within **PSMS** as a whole.

2. **PSMS** initiates and supports interaction & cooperation between the Palestinian scientific community at home and the larger international scientific community. Palestinian scientists abroad can play a significant role in realizing this endeavor. It is important that the isolation of Palestinian scientists be broken; that they benefit from the research and advances made by scientists abroad; that they remain academically and scientifically competitive to international standards; and that research done by Palestinians in the Occupied Territory be recognized and tested in the international forum. Concomitantly, **PSMS** would like to draw mathematicians, computer scientists, statisticians and educators from abroad into its work by encouraging their participation in its various activities in the Occupied Palestinian Territory.

In its active pursuit of the above mentioned objectives, **PSMS** encourages and invites scholars in the mathematical sciences to join its membership irrespective of their location or institutional affiliation.

ACKNOWLEDGMENT

PSMS acknowledges with appreciation the financial support of AMIDEAST and the recognition and active participation of:

The American Mathematical Society

The Royal Society, Britain

The Canadian Mathematical Society

The French Mathematical Society

The US Mathematical Sciences Institute

The Institute of Electrical and Electronics

Engineers (IEEE)- Computer Society

Software Editorial Board

The International Statistical Institute

Announcement

PSMS will hold a general meeting on Wednesday, *June 16th* at 6:00 pm in room C001 - Birzeit University. Issues related to the Society will be discussed.

- * *Everyone is invited to attend and participate.*
- ** *Applications for **PSMS** membership will be accepted at the meeting.*



Social Events

Wednesday June 16:

Dinner hosted by PSMS at 7:00 pm

(Check conference bulletin board for details)

Thursday June 17:

Dinner hosted by Birzeit University at 7:30 pm.

(Check conference bulletin board for details)

Saturday June 19:

Walking tour on the walls of the old city of

Jerusalem starting from Christams Hotel at 9:00 am.

Wednesday, June 16

Registration

8:00 - 8:50 Rm. C001

Opening Ceremony

9:00 - 9:50 Rm. C001

Addresses by:

Hanna Naser, President, Birzeit University

Marwan Awartani, Conference Committee Chairman

Naim Abu Al Humus, Secretary General,

Council of Higher Education

Plenary Address I (Rm. C001)

10:00 - 10:50 *On Symplectic Geometry*
IVAR EKELAND, President
University of Paris at Dauphine.

Coffee Break

Session on PURE MATHEMATICS, I

11:20 - 1:10 Rm. C004

Invited Address

11:20 - 12:10 *New Developments in Geometry*
(I1) *and Topology*
Melvin Rothenberg,
University of Chicago

12:20 - 12:40 *Coproducts of Distributive Lattices*

[P1] **Fawzi Yaqub,**
SUNY at Fredonia

12:50 - 1:10 *Bounds on Zeros of Polynomials*

[P2] **Fuad Kittaneh,**
University of Jordan

Lunch Break

Session on STATISTICS, I

11:20 - 1:10 *Rm. C002*

Invited Address

11:20 - 12:10 *Review of Recent Developments in
the Measurement of Purchasing Power
Parities of Currencies And Applications*

[I2] **Salim Khamis**

12:20 - 12:40 *The Likelihood Function for the Censored
Case for a Progressive Disease Model
with Bivariate Survival Function*

[S1] **Hilmi F. Kittaneh,**
University of Jordan

12:50 - 1:10 *On The Maximum Likelihood Prediction
of the Exponential Distribution Based
on DoublyType II Censored Samples*

[S2] **Mohammad Z. Raqah,**
University of Jordan

Lunch Break

Plenary Address II

2:20 - 3:10 *Inverse Problems and Signal Analysis*
Zuhair Nashed,
University of Delaware *Rm. C001*

Session on PURE MATHEMATICS, II

3:20 - 5:20 *Rm. C004*

Invited Address

3:20 - 4:10 *Best Approximation in Function and
Operator Spaces*
[I3] **Waleed Deeb,**
Jordan University for Women

Coffee Break

4:30 - 4:50 *Some Projective Concepts*
[P3] **Ali Abdel Mohsin,**
An-Najah National University

5:00 - 5:20 *On Z_p - Actions on Solid Klein Bottle*
[P4] **Fawaz Abudiak,**
An-Najah National University

Session on COMPUTER SCIENCE, I

3:20 - 5:50

Rm. C002

Invited Address

- 3:20 - 4:10 *Data Management for Software
Development, Present Reality
And Future Challenges*
[14] **Naser Barghouti**
AT&T Bell Labs., U.S.A.
-

Coffee Break

- 4:30 - 4:50 *Multimedia Telecommunication
and Visual System Engineering*
[C1] **Yahya Y. Al-Salqan* & Carl K. Chang**
University of Illinois at Chicago
- 5:00 - 5:20 *The Development of a Study
Plan in Computer Science*
[C2] **Nizar Awartani,**
University of Jerusalem, Abu Deis
- 5:30 - 5:50 *"FMOA: A Pre-emptive Multi
Processor Interconnection"*
[C3] **A. Ayyad* , P. Marcia & R. Thomas**
University of Jerusalem, Abu Deis
-

Thursday, June 17

Plenary Address III

9:00 - 9:50 *Chaos, Chance and Fractals*
JOHN MILNOR,
SUNY at Stony Brook *Rm. C001*

Session on PURE MATHEMATICS, III
10:00 - 1:10 *Rm. C004*

Invited Address

10:00 - 10:50 *Mathematical Aspects of Classical
Field Theory*
[I5] **Jalal Shatah**
Courant Institute, NYU

Coffee Break

11:20 - 11:40 *Characterization of the Reidemeister
Coincidence Classes Modulo H*
[P5] **Bassam A. Manasrah,**
An-Najah National University

11:50 - 12:10 *Dual Goldie Dimension*
[P6] **Azmi Hanna & A. Shamsuddin**
American University of Beirut

12:20 - 12:40 *The Hardy Space H^2 and Interpolating
Sequences*
[P7] **Abdallah A. Hakawati**
An-Najah National University

12:50 - 1:10 *Equicontinuity and Periodicity on
Dendrites*

[P8] **Mohammad Al-Amleh**
An-Najah National University

Lunch Break

Session on COMPUTER SCIENCE, II

10:00 - 1:10 *Rm. C002*

Invited Address

10:00 - 10:50 *Toward a Model For Natural Arabic
Language Understanding System*

[I6] **Mustafa Yaseen**
Joradan University For Women

Coffee Break

11:20 - 12:10 *Mathematical Modeling of Computer
Communication Switching Networks*

[I7] **Hussein Bader**
SUNY at Stony Brook

12:20 - 1:10 *Transitive Closure Queries in Databases*

[C4] **Ghassan Qadah**
AT&T Bell Labs., USA

Lunch Break

Session on APPLIED MATHEMATICS I
2:20 - 5:20 Rm. C001

Invited Address

2:20 - 3:10 *Global Existence for Three Dimensional
Navier-Stokes Equations in the
Presence of Symmetry*
[I8] **Edriss S. Titi**
University of California at Irvine

3:20 - 3:40 *N-Dimensional Digital Filters
Characterisability of Frequency
Response Approximation in the L₁-Norm*
[A1] **Wasfi S. Kafri**
Birzeit University

3:50 - 4:10 *Numerical Investigations of
the Transition to Turbulence
in the Blasius Boundary Layer*
[A2] **Fathi Allan**
Birzeit University

Coffee Break

4:30 - 4:50 *Fourier Transforms of
Generalized Functions*
[A3] **Raymond Gedeon**
Birzeit University

- 5:00 - 5:20 *The Mathematics of Three Vector
Finite Element Formulation and
Applications in Electromagnetic Waves*
[A4] **Mohammad M. Shabat**
The Islamic University of Gaza
-

Session on PURE MATHEMATICS, IV

2: 20 - 5:20 *Rm. C004*

- 2:20 - 2:40 *Pure Ideals of a Ring*
[P9] **Hasan El-Azeh**
University of Jordan
- 2:50 - 3:10 *Geometric Foundation
of Differential Geometry*
[P10] **David Henderson**
Cornell University, USA
- 3:20 - 3:40 *Two Families of Cubics
Associated with a Triangle*
[P11] **Peter Yff**
Ball State University, U.S.A.
- 3:50 - 4:10 *Univalent Polynomial
Approximation*
[P12] **Ibrahim M. Al-Grouz**
University of Jerusalem, Abu Deis
-

Coffee Break

- 4:30 - 4:50 *On the Class of M-Paranormal
Operators*
[P13] **Mahmoud Kutkut**
Jordan University

5:00 - 5:20 *On Union of Fuzzy Subgroups*
[P14] **R. Kumar & Husni H. Saleh**
Applied Science University, Jordan

Session on COMPUTER SCIENCE, III
2:20 - 5:50 Rm. C002

Invited Address

2:20 - 3:10 *Computing at Jordan University:
Past, Present, and Future*
[I9] **Taleb Al Saree**
Jordan University

3:20 - 4:10 *General Use of Computers in
University's Educational Process*
[C5] **Khalid Nijim**
Omar Kittaneh
Vector Serna
Birzeit University

Coffee Break

4:30 - 5:50 *Using Computers in Teaching Calculus*
[C6] **Fawzi Yaqub**
SUNY at Fredonia

Friday, June 18

Plenary Adress IV (Rm. C001)

- 9:00 - 9:50 *Analysis With Operators*
Chandler Davis, Vice President,
American Mathematical Society
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Session on PURE MATHEMATICS, V

10:30 - 1:10 Rm. C004

- 10:00 - 10:20 *Whitney Maps on Hyperspaces of
Skew Spaces*
[P15] **Marwan Awartani**,
Birzeit University
- 10:30 - 10:50 *Mathematical Analysis of Labor in Islamic
Economy*
[P16] **Omar Abdel-Razeq* & Abdullah Hakawati**
An-Najah National University
-

Coffee Break

- 11:20 - 11:40 *Improving the Reliability of
Steiner Tree Layouts*
[P17] **Naveed Sherwani & Jamal Nouh***
University of Jerusalem, Abu Deis
- 11:50 - 12:10 *Spaces of Symmetric Matrices
of Bounded Rank*
[P18] **Nizar Radwan**
Technion University, Haifa



12:20 - 12:40 *Common Fixed Points for Nonself-
Compatible Maps On Compacta*
[P19] **Nadim Assad***, Teacher College, Haifa
S. Sessa, University of Rome

12:50 - 1:10 *Varieties Generated by Two
Elements Non-Associative Groupoids*
[P20] **Noor-Aldeen Rabea'**
Al-Quds Open University

Lunch Break

Session on STATISTICS, II

10:30 - 1:10 *Rm. C002*

Invited Address

10:00 - 10:50 *Some Examples of Statistical
Analysis and Computing in the
Biological Sciences*
[I10] **Haiganoush Preisler**
US Department of Agriculture

Coffee Break

11:20 - 11:40 *Bootstrapping and Empirical Edgeworth
Expansions in Regression Models*
[S3] **Maher Qumsiyeh**,
Bethlehem University

11:50 - 12:10 *Linear Regression M. Estimators
for Censored Data*

[S4] **Nihaya Awartani**
An-Najah National University

12:20 - 12:40 *Two Non-Parametric Multivariate
Tests for Homogeneity, A Monte-
Carlo Study*

[S5] **Ali S. Barakat**
An-Najah National University

12:50 - 1:10 *Homogeneity Test for r -Samples
from Power Series Distribution*

[S6] **Abdelhakeem Eideh***
University of Jerusalem,
Adnan Awad
Jordan University

Lunch Break

Plenary Adress V

2:20 - 3:10 *Can Statistics Tell Us What We Don't
Want to Hear? Statistics and Public Policy*
Mary Gray
American University,
Washington D.C. **Rm. C001**

Session on PURE MATHEMATICS, VI

3:20 - 5:20 **Rm. C004**

3:20 - 3:40 *Unified Approach to Arithmetic
Convolutions and Arithmetic
Sum Functions*

[P21] **Ramzi Rihan**
Birzeit University

- 3:50 - 4:10** *Bassaga's Conjecture in Unstable
Kothe Spaces and Products*
[P22] **Jaser Sarsour**
Islamic University of Gaza
-

Coffee Break

- 4:30 - 4:50** *Summability Properties of Eigenvalues
of Nuclear Operators Between
Banach Spaces*
[P23] **Yousef Manasrah**
Hebron University, Hebron

- 5:00 - 5:20** *Absolutely P -Summing Operators*
[P24] **Ibrahim Almasri**
Polytechnic Institute, Hebron
-

Session on STATISTICS, III

3:20 - 4:10 *Rm. C002*

- 3:20 - 3:40** *A Production Scheduling Plan
For the Jordan Vegetable Oil Industry*
[S7] **Mohammad Ass'ad**
An-Najah National University

- 3:50 - 4:10** *On the Determination of the
Population Size of the West Bank
and the Gaza Strip*
[S8] **M. Ass'ad & Adnan Idriss**
An-Najah National University
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Coffee Break

**Workshop on Mathematics
and Computer Education**

***** Friday, June 18 *****

Session #1 10:00 - 11:30 *Rm. C001*

Sufian Kamal *ME-1 A Panel on*
Al-Quds Open University *"Problem Solving"*

Salah Yaseen
An-Najah National University

Tahseen Mughrabi
University of Jerusalem, Abu Deis

Coffee Break

Session #2 11:40 - 1:10 *Rm. C001*

Said Assaf *ME-2 A Panel on*
Birzeit University *"Technology in*
Mathematics
Nimer Bayya'h *Education"*
Supervisor, Computer
Education

Ali Khalil
Directorate of Education

Lunch Break

Session #3

3:00 - 4:30

Rm. C001

Said Assaf

Birzeit University

Salwa Quimry

Teacher College, Ramallah

Fateen Mas'ad

Birzeit University

ME-3 A Panel on

"Causes For the

Decline of
Mathematics

Teaching in
the Palestinian

Occupied Territory"

NOTE:

I_n : Invited Address #n

P_n : Pure Mathematics Lecture #n

C_n : Computer Science Lecture #n

S_n : Statistics Lecture #n

A_n : Applied Mathematics Lecture #n

***** : Indicates the Speaker.

Sessions will be held in the faculty of commerce building



LIST OF SPEAKERS

ABDELRAZEQ, OMAR	EIDEH , ABDELHAKIM	NASHED, ZUHAIR*
ABDUL MOHSIN, ALI	EL-AZEH, HASAN	NIJIM, KHALID
ABUDIAK, FAWAZ	MUGHRABI, TAHSEEN	NOUH, JAMAL
AL-AMLEH, MOHAMMAD	GEDEON, RAYMOND	PREISLER, HAIGANOUSH**
AL-GHROUZ, IBRAHIM	GRAY, MARY*	QADAH, GHASAN
ALLAN, FATHI	HAKAWATI, ABDULLAH	QUIMRI, SALWA
ALMASRI, IBRAHIM	HANNA, AZMI	QUMSIEH, MAHER
AL-SALQAN, YAHYA	HENDERSON, DAVID	RABEA', NOOREDDIEN
AL-SARI, TALEB **	IDRISS, ADNAN	RAGAB, MOHAMMAD
ASSAD, MOHAMMED	KAFRI, WASFI	RADWAN, NIZAR
ASSAD, NADIM	KAMAL, SUFIAN	RIHAN, RAMZI
ASSAF, SAED	KHALIL, ALI	ROTHENBURG, MELVIN
AWARTANI, MARWAN	KHAMIS, SALIM**	SALEH, HUSNI
AWARTANI, NIHAYA	KITTANIH, FUAD	SARSOUR, JASER
AWARTANI, NIZAR	KITTANIH, HILMI	SHABAT, MOHAMMAD
AYYAD, ABDULKARIM	KUTKUT, MAHMOUD	SHATAH, JALAL**
BADER, HUSSIEN **	MANASRAH, BASSAM	TITI, EDRISS**
BARAKAT, ALI	MANASRAH, YOUSEF	YAQUB, FAWZI
BARGHOUTI, NASER **	MILNOR, JOHN*	YASEEN, MUSTAFA**
BAYA, NIMER	MASA'D, FATEEN	YASIN, SALAH
DAVIS, CHANDLER *	DEEB, WALEED **	YFF, PETER

* *Plenary Talk* ** *Invited Talk*



نشاطات إجتماعية

الأربعاء ١٦/٦/١٩٩٣

حفلة عشاء لكافة المشاركين ترعاه الجمعية الفلسطينية للعلوم الرياضية في الساعة السابعة مساءً.
(يرجى مراجعة لوحة اعلانات المؤتمر للتفاصيل)

الخميس ١٧/٦/١٩٩٣

حفلة عشاء لكافة المشاركين ترعاه إدارة جامعة بيرزيت في الساعة السابعة والنصف مساءً.
(يرجى مراجعة لوحة اعلانات المؤتمر للتفاصيل)

السبت ١٩/٦/١٩٩٣

رحلة مشي على اسوار القدس تبدأ من الساعة التاسعة صباحاً من فندق Christmas في مدينة القدس.



دعوة

تُعقد الجمعية الفلسطينية للعلوم الرياضية
اجتماعاً عاماً في السادسة من مساء الأربعاء الموافق
١٩٩٣/٦/١٦ في مدرج كلية التجارة للتداول في امور
الجمعية.

ترحب الجمعية بحضور ومشاركة كافة الزملاء.

شكر

تشكر الجمعية الفلسطينية للعلوم الرياضية
مؤسسة AMIDEAST على دعمها المالي للمؤتمر، كما
تشكر الجمعيات الأكاديمية التالية على تضامنها
ومشاركتها الفعالة:

- * الجمعية الأمريكية للرياضيات
- * الجمعية الملكية البريطانية
- * الجمعية الكندية للرياضيات
- * الجمعية الفرنسية للرياضيات
- * المعهد الأمريكي للعلوم الرياضية
- * مؤسسة المهندسين الكهربائية والالكترونية (IEEE) -
جمعية الكمبيوتر - هيئة تحرير «برمجيات
الكمبيوتر»
- * المعهد الدولي للإحصاء

البرامج او المناهج او طرق التدريس. ويتضمن ذلك توفير المناخ العلمي والتربوي الذي يتيح للطلبة، خاصة في المرحلة الاساسية، فرصة للتطور العلمي والابداع.

٤. اصدار المطبوعات العلمية والتربوية المختلفة بما فيها اصدار نشرة علمية تهدف الى تعميق وتعميم التفكير العلمي والمعرفة الرياضية، والى توفير منبر للتواصل بين مختلف المعنيين بالعلوم الرياضية وتدريسها.

إن الجمعية الفلسطينية للعلوم الرياضية حيث تسعى جادة لتحقيق الأهداف المذكوره اعلاه فانها تدعو المختصين بالعلوم الرياضية في كافة اماكن تواجدهم للاشتراك والانضمام للجمعية.

الجمعية الفلسطينية للعلوم الرياضية

الجمعية الفلسطينية للعلوم الرياضية هي هيئة علمية مستقلة تستهدف بشكل عام الارتقاء بمستوى البحث والدراسة والتعليم في مختلف حقول العلوم الرياضية في المجتمع الفلسطيني وذلك بتوفير عوامل التقدم والتطور العلمي والمهني لجميع العاملين في تلك الحقول وتعميق دورهم في خدمة مجتمعهم.

تلتزم الجمعية بالمحافظة في كافة انشطتها على مستوى علمي ومهني رفيع وهي تسعى لتحقيق اهدافها من خلال:-

١. ارساء وتطوير تقاليد التواصل العلمي والمهني بين علماء الرياضيات الفلسطينيين في الوطن والشتات وتشجيع ورعاية مختلف اوجه التعاون العلمي بينهم.
٢. المساعدة في توفير فرص التطور العلمي والمهني لعلماء الرياضيات الفلسطينيين في مجالات اهتمامهم البحثية والتربوية ويقتضي ذلك بالضرورة توفير قنوات التعاون والتبادل بينهم وبين اقرانهم في مختلف دول العالم. كما يقتضي توفير قاعدة معلوماتية تستجيب للمتطلبات المحددة للانشطة البحثية والمهنية والتربوية المختلفة.
٣. المساهمة الفعالة في تطوير وتنشيط تعليم الرياضيات على مختلف المستويات المدرسية والجامعية سواء من حيث

لجنة المؤتمر

مروان عورتاني (جامعة بير زيت)، الرئيس
فواز ابو دياك (جامعة النجاح)
كرميلا ارمانوس (جامعة بير زيت)
وليد ديب (الجامعة الأردنية للبنات)
ريمون جدعون (جامعة بير زيت)

.....

الطاقم المساعد

ناصر ابو الرّب - المساعد الفني
مصير عوض - المساعد الإداري



قینیا سلفا قیومجا

قینیا لیریا و یلعلیا

بده ضال و یسه

ساع ما یه یسما یه یلعلیا

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۲۲۵۹.

زولعلیا - تنویریا قیومجا

۴۳۳۱

۲۱-۸۱ ۶۳۳۱

۱۳۵۳

یه یلعلیا و یسه لیریا



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الجمعية الفلسطينية

للعلوم الرياضية

المؤتمر السنوي الاول

1993

جامعة بيرزيت - فلسطين

16-18 حزيران 1993

برنامج المؤتمر





الجمعية الفلسطينية

للعلوم الرياضية

المؤتمر السنوي الاول

جامعة بيرزيت - فلسطين

١٦-١٨ حزيران ١٩٩٣

برنامج المؤتمر



SPC
QA
1
.P354
1993
BZU