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M I S C E L L A N E A

MATHEMATICIANS AND COMPUTER SCIENTISTS OF ROMANIAN EXTRACTION RESIDING OUTSIDE ROMANIA

A

Nicolae Anghel
Department of Mathematics
North Texas State University
DENTON , Texas 76203

Casius Alexandru
Vinetaplatz 2
1000 BERLIN 65
West Berlin

Felix Albrecht
Department of Mathematics
University of Illinois
URBANA , Illinois 61801

Mircea Arcan
Tel-Aviv University
School of Engineering
69978 TEL-AVIV , Israel

Florin Avram
White Hall
Cornell University
ITHACA , N.Y. 14853

Mihaela Antonescu
Departement d'Informatique
Universite de Moncton
MONCTON , N.B. E1A 3E9
Canada

Marian Aron
Department of Mathematics
Plymouth Polytechnic
PLYMOUTH DEVON , PL4 8AA
Great Britain

Flavian Abramovici
Department of Mathematics
Tel-Aviv University
RAMAT-AVIV , Israel

Marian Apostolache
402-15 Dellroy Avenue
KITCHENER , Ontario
Canada , N2A 2S2

B

Hari Bercovici
Department of Mathematics
Indiana University
BLOOMINGTON , Indiana 47405

Anca Barsanescu
26 rue Miolis
PARIS 15^{e} , France

Israel Berstein
Department of Mathematics
Cornell University
ITHACA , N.Y. 14853

Alecu Bencovski
3757 Brookhaven Drive # 464
DALLAS , Texas 75234

Egon Balas
Graduate School of Industrial Administration
Carnegie-Melon University
PITTSBURGH , PA 15213

Ion Marin Belcea
2118 Aldrin Rd.,1B
OCEANPORT , N.J. 07712

Vasile Badea
596 rue Lavoie
STE. DOROTHEE , Laval , P.Q.
Canada , H7X 2P4

Alexandra Bellow
Department of Mathematics
Northwestern University
EVANSTON , Illinois 60201

Georgeta Borcea
Docentgatan 7A
21452 MALMO , Sweden

Dan Burghelea
Department of Mathematics
Ohio State University
COLUMBUS , Ohio 43210

Ana Burghelea
(same address as Dan
Burghelea)

Malvina Baica
P.O.Box 408481
CHICAGO , Illinois 60640

Richard Blum
Department of Mathematics
University of Saskatchewan
SASKATOON , S7N 0W0 , Canada

C

Gregory Constantine
Department of Mathematics
University of Pittsburgh
PITTSBURGH , PA 15260

Doina Cioranescu
Laboratoire d'Analyse Numerique
Universite de Paris VI
4 , Place Jussieu
75230 PARIS Cedex 05

Petre Constantin
Department of Mathematics
University of Chicago
CHICAGO , Illinois 60637

Elena M. Croitoro
Department of Mathematics
Simon Fraser University
BURNABY , B.C. , V5A 1S6
Canada

Harry Cohn
Department of Statistics
University of Melbourne
PARKVILLE , Australia

Ioana Cioranescu
Department of Mathematics , Box BF
Universoty of Puerto Rico
RIO PIEDRAS , Puerto Rico 00931

Florin Constantinescu
Fachbereich Mathematik
Universitat Frankfurt
FRANKFURT/Main
West Germany

Constantin Corduneanu
Department of Mathematics
University of Texas at
ARLINGTON , TX , 76019

Adolph Cusmariu
5248 W. Running Brook
COLUMBIA , MD , 21044

Corneliu Constantinescu
Mathematisches Seminar
ETH - Zentrum
8092 ZURICH , Switzerland

Christian Constanda
Department of Mathematics
University of Strathclyde
26 Richmond Street
GLASGOW , G1 1XH , Scotland

Aurel Cornea
Fachbereich Mathematik
Katholische Universitat
8078 EICHSTATT , West Germany

Dorin Ciumasu
Gartenstrasse 2
7332 EISLINGEN-FILS , W.Germany

Nina Ciumasu
(same address as Dorin C.)

D

Radu Diaconescu
Department of Mathematics
Baruch College (CUNY)
17 Lexington Avenue
NEW YORK , N.Y. 10010

Mihai Dediu
230 North Street
TEWSKBURRY, MA 01875

Irinel Dragan
Department of Mathematics
University of Texas
ARLINGTON , TX 76019

Emeric Deutsch
Department of Mathematics
Polytechnic Institute of
New York
BROOKLYN , N.Y. 11201

Sofia Dediu
1480 Rockway Avenue
LAKEWOOD , Ohio 44107

Aristide Deleanu
Department of Mathematics
Syracuse University
SYRACUSE , N.Y. 13210

Florin David
Department of Mathematics
Courant Institute NYU
251 Mercer Street
NEW YORK , N.Y. 10012

Nicolae Dinculeanu
Department of Mathematics
University of Florida
GAINESVILLE , Florida 32611

Andrei Duma
Fachbereich Mathematik
und Informatik
Fernuniversitat
5800 HAGEN , West Germany

E

Ivan Erdelyi
Department of Mathematics
Temple University
PHILADELPHIA , PA 19112

Elena Eftimiu
Department of Mathematics
University of Missouri
8001 Nat. Bridge
ST. LOUIS , Missouri 63121

Mordechai Epstein
Department of Mathematics
Tel-Aviv University
RAMAT-AVIV , Tel-Aviv , Israel

F

Ingrid Fotino
685 10th Street
BOULDER , CO 80302

Ciprian Foias
Department of Mathematics
Indiana University
BLOOMINGTON , IN 47405

John T. Fagarasan
1020 W. Pecan Street
BREA , CA 92621

Ion Filotti
40 ter , rue Fabert
75007 PARIS , France

Peter Farkas
226 Highland Ave # 402
STATE COLLEGE , PA 16801

Sorana Froda
Departement de Mathematiques
et Statistique
Universite de Montreal
MONTREAL , P.Q.
H3C 3J7 Canada

G

Eric Grinberg
I.H.E.S.
91440 BURES-sur YVETTE , France

Silviu Guiasu
Department of Mathematics
York University
DOWNSVIEW , Ontario
M3J 1P3 Canada

Michael Ghil
Department of Atmospheric Sci.
Univ. of Calfornia
LOS ANGELES , CA 90024

Nicholas Georgescu-Roegen
2614 Hemingway Drive
NASHVILLE , TN 37234

Virgil Gligor
Department of Computer Sciences
University of Maryland
COLLEGE PARK , MD 20742

Costin Ghibu
6225 Bienville
BROSSARD , P.Q.
J4Z 1W9 Canada

H

Peter Hammer
Center for Operation Research
Rutgers University
NEW BRUNSWICK , N.J. 08093

Sergiu Hart
Statistics Department
School of Mathematical Sciences
Tel-Aviv University
69978 TEL-AVIV , Israel

Ioana Hartopeanu
Wilhelm-Busch-Strasse , 53
6000 FRANKFURT?MAIN 50
West Germany

Pia Horowitz
Rh. Ben Eliezer 67/22
52294 RAMAT-GAN , Israel

Theodor Hangan
Dept. de Mathematiques
Universite de Mulhouse
France

I

A. Ioinovici
Department of Applied Mathematics
Weizmann Institute of Science
REHOVOT , Israel

Sorin Istrail
Department of Mathematics
Wesleyan University
MIDDLETOWN , CT 06457

Constantin Ivan
Fachbereich 11
Gesamthochschule Duisburg
4100 DUISBURG , West Germany

Andrei Iacob
Weizmann Institute of Science
REHOVOT , Israel

Tudor Ionescu
17 Oak Ridge Road
SUDBURY , MA 01776

G.D.Ianculescu
17171 Roscoe Blvd. # 250
NORTHRIDGE , CA 91325

Constantin Ionescu
477 West 132 Street # 26
HAWTHORNE , CA 90505

George Isac
Departement de Mathematiques
College Militaire Royal
SAINT-JEAN , P.Q.
J0J 1R0 Canada

Caius Ionescu Tulcea
Deaprtment of Mathematics
Northwestern University
EVANSTON , Illinois 60201

Dan Ionescu
170 Lees Ave # 403
OTTAWA , Ontario , Canada

J

Dan Jurca
Department of Mathematics
California State University
HAYWARD , CA 94542

K

Sergiu Klainerman
Department of Mathematics
Princeton University
PRINCETON, N.J. 08544

Barbu C. Kestenband
200 S. Middle Neck Cl
GREAT NECK , N.Y. 11021
(N.Y. Institute of Technology)

Gabi Klarsfeld
59 , rue d'Auteuil
75016 PARIS , France

L

Lawrence Lupash
1401 S. Harbor Blvd.
LA HABRA , CA 90631

Aldo Lazar
School of Mathematical Sciences
University of Tel-Aviv
69978 TEL-AVIV , Israel

Otto Liess
Seminario Matematico
Universita degli Studi
PALERMO , Italia

George Lusztig
Department of Mathematics
MIT Room 2-276
CAMBRIDGE , MA 02139

Genevieve Lopata
31 , rue de Coulanges
94370 SUCY EN BRIE , France

Liviu R. Lustman
NASA , LRC Mail Stop 409
HAMPTON , VA 23665

Ioan D. Landau
Laboratoire d'Automatique
Institut National Polytechnique
GRENOBLE , France

Alexandru Lascu
Istituto di Matematica
Universita degli Studi
FERRARA , Italy

Marica Lewin
Leon Blum Str. , Nr. 46 , # 30
33855 HAIFA , Israel

M

Doru Marculescu
64 Tenterden Rd.
DAGENHAM , ESSEX
England

Petrisor Mazilu
Hustarding 61
4630 BOCHUM , West Germany

Magda Mazilu
(same address as P.Mazilu)

Henri Moscovici
Department of Mathematics
Ohio State University
COLUMBUS , Ohio , 43210

Elvira Moscovici
(same address as Henri M.)

Matei Machedon
Department of Mathematics
Princeton University
PRINCETON , N.J. 08540

David Mendel
Science Dept.,Defence Ministry
P.O.Box 2250 (Dept.44)
31021 HAIFA , Israel

Preda Mihailescu
Seminar fur Angewandte Mathematik
ETH - Zentrum
8092 ZURICH , Switzerland

Ion Moga
Salzburgerstrasse 3/29
8225 TRAUNREUT
West Germany

Sigrid Moga
(same address as I.Moga)

N

Adriana Nastase
Lehrgebiet Aerodynamik des Fluges
TH-Vermittlung 801
Templergraben 55
5100 AACHEN , West Germany

Valerian Nita
28857 James St.
WARREN , MI 48092

Monica Nicolau
Department of Mathematics
University of California
BERKELEY , CA 94720

Monica Neagoy
7106 Arran Pl.
BETHESDA , MD 20034

Stefan Nuta
CAP-Sogeti Tertiaire
26 , rue de la Pepiniere
75008 PARIS , France

Constantin Negoita
Department of Computer Science
Hunter College (CUNY)
695 Park Avenue
NEW YORK , N.Y. 10021

O

Adrian Ocneanu
Department of Mathematics
Pennsylvania State University
UNIVERSITY PARK , PA 16802

Charles M. Oprian
Department of Mathematics
Western Illinois University
MACOMB , Illinois 61455

Philip Obreanu
Department of Mathematics
Queen's University
KINGSTON , Ontario , Canada

John F. Oprea
Department of Mathematics
Cleveland State University
CLEVELAND , Ohio 44115

P

Costel Peligrad
Department of Mathematics
University of Cincinnati
CINCINNATI , Ohio 45267

Vasile Mihai Popov
Department of Mathematics
University of Florida
GAINESVILLE , Florida 32611

Radu Popescu
Departement de Mathematiques
Universite de Tours
37200 TOURS , France

Ion Paraschivoiu
Departement de Mecanique
Ecole Polytechnique
MONTREAL , P.Q.
H3C 3A7 , Canada

Alexandru Pelin
Department of Mathematics
Florida International University
MIAMI , Florida 33199

Catalin Pora
407 N. Pennsylvania # 604
INDIANAPOLIS , IN 46204

Magda Peligrad
Department of Statistics
University of Cincinnati
CINCINNATI , Ohio 45267

Mircea Predeleanu
Laboratoire de Mecanique des Solides
Ecole Polytechnique
91128 PALAISEAU , France

Monique Pavel
145 Avenue Malakoff
75116 PARIS , France

Liana Popescu
Inst.Univ.Technologie
Departement de Genie Electrique
Universite de Poitiers
86034 POITIERS , France

Adolph Pollingher
Department of Mathematics
Israel Institute of Technology
HAIFA , Israel

Ilie Popescu
Departement d'Informatique
Universite de Quebec a Hull
HULL , P.Q. , J8X 3X7 , Canada

Dan Pieptea
Department of Management and Systems
University of Texas at Dallas
RICHARDSON , TX 75083

Florian Potra
Department of Mathematics
University of Iowa
IOWA CITY , Iowa 52242

Laura Pieptea (Nicolaide)
2002 Fairmeadow Dr.
RICHARDSON , TX 75080

Nicolae Pavel
Department of Mathematics
Ohio University
ATHENS , Ohio 45701

Dan Pascali
105-40 62nd Rd. , #1P
FOREST HILLS , N.Y. 11375

Alexandru Pintilie
Department of Mathematics
University of Toronto
TORONTO , Canada

Melania Pintilie
(same address as A.Pintilie)

Larisa Patrascu (Pejenaru)
2126 Tree Lane
KINGWOOD , TX 77334

R

Theodor Rus
Department of Computer Science
University of Iowa
IOWA CITY , Iowa 52242

Radu Rosu
Department of Mathematics
Pennsylvania State University

Corina Reischer
Department of Mathematics
University of Quebec
TROIS-RIVIERES , C.P. 500
G9A 5H7 , Canada

Nicolas Radulesco
Le Victoria
13 , Blvd Princesse Charlotte
MONTE CARLO , Monaco

Ion Ratiu
347 South Rd # G1
POUGHKEEPSIE , N.Y. 12601

M. Rosenblatt-Roth
School of Business
Seton Hall University
SOUTH ORANGE , N.J. 07079

Adrian Rezus
Department of Computer Science
Katholieke Universiteit
6525 NIJMEGEN , The Netherlands

Nicholas Rau
Department of Economics
University College
LONDON , WCIE 6BT , England

Dan Ralescu
Department of Mathematics
University of Cincinnati
CINCINNATI , Ohio 45221

Tudor Ratiu
Department of Mathematics
University of California
SANTA CRUZ , CA 95064

Anca Luminita Ralescu
Department of Mathematics
University of Cincinnati
CINCINNATI , Ohio 45221

Gruia Catalin Roman
Department of Computer Science
Washington University
ST. LOUIS , Missouri 63130

Eugen Roventa
Computer Science Program
Glendon College
York University
2275 Bayview Avenue
TORONTO , Ont. , Canada

Stefan Ralescu
Department of Management
Brown University
PROVIDENCE , R.I. 02912

John J. Rau
6432 Via Estrada
ANAHEIM , CA 92807

Sandu Rautu
Ben Gurion University
84105 BER SHEVA , Israel

Alexandru Radu
Ponte de St.Julien 8
1227 CAROUGE , Switzerland

Radu Rosca
Avenue Emile Zola 59
PARIS 15-e , France

Dan Radulescu
16724 Yukon Ave # 2
TORRANCE , CA 90504

Mihail Romanos
Department of Mathematics
Cornell University
ITHACA , N.Y. 14853

Elemer Rosinger
Department of Mathematics
University of Pretoria
PRETORIA 0002 , South Africa

S

Alexandru Solian
Department of Mathematics
University of North Carolina
CHARLOTTE , N.C. 28223

Dana Schlomiuk
Department of Math.&Statistics
University of Montreal
MONTREAL , P.Q.
H3C 3J7 Canada

Rodica Socolescu
Mathematisches Institut
Universitat Karlsruhe
KARLSRUHE , West Germany

J.Schoenheim
Department of Mathematics
Tel-Aviv University
69978 TEL-AVIV , Israel

Vlad Sergiescu
U.E.R. Mathematiques
Universite de Lille - I
59655 VILLENEUVE-d'Ascq
France

Daniel F. Spulber
Department of Economics
Brown University
PROVIDENCE , R.I. 02912

Alex Suciu
Department of Mathematics
Columbia University
NEW YORK , N.Y. 10027

Liviu Solomon
Laboratoire de Mecanique
Theorique
Universite de Poitiers
POITIERS , France

Anca Stanescu (Deliu)
Department of Mathematics
Georgia Institute of Technology
ATLANTA , GA 30332

Dan Simovici
Department of Mathematics
University of Massachusetts
BOSTON , MA 02125

Dan Socolescu
Mathematisches Institut
Universitat Karlsruhe
D-75 KARLSRUHE
West Germany

Norbert Schlomiuk
Department of Mathematics
University of Montreal
MONTREAL , P.Q.
H3C 3J7 Canada

Marius Stoka
Istituto Matematico
Universita degli Studi
TORINO , Italy

I.J.Schoenberg
1111 Oak Way
MADISON , WI 53705

Ioana Schiopu-Kratina
Business Survey Methods
Statistics Canada
Jean Talon Building
OTTAWA , Ontario
K1A 0T6 , Canada

Claudia-Lidia Simionescu-Badea
Klederinger Strasse 51
2320 SCHWECHAT , Austria

T

Radu Theodorescu
Department of Mathematics
University of Laval
QUEBEC , G1K 7P4

Fabian Todor
Ecole des Hautes Études
Commerciales
Universite de Montreal
MONTREAL , P.Q.
H3C 3J7 Canada

Ioana Triandaf
Department of Mathematics
University of Minnesota
MINNEAPOLIS , Minnesota 55455

Petre Tautu (M.D.)
Sonderforschungsbereich
Stochastische Modelle
Im Neuenheimer Feld 294
6900 HEIDELBERG , West Germany

Lior Tzafriri
Department of Mathematics
Hebrew University
JERUSALEM , Israel

Victor Trutzer
Department of Mathematics
West Virginia University
MORGANTOWN , W.Va. 26506

Nicolae Tipei
1403 East 5-th Street
ROYAL OAK , MI 48067

Imre Toth
Lehrstuhl fur Allgemeine
Wissenschaftgeschichte
Universitat
Niederleierndorf
REGENSBURG , West Germany

Nicolae Teleman
Department of Mathematics
SUNY at Stony Brook
STONY BROOK , N.Y. 11794

Silviu Teleman
Department of Mathematics
University of Puerto
RIO PIEDRAS , P.R.00931

Florian Tent
5041 N. Damen
CHICAGO , IL 60625

U

Sabetai Unguru
Institute for History &
Philosophy of Science
Tel-Aviv University
RAMAT-AVIV , 69978 Israel

C.Unguriano
722 Newton Avenue
MINNEAPOLIS , MN 55411

V

Dan Voiculescu
Department of Mathematics
University of California
BERKELEY , CA 94720

Andrei Verona
Department of Mathematics
California State University
LOS ANGELES , CA 90032

Maria Elena Verona
Department of Mathematics
California Institute of
Technology
PASADENA , CA 91125

Carmen Vlad
18 Midchester Avenue
WHITE PLAINS
N.Y. 10606

Izu Vaisman
Department of Mathematics
University of Haifa
Mt. Carmel , HAIFA
Israel

Eug. Nic. Vasilescu
Department of Statistics
Baruch College
46 East 26-th Street
NEW YORK , N.Y. 10010

W

Elena Wexler-Kreindler
Universite Pierre et Marie Curie
U.E.R.Mathematiques
4,Place Jussieu
75320 PARIS Cedex 05
France

Jack Weinstein
SOFTEL-Adv. Techn. Ltd
60 Medinat Ha Yehudim
P.O.Box 3112
46103 HERZELIYAH , Israel

Z

Radu Zaharopol
Department of Mathematics
Ohio State University
COLUMBUS , Ohio 43210

Zoe Zorzor
Richard-Strauss-Strasse 13
8228 FREILASSING
West Germany

Dan Zamfir
Rehov Bar Kochba 1/2
TEL-AVIV , Israel

Irina Zamfir
(same address as D.Zamfir)

Laszlo Żsido
Mathematisches Institut A
Universitat Stuttgart
7000 STUTTGART 80
West Germany

S.Zaidman
Departement de Mathematique et
Statistique
Universite de Montreal
MONTREAL , P.Q.
H3C 3J7 Canada

Maria Zamfir (Bleyberg)
3715 Castelrock Road
MALIBU , CA 90265

Tudor Zamfirescu
Abteilung Mathematik
Universitat Dortmund
DORTMUND , West Germany

Christina Zamfirescu
Department of Mathematics
Hunter College (CUNY)
695 Park Avenue
NEW YORK , N.Y. 10021

The following colleagues have changed their affiliation/address , and presently we do not have their exact coordinates :

USA : M. Breban , Josefina Bondoc , Marcel Nicolau , Carina Parvulescu , Alexandru Stanculescu , Mark Sturza , Deonisie Trifan , Nic. Tutoș

Israel : Eric Goldhagen , Andrei Ney , Dan Butnariu

France : L.J.Nicolescu , Carmen Ieșan-Maftei (Paris)

Australia : Christina Dobraniș (Hartopeanu) Canada : Ștefan Olariu

Belgium : Radu Badesco Switzerland : A. Mihailescu (Basel)

West Germany : Ștefan Șandor

ADDENDUM

M.V.Bodnarescu
Baumbluete 4
D-4300 ESSEN (1)
West Germany

Dorin Ghișa
Glendon College
2275 Bayview Avenue
TORONTO , Ontario
M4N 3M6 Canada

Sergiu Aizicovici
Department of Mathematics
Ohio University
ATHENS , Ohio 45701

Dan Mateescu
Department of Mechanical Engr.
McGill University
MONTREAL , P.Q., Canada

Erwin Schechter
Konrad Adenauer Str. 39
D-6750 KAISERSLAUTERN, West Germany

Micheline Schechter
(same address as E.Schechter)

Dan C.Marinescu
Purdue University
West LAFAYETTE , IN 47907

Vasile Ion Istrăţescu
Westring 331
2300 KIEL , West Germany

Gabriel L.Pauliuc
University of Chicago
5734 University Avenue
CHICAGO , IL 60637

Tatiana Mihnea
16360 W.Mozart Avenue
LOS GATOS , CA 95030

Eugene Călinescu
79-23 71-st Avenue
GLENDALE , N.Y. 11385

Sorin Popa
Department of Mathematics
UCLA
LOS ANGELES , CA 90024

Sandu Crivineanu
Gasthof Haindl
Markt 6 , Room 3
2851 KRUMBACH , Austria

Ciprian Borcea
Institute for Advanced Study
Princeton University
RINCETON , N.J. 08540

Ileana Streinu (Mrs.Borcea)
Department of Computer Sciences
Rutgers University
NEW BRUNSWICK , N.J. 07102

Sender Solomon
Michelangelo 10
TEL AVIV
68029 Israel

Gheorghe Cernătescu
449 Ingram Avenue
STATEN ISLAND , N.Y. 10314

Cornelia Popa
2512 Adams Court # 158
MICHELL , KY 41017

Andrei Iordan
Mathématiques
Université de Paris X
NANTERRE , France

Christina Draghicescu
Pennsylvania State University
McAllister Bldg.
UNIVERSITY PARK , PA 16802

Florin Diacu
Langgarten 21
6300 HEIDELBERG
West Germany

Florica Bucur
c/o Alexandru Lascu
(see address in the list)

Constantin Teleman
Department of Mathematics
Harvard University
CAMBRIDGE , MA 02138

Horace Dediu
230 North Street
TEWSBURRY , MA 01875
(Student Tufts Univ.)

Dragu Atanasiu
Hedbovagen 7.C
51163 SKENE
Sweden

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PHYSICISTS OF ROMANIAN EXTRACTION RESIDING OUTSIDE ROMANIA

N.Andrei
Department of Physics NYU
NEW YORK , 10003

Radu Balescu
Universite Libre de Bruxelles
BRUXELLES , Belgium

Alexandru Blumen
Lehrstuhl Chemie
Technische Universitat
MUNCHEN , West Germany

Dan Botez
T.R.W.
LOS ANGELES , CA

Doina Bunaciu-Filip
19 av. Feuillasse 1217
Meyrin , GENEVE
Switzerland

Dan Cacuci
Nuclear Engineering
Univ.CA Santa Barbara,CA

Niculae Cantuniar
Muhlernstrasse 139
3098 SCHBERN bei KONIZ
Switzerland

Corneliu Eftimiu
McDonell - Douglas
P.O.Box 516
ST. LOUIS MO 63166

Octavian Enea
Laboratoire de Chimie du CNRS
Universite de Poitiers
POITIERS , France

Octavian Funariu
4900 N. Marie Drive
CHICAGO , IL 60640

Mircea Fotino
Department of Molecular Biology
University of Colorado
BOULDER CO 80309

Mihai Gavrila
Inst. Atomenmolekl fysik (FOM)
AMSTERDAM The Netherlands

Adrian Gelberg
Wullner Strasse no. 125
D-5000 KOLN 41
West Germany

Ion Ghica
29 rue du Chemin Vert
PARIS , France

Adina Koch
Department of Astrophysics
Hebrew University
JERUSALEM Israel

Horia Luchian
Department of Physics
Concordia University
MONTREAL . P.Q.
H3G 1M8 Canada

Meinhard Meyer
Department of Physics
University of California
IRVINE CA 92717

Vasile Mustafa
248 Corot # 206
VERDUN , MONTREAL . P.Q. H3C 1K9

Sorin Marculescu
Inst. Theor. Kernphysik
KARLSRUHE , West Germany

Basarab Nicolescu
(Physicien Theoricien au CNRS)
19 Villa Curial
75019 PARIS , France

Pavel Pechiu
38622 Vancouver Common
FREMONT CA 94536

Constantin Pomponiu
28 East Lance Leaf Rd
The WOODLANDS TX 77380

Alexandru Pop
9171 Imperial Avenue
GARDEN GROVE CA 92644

Vladimir Protopopescu
Oak Ridge National Labs
OAK RIDGE TN 37830

Adrian Patrascioiu
Department of Physics
University of Arizona
TUCSON Arizona 85721

Hans Raszillier
Inst. Theor. Physik
Universitat Bonn
BONN West Germany

Vladimir Rittemberg
Inst. Theor. Physik
Universitat Bonn
BONN West Germany

Mihai Rosenberg
Drosselweg no. 12
D-4630 BOCHUM 1
West Germany

Tudor Roşescu
Osterreich Umwelt Institut
WIEN Austria

Mihaela Sararu
Inst. Theor. Kernphysik
KARLSRUHE West Germany

Ion S. Ştefanescu
Institut Theor. Kernphysik
KARLSRUHE West Germany

Floarea Stancu
Institut de Physique B5
LIEGE Belgium

Ion Stancu
Inst. Theor. Physik
Universitat Dusseldorf
DUSSELDORF West Germany

Mircea Sabau
Argonne National Laboratory
WOODRIDGE IL 60515

Viorel Sergiescu
11 , rue de Chatenay 49
92160 ANTONY France

Adrian C. Ionescu
Semiconductor Physicist
International Rectifier
233 Kansas Street
EL SEGUNDO CA 90245

We have only partial information concerning the following colleagues :

USA : Anton Moldovan , Irina Russu , Erwin Friedlander , Irina Marinescu -Cure-laru , Stefan Vaida , Persi Ţehric , Miron Kaufmann , Petre Rusu , Eugen Badralexe , Tudor Arvinte , Andrei Vincenz (Georgetown University)

West Germany : Dan Constantinescu , Mihai Sostarich , Mihai Stihi , Toma Vescan , Ladislau Banyai , Nicolae Marinescu , Richard Weiner , Tudor Dumitrescu

France : Sorin Ciulli , Ileana Milcu-Agalidis , Horia Dumitrescu , Nicolae Carjan , Iuliu Ushersohn ; Belgium : Alexandru Babcenco ; Israel : Isac Goldhirsch ; Australia : Dumitru Moisescu , Gabriela Moisescu ; Switzer-land:Tudor Bunaciu

AMERICAN ROMANIAN ACADEMY OF ARTS AND SCIENCES

B Y L A W S

PREAMBLE

Scholars and artists of Romanian origin living on American soil , as well as a number of American scientists specializing in Romania civilization , culture and language , guided by the aspiration of serving both the American and the Romanian nations through creative scientific and cultural activity , do establish :

The American Romanian Academy

of Arts and Sciences

as a "non profit organization" .

I. Purpose and Character of the Academy

Art. 1 . A.R.A. is an academic forum . Its vocation is the enhancement of Roma - nian cultural values in the spirit of academic autonomy as defined by Western democratic thought . The Academy has the following objectives:

(a) to foster Romanian culture and acquaint the Western world with Romanian spiritual values ;

(b) to strengthen the cultural and spiritual ties between the American and Romanian peoples ;

(c) to provide , in the United States of America , for the Romanian nation , a constant "point d'appui" at the scientific and cultural levels .

Art. 2. In order to achieve its goal , the American Romanian Academy of Arts and Sciences shall preserve and strongly defend its independence , by avoiding any af filiation to other organizations or its subordination to Associations or groups of any type .

Art. 3. The residence of the American Romanian Academy (A.R.A.) will be that of its President . The President represents the A.R.A. de facto and de jure .

II. The Members , their categories , Admission Procedures, Cessation of Membership

Art. 4. The A.R.A. consists of :

(a) full members ; (b) associate members ; and (c) honorary members .

Art. 5. The full members are elected according to the following criteria :

(a) Their activity in the field of their specialization , with publications or exhibitions of value , recognized by their respective scientific or artistic circles ;

(b) Their concern for the ideals of promoting Romanian culture under conditions free from political pressures . Any member of the A.R.A. has the right to recommend to the President - by a documented report - the admission of a new member into the Academy . The President will ask also the advice of a full member in a domain close to the special field of the candidate . In the event , this advice is favorable , the President shall transmit in writing the proposal to all full members of the Academy , together with all necessary data in view to enable the members to be informed about the academic (scientific or artistic) activities of the candidate .

In this proposal , the President will specify the candidate's status in his or her country of residence in order that it may be established whether the candidate is in a position to undertake lasting collaboration with the A.R.A. in the spirit of freedom stipulated by the Bylaws . The admission as a member is obtained by two thirds of the votes received by mail from the full members , provided that the number of ballots received represents the majority of the total number of the full members of the A.R.A.

Art. 6. The admission of the associate members follows a procedure similar to that described in Art. 5 . However , their admission is justified primarily by the moral and material support they offer the Academy .

Art. 7. Persons who have rendered particular services to the Academy or have substantially contributed to the fulfillment of its goals may be appointed honorary members at the President's proposal and with the approval of the Executive Committee ; the honorary members are exempted from the annual dues .

Art. 8 . Only the full members have the right to vote .

Art. 9 . The quality of member is lost by anyone who :

(a) departs from the stipulations of Articles 5 or 6 of the Bylaws ;

(b) offers a written resignation to the President ;

(c) does not pay the annual fees during two consecutive years .

Membership is automatically terminated in the case specified under (c) , at

the Secretary-Treasurer's acknowledgement ; and in the case specified under (b) , at the acknowledgement of the President . These acknowledgements should be included in the Minutes of the next meeting of the Executive Committee . In the case under (a) , the situation should be submitted by the President to the Grievance Committee (see Art. 27) following a notice given by the Executive Committee . The Grievance Committee will proceed with investigation and will present its report to the President (see Art. 17) .

III. The Governing Bodies

Art. 10. The General Assembly takes place once a year at the time of the Congress (ordinary meeting) , or more than once yearly , if called in extraordinary meeting by the President. The President summons the Assembly by circular letter addressed to full members , one month before the date which has been decided for the meeting . The agenda of the meeting shall be attached to the letter . Associate members may participate in discussions , but decisions are taken by the majority of votes of the full members .

Before a General Assembly may be duly constituted , the personal presence of at least ten full members is required . Decisions of the General Assembly require a majority of 50 percent plus one of those members who are present in person or who have provided a written proxy . If , by any lack of "quorum" , the meeting cannot be assembled , the President , with previous approval of the Executive Committee , may consult all the full members by mail , based on the established agenda .

The results will be communicated by the President to all members and inserted in the next Bulletin .

The General Assembly deliberates on the order of the day , discusses and approves the reports of the President and of the Secretary-Treasurer , approves the balance sheet of incomes and expenditures , elects the members of the Executive Committee who will serve for three years , decides the place , the university and the date of the next Congress and General Assembly and elects the members of the Grievance Committee .

Art. 11. The Executive Committee conducts the activity of the A.R.A. between the annual congresses . The Committee is composed of nine members , elected for a a three-year term by the General Assembly , namely : The President , the Vice President , the Secretary-Treasurer and six Counselors . A representative of the ARA Research Institute and the editor of the Journal are members ex officio .

1. The President represents the A.R.A. , presides over the Congresses and the General Assembly , approves the programs of the annual Congresses in agreement with the decisions taken by the General Assembly , supervises the carrying through of the decisions taken by the General Assembly , conducts the procedures for the election of new members (cf. Art. 5 , 6 , 7) , approves the expenditures going beyond the scope of current and routine administration , summons the General Assembly meeting at least once a year , at the date of the Congress . At least once a year , the President informs all full , associate and honorary members by circular letter about the activities of the Academy (in relationship with Congresses , Publications , Studies , Exhibitions , Festivals , Financial Matters , etc.) , communicates to all members by special circular letter : the admission of new members , the cases of cessation of status of membership , the recommendations of the Grievance Commitee .

2. The Vice President acts as substitute for the President in case of need and assists the President especially in problems related to publications .

3. The Secretary-Treasurer draws up the minutes of the meetings of the General Assembly and of the Executive Committee , carries on the task assigned to him by the President , administers the assets of the Academy , keeps the account book , writes the financial reports , and makes payment of the expenditures needed by the activities of the Association under the supervision of the President . The Secretary-Treasurer submits the balance sheet , including the income and expenditures for approval before the Executive Committee at each of its meetings .

4. The six Counselors correspond to the various branches of activity of the Academy in agreement with the specifications below (see Art. 13) . At the request of the editors in charge of the publications of the A.R.A. , the counselors report on the works submitted to publication which fall within the competence of their own general fields of activity . They also report to the Scientific Committee of Congresses in maters related to papers on subjects close to their competence in view of organizing the programs by sections .

The Executive Committee takes decisions in any matter falling within its competence . The Executive Committee is summoned by the President whenever he or she considers it necessary . The letter of convocation shall include the agenda of the meeting , asking that those members who are not able to participate in person should send their votes by mail ; for matters of emergency , the President may con-

sult the members of the Executive Committee by telephone or telegram . The decisions of the Executive Committee as well as the voting procedures shall be inserted in the official report of the proceedings , which will be submitted for approval at the next meeting , and published in the next Bulletin of the Academy .

IV. The Activities of the Academy

Art. 12. As an institution promoting Romanian studies , the A.R.A. intends to introduce and stimulate knowledge of the cultural values of the Romanian nation in international circles , by encouraging research into the various domains of the humanities , positive sciences and arts . The studies undertaken by A.R.A. in these domains will examine the Romanian past and present , as well as various Romanian creations (artistic or scientific) achieved inside or outside Romania , in the framework of the orientations and cultural perspectives of the contemporary free world .

Art. 13. The activities of A.R.A. include Congresses , publications , art exhibitions and music festivals .

1. Congresses are annual meetings of academic standard in which the full members , the associate members , as well as other persons interested in Romanian culture , may participate and present papers . The inclusion of papers in the program will be made on the basis of abstracts (sent before the date indicated by a circular letter) , after approval of the congressional scientific committee composed of the President , counselors , as well as the local organizer . The congresses take place annually in the locality and at the university selected by the general Assembly of the preceding year .

2. The Publications consist of : volumes , periodicals and bulletins . The editorial practices adopted in these publications will conform to those followed in scholarly Societies in the United States . The editing of each volume , bulletin or periodical , is assigned to an editor by the Executive Committee at the proposal of the President , following a written report of the Vice President .

3. Exhibitions are generally organized similarly to other parts of the congressional programs - at the place and time scheduled for congresses . They can also be organized separately by a decision of the Executive Committee .

4. Music Festivals are generally organized at the time of congresses and are designed to promote and encourage the free creation of Romanian music. Festivals can also be organized separately following decision of the Executive Committee.

5. Specialized help for members of the Academy in the preparation of their freely initiated activities as described above is provided by the A.R.A. Research Institute . The program of the Institute is approved by the Executive Committee of the Academy .

V. Financial Matters

Art. 14. The financial resources of the Academy are :

(a) The annual fees of members established by General Assembly ;

(b) Donations made by individuals ,foundations or private corporations . Acceptance thereof is subject to the decision of Executive Committee .

Art. 15. The A.R.A. shall proceed to the election of a Fund-Raising Committee from individuals and private institutions for publication of A.R.A. volumes , bulletins and periodicals . The Committee will be composed of five to seven persons elected by the General Assembly for a three-year term . The Fund-Raising Committee will work under the general supervision of the President . The funds are part of the assets of the Academy , to be used for meeting the costs of printing A.R.A. publications .

VI. The Grievance Committee

Art. 16. Any member of the A.R.A. has the right to addree a written complaint refering to : violations of the bylaws ; activities within the Academy inconsistent with its aims ; and financial irregularities . The complaint , giving a truthful and documented presentation of the facts , must be signed before a notary public . The President will submit the complaint to the Grievance Committee for investigation and report . The complaint has a confidential character .

Art. 17. The Grievance Committee is composed of three members elected by the General Assembly for a three-year term . Its members cannot be at the same time members of the Executive Committee . For the first year , the President of the Grievance Committee shall be the eldest of the three members . Then , the President may pass the function to other members of this committee by agreement among them . The solution of a complaint should not be delayed for more than 60 days from the date of its presentation to the President of A.R.A.

If the Grievance Committee needs an extension of time , the President of A.R.A. may grant another delay of a maximum of 30 days , by which time the procedure must be completed . The documented opinion of the Grievance Committee shall be sub-

mitted for decision to the Executive Committee . The decision will be communicated to the claimant by the President of A.R.A. by registered letter . The claimant retains the right of appeal to the General Assembly .

VII. Amendment of the Bylaws

Art. 18. Any amendment of the Bylaws falls within the jurisdiction of the General Assembly . The Assembly reaches decisions in this matter by a majority of two-thirds of the total number of full members of A.R.A. , voting in person or by proxy . The text of any proposed amendment should be attached to the letter of convocation sent by the President to all full members one month before the date of the Assembly , together with the agenda and with a statement confirming that the proposed text has been approved by the Executive Committee .

VIII. Final Provisions

Art. 19. In the extreme event in which the purposes of the Academy could no longer be achieved , A.R.A. could be dissolved . The dissolution of A.R.A. will be decided by at least two-thirds of the votes of the members of the Executive Committee . The decision of the Executive Committee must be approved by a special meeting of the General Assembly with a two-thirds majority of votes . In case of dissolution the entire assets of the A.R.A. shall be transferred to the "Hoover Institution for War , Revolution and Peace" of Palo Alto , California , which has already treasured other important Romanian documents .

Art. 20. The English version of the present Bylaws is the only authentic or juridically valid one .

Art. 21. The present Bylaws of A.R.A. replace the Bylaws of February 1983 .

MARIA I. MANOLIU-MANEA - President
American Romanian Academy of Arts and Sciences

MIRON BUTARIU - Secretary - Treasurer
American Romanian Academy of Arts and Sciences

A.R.A. Publications

The American Romanian Academy of Arts and Sciences is publishing a series of books dedicated to the history , language , civilization snd culture of the Romanian nation . Due to the generous financial help provided at the beginning by the founder of A.R.A. , Monsignor Octavian Barlea , and by means of an active campaign of diffusion and sales , the following volumes have been printed and are available to the interested persons/institutions:

1) OCTAVIAN BARLEA : Romania şi Romanii ; Romania and the Romanians , 1977. The text is integrally parallel in the Romanian and English languages . The translation from the Romanian into English is due to George C. Mureşan and Enea Moţiu . The book has 421 pages and 21 maps .

2) PAUL D. QUINLAN : Clash over Romania (British and American Policies toward Romania , 1938 - 1947) , 1977 .
The volumes presents the diplomatic relations of England and the United States with Romania during the turbulent years between 1938 and 1947 .

3) MARIA MANOLIU-MANEA (Editor) : The Tragic Plight of a Border Area;Bassarabia and Bucovina , 1983 .
The book contains a collection of studies and articles on Bassarabia and Bucovina , Romanian provinces annexed by Soviet Union .

4) VLAD GEORGESCU : Istoria Romanilor (de la origini pana in zilele noastre) 1984 . This is the first comprehensive and uncensored book on the history of Romanians published since 1944 .

5) IONEL JIANU , GABRIELA CARP , ANA MARIA COVRIG , LIONEL SXANTYE : Romanian Artsits in the West , 1986 .
This anthology contains more than 170 articles (accompanied by two reproductions) , dedicated to Romanian artists (Painters , Sculptors) who have resettled in the West . A Romanian version is available . Excellent gra - phic conditions .

6) PAUL D. QUINLAN (Editor) : The United States and Romania:American-Romanian Relations during the Twentieth Century .
This volume sheds new light on Romanian-American relations during this Century and permits a glimpse into the psyche of the most oppressed people of southeastern Europe . A remarkable collection of essays describing the bonds between the two countries . These links are of different natures : diplomatic , trade , finance , communications , literature , art , sport and free movement of people and ideas .

7) EMIL TURDEANU : Modern Romania : The Achievement of National Unity (1914-1920),1988 .
This is a publication under the auspices of the "Mircea Eliade Research Institute" of A.R.A. Prof. Nicholas Ţimiraş , past President and Vice-President of A.R.A. is the Editor of this important volume . The struggle of the Romanian people during WWI is emphasized , for the realization of Great Romania . This publication has been made possible by a generous gift of Mrs. Irene Bie Corsani and Dr. Raymond Alexis Comnene , in memory of their father Nicholas Petrescu Comnène (a renowned Romanian diplomat who held the office of Minister of Foreign Affairs and Ambassador of the Kingdom of Romania to various European countries , 1918-1939).

A.R.A. is publishing the periodical "Journal of A.R.A." , once a year . This publication is mostly dedicated to Humanities , Social Sciences and to A.R.A.'s affairs . The last volume published of A.R.A.'s Journal is volume 12 (1989) .

A.R.A. publications are available , and can be ordered at the following address :

A.R.A. Publications
c/o Dr. Miron Butariu
4310 Finley Avenue # 6
LOS ANGELES , CA 90027

Starting August 1989 , A.R.A. has added to its list a new publication : A.R.A. NEWSLETTER . So far , only Volume I , No. 1 has been distributed to A.R.A.'s members . The Editor of this new publication is Prof. Alexandra Gruzinska / Foreign Languages Department / Arizona State University / TEMPE , AR 85287 - 0202 . The first issue of Newsletter contains a message from the President of A.R.A. , Dr. Maria Manoliu-Manea , in which the role of this new publication is outlined . The growing number of A.R.A. members has made necessary the publication in order to achieve a more efficient communication . Other members of the editorial board of Newsletter are : Dan Gabriel Cacuci , Nicolette Frank , Monica M. Grecu , Peter Gross , Olga Porumbaru and Mircea Sabau . A.R.A. members are cordially invited to contribute to the Newsletter . Deadline for contributions to Volume I , No.2 is December 15 , 1989 .

A.R.A. CONVENTION IN LOS ANGELES (CA)

The 14th Annual Convention of the American Romanian Academy of Arts and Sciences has been held in Los Angeles , California , hosted by the University of Southern California . The meeting took place from April 20 , to April 22 , and included besides paper presentation sessions a good deal of other features: A.R.A. Awards Ceremony (this year recipients George Cioranescu , Paula Iliescu Gibson , Patriciu Mateescu , Stella Roman , Ion Vlad) , several Round Tables , a Reception (at the Commons Restaurant on the USC Campus) , a performance of the play "The Chairs" by Eugene Ionesco (Friends and Artists Theatre Ensemble of Hollywood;Director Florinel Fatulescu) and the A.R.A. Annual Banquet .

The local organizing committee (Dr. Mario Saltarelli , Head of the Department of Spanish and Portuguese at USC ; Dr. Dan Moldovan , USC , Moshe Lazar , Domnita Sirbu-Dumitrescu , Valentina Stoicescu) has done an excellent job , surpassing all our expectations . A very friendly and congenial atmosphere has been one of the most pleasant features of this meeting .

The main theme of the Convention was the celebration of the Eminescu's Centennial (Mihai Eminescu , the greatest Romanian poet , 1850 - 1889) . Contribution to this theme have been made by L.M.Arcade , Vice-President of A.R.A., Olivia Ghila Safran-Naveh (Cincinnati) , Horia Stamatu (his paper was read by L.M.Arcade) , Roxana Verona , Stefan Stoenescu , Monica Maria Grecu .

Another major theme of the Convention was Eugene Ionesco's work as a playwright . Contributions have been made by Moshe Lazar , Monica Popazu , Jean Francois Thibault , Raymonde Bulger , Aurelia Roman and others .

As usual , a session has been dedicated to Mathematics . The following papers have been presented : Dorin Ghişa (York University , Glendon College , Toronto , Canada) , Complementary functions in Young's sense ; Dan Gabriel Cacuci , Nuclear Engineering , University of California at Santa Barbara) , Propagators for nonlinear systems (Concepts and Applications) ; C.Corduneanu (University of Texas at Arlington) , Control problems for functional-diffe - rential equations ; Florentin Smarandache (at the time of the Convention he was awaiting transfer to the United States from the refugee's camp in Kadikoy , Turkey) , An infinity of unsolved problems concerning a function in Number Theory (presented by C.Corduneanu) .

Folowing are the abstracts of the paper presented in the Mathematical Session of the 14th A.R.A. Convention .

Dorin Ghişa (abstract has not been provided by the author ; he continues the research on the same lines as in his papers published in Libertas Mathematica , volumes IV and VII).

Dan Gabriel Cacuci : A new formalism for solving general systems of nonlinear equations is presented.Underlying this formalism is the development of forward and backward propagators,which appear to be the natural generalizations to nonlinear systems of the customary Green's function encountered in linear theory . The propagators satisfy analogous reciprocity and semigroup properties , and yield the solution to the nonlinear problem by propagating exactly the bulk , the surface and the initial sources . Unlike the customary Green's functions, though , the forward and backward propagators depend parametrically and nonlinearly on the problem's solution.However , the propagators themselves satisfy linear equations which can,in principle,be solved by methods of linear theory . Also in contrast to the classical Green's functions , the nonlinear propagators lead to nonlinear integral expressions for the problem's solution. This new formalism is canonically applicable to any problem whose underlying nonlinear operators are Gateaux differentiable , and does not impose any additional restrictions on the operators , boundary and/or initial conditions , and phase-space describing the problem.

The practical usefulness of this new method has been assessed by performing a series of benchmarks on a generalized Burgers-Korteweg de Vries (BKdV) equation. It is well-known that both Burgers and Korteweg de Vries equations are time and space dependent partial differential equations;Burgers' equation serves as a paradigm for one-dimensional fluid flow , while Korteweg de Vries equation admits solitary wave solutions , when the nonlinearity exactly compensates the dispersion. Applying the method of nonlinear propagators to the BKdV equation , it is transformed from a nonlinear initial/boundary value problem into a closed form nonlinear integral equation . This nonlinear integral equation has been solved by Fourier spectral spatial decomposition , combined with an implicit Runge-Kutta temporal discretization ; the Fourier spectral decomposition is suggested di - rectly by the form of the propagator appearing as kernel in the closed form BKdV solution.The numerical results obtained for a host of initial conditions showed the new methodology to be accurate,robust,and considerably more efficient than the prevalent numerical methods for solving nonlinear problems .

C.Corduneanu: The problem under discussion relates to functional-differential equations of the form $\dot{x}(t) = (Vx)(t)$ on some interval J of the real axis , with an initial condition of the form $x(t_o) = x^o$. The operator V involved in the equation is a Volterra abstract operator (causal or non-anticipative) , acting on convenient function spaces . The cost functional to be optimized can be of the

same form as in the classical case of control problems associated with ordinary differential operatord , or of a more general nature (involving , for instance, causal operators) . Under technical conditions which cannot be detailed here , it is shown that the control problem possesses solutions . Maximum principle and other developments are indicated .

Florentin Smarandache:The following number theoretical function is defined in this paper : $\eta(n)$ = the smallest integer m , such that m! is divisible by n . The function is investigated first in connection with the decomposition of the number n in prime factors , and an expression is found in terms of the corresspon-ding values for its prime factors . Then certain elementary properties of this function are established . A first category of unsolved problems in regard to the function $\eta(n)$ includes , among others , the following problems which the a-uthor considers unsolved : Is there an asymptotic expression for $\eta(n)$? What is the distribution of the points $\eta(n)/n$ in the unit interval ? More exactly , are these points uniformly distributed in the unit interval ? Another category of unsolved problems related to the above defined function is concerned with the number sequaences . Also , an indeterminate number of unsolved problem appears in connection with Diophantine equations assocaited with the function $\eta(n)$.For instance , if the positive integer m is fixed , find integer solutions of the equation $\eta(x^m) = x^m$. The next chapter of the paper is concerned with the cons-truction of more arithmetic functions involving the function $\eta(n)$. A list of re-ferences includes more than 20 items , and mentions contributions of such cele-brated mathematicians as Sierpinski , Hardy , Mordell , Ulam , Vinogradov , Hasse, Landau , Davenport , L.E.Dickson .

ANNOUNCEMENT

The 15th A.R.A. Annual Convention will be held in Montreal , Quebec , Canada, from June 14 - 18 , 1990 .

The Convention will be hosted by the Ecole Polytechnique de Montreal . The lo-cal Organizing Committee is headed by Prof. Ion Paraschivoiu , with the Department of Mechnaical Engineering . The exact address for correspondence is :

Prof. Ion Paraschivoiu
Department of Mechanical Engineering
Ecole Polytechnique de Montreal
C.P. 6079 , Succursale A
MONTREAL , P.Q. , Canada H3C 3A7

EMIL GROSSWALD (1912 - 1989)

In Memoriam

Emil Grosswald was born in Romania , in December 1912 , where he completed his elementary and high school education . He also attended college level courses , and from his own testimony we know that he participated at the lectures given at Bucharest University or at the Bucharest Polytecnic School by mathematicians like Gheorghe Ţiţeica (Georges Tzitzeica) and Dimitrie Pompeiu . His interest in Mathematics has been present ever since and has been kept alive until he passed away on April 11 , 1989 .

In the late 1930's , when the war was approaching and the political and social situation became precarious in Romania (like in most of Europe at that time) Emil Grosswald emigrated from Romania to France . He will remain in France until 1940 , witnessing the beginning of the WWII in that country . There was not much security in France at that time , especially for a person of Jewish descent . So, Emil Grosswald escaped to Cuba in 1940 , after travelling on foot from Paris to Orleans . He resided in Cuba for the next six years , and in 1946 he leaves Cuba for Puerto Rico . Two more years are spent in Puerto Rico , and in 1948 Emil Grosswald came to the United States of America to attend the University of Pennsylvania . By that time , Emil Grosswald authored several mathematical papers which appeared in the Bulletin of the American Mathematical Society , Revista de la Sociedad Cubana de Ciencias and other periodicals .

Only two years after his arrival in the United States , Emil Grosswald earns his Ph. D. degree in Mathematics from the University of Pennsylvania in 1950 , with a thesis on Number Theory , with Hans Rademacher as adviser . He continues the research work in Number Theory , this domain remaining his first predilection. Mathematical Reviews contains more than 80 reviews of papers published by Emil Grosswald , during the period 1943 - 1989. Other fields in which Emil Grosswald has conducted research are Classical Analysis , Special Functions (including polynomials of different types) . He has written several books , whose titles will be listed below ,

From 1950 until 1952 , Emil Grosswald held a faculty position with the University of Saskatchevan in Canada . From 1952 until 1968 , Emil Grosswald is back to the University of Pennsylvania as a faculty member , and in 1968 he accepted a professorship in the Department of Mathematics at Temple University in Philadelphia . He remained on this position until his retirement in 1980 .

Emil Grosswal's activity in Number Theory made him one of the best known specialists in the world in this area . He has joint work with Hans Rademacher , Paul T. Bateman, E. Asplund, F.J.Schnitzer , S. Kotz , S.Kurepa , A.Calloway. He maintained an extensive international correspondence with mathematicians from many countries . He has written many letters of support for young Romanian mathematicians and scientists , trying to immigrate to the United States (during the last months of his life , Emil Grosswald was concerned with the situation of Florentin Smarandache , at that time in a refugee camp in Turkey).

Emil Grosswald was temporarily associated with other institutions; twice ,he wasa member of the school of mathematics at the Institute of Advanced Study in Princeton . He visited several time the Israel Institute of Technology in Haifa. He partcipated in many mathematical meetings and conferences . In 1986 , he was present at the ICM in Berkeley , California , despite his health status .

The Editor of Libertas Mathematica remembers how enthusiastically Emil Grosswald has answered his invitation to contribute to the journal . He was a contributor to the volumes II(1982) and VIII(1988) . Several of his books have been reviewed in the pages of this journal . See volume II for a biographical note .

Professor Grosswald has been survived by his wife Elisabeth (deceased one month after his death , on May 11 , 1989) and their daughters Blanche of Berkeley, California , and Vivian Murphy of Pittsburgh , Pennsylvania .

Books authored by Emil Grosswald

1. *Topics from the Theory of Numbers* . The Macmillan Comapny , New York ; Collier-Macmillan Ltd. , London , 1966 . XIV + 229 pp.

2. *Dedekind Sums (with Hans Rademacher)* . Carus Monographs of the Mathematical Association of America , No. 16 , 1972 .XVI + 122 pp.

3. *Topics from the Theory of Numbers (Second Edition)* . Birkhauser Verlag , Basel , Boston , 1984 .

4. *Bessel Polynomials* . Lecture Notes in Mathematics , No. 698 .Springer - Verlag , Berlin , 1978. XIV + 182 pp.

5. *Representation of integers as sums of squares* . Springer-Verlag , Berlin - New York , 1985 . XI + 125 pp.

DINU WEXLER (1931 - 1989)

In Memoriam

Dinu Wexler was born on August 28 , 1931 , in Bucharest , Romania . He attended school in Bucharest and obtained his "Baccalaureat" Diploma in 1950 with hi - ghest distinction . In 1950 he became a student with Bucharest University , the Faculty of Mathematics and Physics . After the freshman year , Dinu Wexler obtains a fellowship from the Romanian Department of Education to continue his studies in the Soviet Union . In the Fall of 1951 , he became a student with the University of Sverdlovsk , also in the Faculty of Mathematics and Physics . He spent the next four years at the University of Sverdlovsk , from which he obtained the Master degree in Mathematics . It is significant to notice the fact that Sverdlovsk was at that time one of the most important research center of the U.S.S.R. in the field of Qualitative Theory of Differential Equations . This fact had a determining influence on the whole academic career of Dinu Wexler . Mathematicians like I.G.Malkin , N.N.Krasovskii , E.A.Barbashin were working in Sverdlovsk at that time . In 1955 Dinu Wexler returns to Romania where he is appointed as an Assistant (this position in Romania was comparable with that of a Senior Instructor or Assistant Professor) with the Department of Mathematics at the Institute of Civil Engineering in Bucharest , where he remains for the next three years (1958) . In 1958 , he is appointed on a similar position with the Institute of Petroleum and Gas in Bucharest - another institution of higher education in the engineering field . In 1962 he is promoted to a position of Lecturer with the same Institute , and remains for the next six years on this position (1968) . In 1968 Dinu Wexler is promoted , as a result of a competition , to Associate Professor of Mathematics with the same Institute . For the next three years , until 1871 , Dinu Wexler is holding this position in the Romanian System of Higher Education . As a result of his intention to emigrate from Romania , he looses this job in the Spring of 1971 , being temporarily appointed as a Researcher with the Mathematical Institute of the Romanian Academy in Bucharest, the Division of Differential Equations . One year later , in 1972 , Dinu Wexler and his spouse (Elena Wexler-Kreindler , also a mathematician) emigrate in France (Paris) . The academic year 1972-1973 is spent in Paris , at the University Pierre and Marie Curie (Paris VI) , as an Assistant . In Fall 1973 , D. Wexler is appointed at the Facultes Universitaires Notre-Dame de la Paix , in Namur , Belgium , as an Associate Professor . In 1977 he became a Professor with the

same school , holding this position for the rest of his life .

While in Romania , Dinu Wexler has obtained his Ph.D. degree in Mathematics , in 1966 , from the University of Bucharest . He defended his thesis "Periodic and Almost Periodic Solutions of Impulsive Differential Systems" in front of a committee headed by Miron Nicolescu , at that time the President of the Romanian Academy.

In Namur , where he was active for 15 years , Dinu Wexler continued his re - search activity in the broad area of Dynamical Systems (Ordinary Differential Equations in finite or infinite dimension , Partial Differential Equations , Control Theory and related areas) , together with his duties fulfillment as a teacher . In thsi capacity he has taught courses like Mathematical Analysis , Partial Differential Equations , Complementary chapters of Mathematical Analysis and others . He carried out various administrative tasks and supervised many students while preparing their theses .

Particularly during the last part oh his academic activity , when he was able to travel to attend professional meetings , Dinu Wexler presented most of the results he has obtained at various mathematical conferences . We will mention here only a few of those conferences/symposia :Colloquium on Semigroup Theory , Mons , Belgium , 1974 ; International Symposium on Operator Theory of Networks and Systems, ontreal , Canada , 1975 ; International Symposium on Evolution Equations , Madison, Wisconsin , 1977 ; Symposium on Control Theory , Oberwolfach , 1979 ; Interantional Conference on Nonlinear Phenomena in Mathematics , Arlington , Texas , 1980 ; In - ternational Symposium on Dynamical Systems , Gainesville , Florida , 1981 .

The following main directions of research are present in the publications of Dinu Wexler : Liapunov stability theory ; Oscillations in impulsive systems (i.e., periodic and almost periodic solutions) ; Functional-differential equations ; Evolution equations ; Nonlinear Analysis ; Applications of differential equations to Engoneering problems . Some of the most recent publications deal with mathematical aspects of Control Theory .

Most results obtained by Dinu Wexler during almost 30 years of research activity have been quoted by mathematicians and engineers interested in the areas he has brilliantly cultivated . We mentions here only a few books/monographs in which his results are included : C.J.Harris , Stability of Linear Systems ; R.Cristescu, Introduction to Functional Analysis and Distribution Theory ; A.M.Fink , Almost Periodic Differential Equations ; A.H.Zemanian , Realizability Theory for Continuous Linear Systems ; A.Halanay ,Differential Equations (Stability, Oscillations , Time lag) ; V.Lakshmikantham and S.Leela , Differential and Integral Inequalities .

A group of colleagues of Dinu Wexler at the Facultes Universitaires de Namur have written in the biographical note (signed also by the President of the school):

"C'etait un homme tres discret et reserve , parlant peu de lui-meme . Durant ses derniers mois,il n'avait pas voulu inquieter ses collegues et leur a cache le mal qui le rongeait et contre lequel il luttait avec un courage admirable . Malgre cette discretion,on reconnaissait rapidement en lui un homme d'une grande sensibilite,d'une grande finesse et d'une grande force morale.Il ne prenait pas ses decisions a la legere;elles etaient longuement muries et dictees par son soucis du bien commun et des autres.Son avis etait d'un grand poids au sein du departement de Mathematiques et de la Faculte des Sciences."

In a letter of condolences sent to Mrs. Elena Wexler Kreindler by an eminent scientist from the University of California at Berkeley , the following is said about Dinu Wexler : "He was truly a gentlemen and a scholar.Also his work in Applied Mathematics was first class."

The Romanian Mathematical community , and particularly those of us who had a chance to know personally Dinu Wexler , is deeply affected by the premature loss of our distinguished colleague .

List of Publications (D.Wexler)

1.On stability theorems for stationary systems (Russian).Revue Math. Pures Appl. , 3(1958) , 131 - 138 .

2.On stability in dynamical systems(jointly with S.Sandor).Ibidem , 3(1958) ,325-328 (in French).

3.Oscillating systems with one degree of freedom and discrete feedback (jointly with N. Racoveanu) , (Rumanian).Buletinul IPGG , 9(1963) , 199 - 210 .

4.Solutions periodiques et presque periodiques des systemes d'equations differen - tielles aux impulsions . C.R.Acad.Sci.Paris , 259(1964) , 287 - 289 .

5.Solutions periodiques et presque periodiques des systemes d'equations differentielles aux impulsions ,Revue Roumaine Math. Pures Appl., 10(1965) , 1163-1199 .

6.Sur une equation differentielle non lineaire aux impulsions,Journal of Differential Equations , 2(1966) , 1 - 11 .

7.Solutions periodiques et presque periodiques des systemes d'equations differentielles en distributions . Ibidem , 2(1966) , 12 - 32 .

8.Note on eventual stability . Revue Roumaine Math.Pures Appl.,11(1966),819-824 .

9.Solutipns presque periodiques des systemes d'equations differentielles a perturbation-distribution . C.R,Acad. Sci. Paris , 262(1966),436-439.

10.Solutions periodiques des systemes lineaires a argument retarde . Journal of Differential Equations , 3(1967) , 56 - 58 .

11.Qualitative Theory of Impulsive Systems (Rumanian) (jointly with A.Halanay) , Editura Academiei Romane , Bucharest , 1968 .

12.On boundary value problems for an ordinary linear differential equation . Annali Matematica Pura Appl.,80(1968) , 123 - 134 .

13.Solutions periodiques des systemes lineaires du type neutre . C.R.Acad.Sci. Paris , 265(1967),236-247.

14.Solutions presque periodiques des systemes lineaires a perturbation-distribution.Revue Roumaine Math. Pures Appl.,13(1968),111-129.

15.Periodic solutions of some stationary linear systems . Journal of Differential Equations,5(1969) , 12-31.

16.Qualitative Theory of Impulsive Impulsive Systems (Russian) . Mir Publishing House , Moscow , 1971 (translation in Russian of ref.no.11).

17.Applications prox associees a un couple de fonctions duales de Legendre.C.R. Acad.Sci.Paris,275(1972),1327-1330.

18.Prox mappings associated with a pair of Legendre conjugate functions.Revue Francaise d'Automatique,Informatique et Recherche Operat.,1973 , R.2,39-65.

19.Operateirs fortement monotones et equations d'evolution fortement passives. C.R.Acad.Sci.Paris , 280(1975),201-204.

20.Passivity and L^p-stabilityof some nonlinear evolution equations.Proc.Int.Symp. on Operator Theory of Networks and Systems , Montreal , 1975 . Western Period. Company , North Hollywood , 1976 .

21.Nonlinear passive evolution equations.Journal of Differential Equations , 23 (1977),414-435.

22.La methode des frequences pour une classe d'equations d'evolutions.C.R.Acad. Sci. Paris , 284(1977),865-867.

23.Frequency domain stability criteria for a class of partial differential equations.Pro.International Symposium on Operator Theory of Networks and Systems, (Lubock , Texas , 1977),Western Publishing Company , North Hollywood , 1977.

24.Frequency domain stability criteria for a class of evolution equations .Proc. Equadiff-78 , 45-52.

25.Frequency domain stability for a class of equations arising in reactor dynamics.SIAM Journal Math. Analysis , 10(1979),118-138.

26.On frequency domain stability for evolution equations in Hilbert spaces via the the algebraic Riccati equation.Ibidem , 11(1980),969-983.

27.The regulator problem in Hilbert spaces with cost function not necessarily positive.Proc. International Symp. Math. Theory of Networks and Systems(N.Levan editoe),Western Periodicals Company , 1981(jointly with J.Cl.Louis).

28.The regulator problem in Hilbert spaces and some applications to exact controllability and stability.Proc. of the 1981 European Conference on Circuit Theory (R.Boite and P.Dewilde editors),Delft University Press , 1981.

29.Lyapunov functions for evolution equations in Hilbert spaces via the operator Riccati equation.Nonlinear Phenomena in Math.Sciences,Academic Press , 1982.

30.On the regulator problem and the operator Riccati equation in Hilbert spaces. Dynamical Systems,II (A.R.Bednarek and L.Cesari eds),Academic Press , 1982 (Jointly with J.Cl.Louis).

31.On exact controllability in Hilbert spaces (joinly with J.Cl.Louis).Journal of Differential Equations, 49(1983),258-269.

FROM THE BOOKSHELVES

ISAAC J. SCHOENBERG : Privelişti matematice . Editura Technica , Bucureşti , 1989 . Translation from English into Romanian by Professor Adolf Haimovici .
This volume is the Romanian version of the book "Mathematical Time Exposures" which appeared in 1982 under the auspices of The Mathematical Association of America (ISBN 0-88385-438-4) . The original book was reviewed in Libertas Mathematica vol. IV (1984) . The translation from English into Romanian has been performed with special skill by Professor Adolf Haimovici (Emeritus) , with the University "Al.I.Cuza" in Iaşi . Professor Isaac J. Schoenberg graduated from the University of Iaşi in 1922 , and this book is dedicated to the memory of his professors at that school : Victor Costin , Alexandru Myller , Vera Myller-Lebedeff , Simion Sanielevici . Professor Adolf Haimovici has written an interesting and stimulating Foreword (of the translator) . This book is highly recommended for a refreshing reading .

C.CORDUNEANU : Almost Periodic Functions . Chelsea Publishing Company , New York , 1989 Second English edition) .
The first English edition of this book , originally published in Romanian (Editura Academier Romane , Bucureşti , 1961) , was published in 1968 by John Wiley & Sons , New York (Interscience Publishers).That first edition was a translation of the Romanian book , with ample additions and improvements . The author has benefited from the coperation of Viorel Barbu and Nicolae Gheorghiu , both with the Seminarul Matematic "Al.Myller" of the University of Iaşi . This second edition preserves everything from the first English edition , and contains several additions : new material has been added to the section I.6 , V.4 and VI.5 . A completely new sec - tuon II.3 has been dedicated to the theory of random functions , almost periodic in probability . The Bibliographical Notes at the end of each chapter have been updated and 75 new titles have been added to the list of references . It is worthwile to mention that since the publication of the first English edition in 1968 , at least twelve books have been published on various aspects (pure or applied) of the theory of almost periodic functions . Several other books include substantial chapters treating topics and applications of almost periodic functions .

S. ZAIDMAN : Une introduction a la theorie des equations aux derivees partielles . Quaderni del Consiglio Nazionale delle Ricerche;Gruppo Nazionale per la Fisica Matematica.Bologna , 1988 .

This introduction to the theory of partial differential equations constitutes the material the author has included in the course on Partial Differential Equations he has taught at the University of Montreal during the last two decades . The following topics are discussed in the book : Classification of certain PDE ; Characteristic surfaces ; Weak solutions of PDE ; Harmonic functions ; Uniqueness and non-uniqueness of the Dirichlet problem ; Distribution solutions of PDE ; The heat equation ; Cauchy problem ; The mixed problem (Hadamard) ; Uniqueness in Neumann's problem ; Dirichlet problem in a disc ; Semigroup method for the heat equation ; Monotonicity properties for the homogeneous heat equation ; Dirichlet problem for the wave equation (homogeneous) ; Neumann's weak problem for Poisson's equation ; More on distribution solutions ; More on semigroup method for parabolic equations (in one dimension) ; The gradient system ; Poisson's equation in variational form; Neumann's problem in an arbitrary open set ; Convexity properties and quadratic mean values ; The equation $(-\Delta + c)u = f$ in an arbitrary open set ; General framework for boundary value problems ; References (abou 30 , mostly books) . Besides its role as a text for advanced study in PDE , the book can seve as a refresher for people who want to update and improve their knowledge of this interesting and useful (in applications) subject .

JAN MIKUSINSKI , THOMAS K. BOEHME : Operational Calculus (Volume II). PWN - Polish Scientific Publishers , Warszawa , 1987 (Common project with Pergamon Press , Oxford , New York , Beijing , Frankfurt , Sao Paolo , Sydney , Tokyo , Toronto) .

This second volume of the second English edition of the book initially written by Jan Mikusinski (Polish , Russian , German and again Polish editions) contains the following topics : Part IV , An outline of the general theory of linear differential equations with constant coefficients ; Part V , Integral operational calculus; Part VI , Adavnced topics in the operationsl calculus ; Part VII , Formulae and tables . Several questions left open in the first English edition have been ans - wered by the second author and J.Burzyk . These results are included in the present edition . The volume starts with a supplement to the first volume and ends with a conspicuous Appendix (Some topics in Real Analysis) . The book requires a high level of mathematical maturity , but the presentation is constructed in such a way to provide the largest access to the work .

ADRIANA NASTASE (Editor): Proceedings of High Speed Aerodynamics , I . Haag & Herchen , Frankfurt/Main , 1987 , X + 195 pp.
This volume includes the contributions of the participants to the Aerodynamic Seminar held at the RWTH-Aachen , from June 27 to June 29 , 1985 . The Seminar is organized every other year by Dr. Adriana Nastase , the Head of the Chair "Aerodynamic des Fluges" . The participation is international , and in the present volume 13 authors (or teams) from eight countries have contributed with papers . The total number of participants was almost sixty . Most contributions are realted to numerical procedures for finding the solutions of Navier-Stokes or other types of equations occuring in Fluid Dynamics . There are several contributins that deal with optimization problems in Aerodynamics , with the theory of transonic flow , experimental studies of wing profiles , the shock waves and with other problems of current interest in the field .

HENRI MASCART and MARIUS STOKA : Algebre lineaire et applications.Exercises et coriges.Volumes I and II , Presses Universitaires de France , 1984 , 1985 .
This is a collection of exercises and problems of Linear Algebra , intended for students of Engineering Schools.Each chapter starts with an introductory description of the basic concepts and results needed for solving the exercises and problems proposed in that chapter.Then , each question is completely answered and , sometimes , remarks are indicating alternative solutions or more general problems that may be treated by the same method/procedure. The following sequence of titles shows the particular manner in which Linear Algebra is taught in the French institutions of higher education. These titles are : Vector spaces;Linear transformations;Matrices;Determinants;Linear equations;Affine spaces and Projective spaces (vol.I);Eigenvalues and eigenspaces;Quadratic forms;Hermitian and Euclidean spaces;Tensor algebra;Linear equations with constant coefficients;Vector Analysis;Tensor Analysis (vol.II). Most of the exercises and problems in the first volume are at the undergraduate level.The second volume contains more advanced topics.However,beside the standard courses on Calculus and Analytic Geometry, a course in Abstract Algebra and another in Differential Equations are needed to understand the problems.Linear Algebra conceived in this way , should be the object of a course at the senior undergraduate level. These two volumes are very useful for Engineering students or Mathematics Majors , who are interested to review such topics , in connection with the applications of these methods . No computer experience is required from the reader , because the emphasis is on the correct understanding of concepts and classical algebraic methods.

Irinel Dragan

HENRI MASCART and MARIUS STOKA : Fonctions d'une variable reelle . Exercises et corriges.Volumes 1-5.Presses Universitaires de France , Paris,1986-1988.
This work covers a wide range of topics in Real Analysis , including such special subjects as Fourier series , ordinary differential equations,Laplace transform and the so-called Special functions (various classes of polynomials,Eulerian functions Γ and B , hypergeometric functions,Bessel functionsetc.) . The primary target is the engineering student who must get a solid mathematical training , but Science students , and particularly Mathematics majors can take advantage of this abundant collection of problems and exercises . The volume 1 contains the following chapters:Real numbers;Limits;Sequences;Real functions;Elementary functions.Volume 2 has only two (conspicuous) chapters:Curves and Integrals. The volume 3 has also two chapters:Differential equations of the first order and Higher order differential equations . In volume 4 , the following chapters are included : Remarkable sets of functions;Numerical series;Sequences and series of functions;Fourier series. The volume 5 covers the topics:Sequences of orthogonal functions;Laplace transform; Special functions.The collection is useful for both undergraduate and graduate students,depending upon the special interest of each category . Each chapter contains exercises or problems addressing the "ordinary" student , but it also contains some problems requiring well above average skills . Certain items could be very well considered as natural extensions of the current topics in a course of Mathematical Analysis at the intermediate level.Other items are treated usually in course like Differential Equations , Operational Mathematics , Harmonic Analysis . The books are highly recommended for students and engineers/scientists with interest in Higher Mathematics .

MARCEL ROŞCULEŢ : Et in Arcadia ego (Versuri) . Depto.Producc.Grafica,Instituto Profesional de Chillan , 1988 .
On the threshold of his 70-th Birthday , Marcel Roşculeţ - an Emeritus Professor of Mathematics with Bucharest Polytechnic - is offering us the first volume of poetry . Dr. Ioana Cioranescu is to be credited with the publication of this volume in Chile , where she was a Visiting Professor of Mathematics for a while . It is certain that the volume , which is written in Romanian,would have generated interest among Romanian readers . Unfortunately , the nowadays conditions in Romania did not help very much in carrying out such an initiative . Anyhow , it is a real satisfaction to see the volume published . It does reveal us - those who have known the author for almost four decades - a sensitive and inspired poet , whose horizons extend from Leonardo's vision (whom the first poem is dedicated) to the common

grief caused by the loss of one of our colleagues (Ştefan Gheorghiţă). In some poems , an orginal philosophy appears strongly influenced by the author's for - mation as a scientist . A sample of a short poem included in the collection is the one dedicated to Ioana C. , the colleague and friend who made possible the publication of the volume:Aş incerca in madrigal/Să te fixez ca intr-o pozā/ Vetust aş spune :"Eşti o rozā / Al cārei ghimpe e fatal".

MARCEL ROŞCULEŢ : Dacia Felix(Pasarea Fenix).Taling Press,Providencia,Santiago de Chile , 1988 .

Unlike the volume "Et in Arcadia ego" mentioned in the preceding review, the present volume of poetry published by Marcel Roşculeţ is concentrating on a single theme : the survival of Dacia (the ancient Carpathian Kingdom - the nowadays Romania) Felix despite a tremenduous amount of unfavorable circumstances during the last two millennia . Dacia is compared with the mithological bird Phoenix , who consumes itself by fire , but is rising again from its ashes . The book is a single poem , an epopee of considerable dimension , in which we find many dramatic aspects of our past . The whole poem is divided in 24 chants , as follows: I.Dacia Felix;II.Mihai's country (Michel the Brave , the first ruler to unify all Romanian countries,about 1600);III.The hen with golden chicks;IV.Mundum re - gunt numeri,1;V.The Grandfather;VI.Mundum regunt numeri,2;VII.Vlad the Impaler, 1 ; VIII.Vlad the Impaler , 2;IX.Mundum regunt numeri , 3;X.The Garden;XI.Caesar 1 ; XII.Caesar , 2 ; XIII.Caesar , 3 ; XIV.Ars longa,vita brevis ; XV.Mundum regunt numeri , 4 ;XVI.Stephen the Great , 1 ;XVII.Stephen the Great , 2 ; XVIII.Stephen the Great , 3 (the neighbors);XIX.Primum vivere,deinde philosophari (1) ;XX.A - lexander the Great , 1 ; XXI.Alexander the Great , 2 ; XXII.Alexander the Great (the banquet);XXIII.Primum vivere , deinde philosophari (2) ;XXIV.The Master.The poetic activity of Marcel Roşculeţ follows to that of a mathematician , active for at least four decades , activity which resulted in a large number of publications, including several books.The first verses in the Chant IX of Dacia Felix seem to epitomize the beginning of a new direction:"Urcam cu greu un munte colţurat/Cu trupul frint si membre singerate/Mā atragea inaltul sidefat / Ma impingeau impulsuri expandate /Din prpriu eu.Obscure ţepe /Imi zgiriau /Celulele crustate /Pe drumul ce ştiam c-abia incepe".

CONSTANTIN VIRGIL NEGOITA , DAN RALESCU : Simulation , Knowledge-Based Computing and Fuzzy Statistics .Van Nostrand Reinhold , 1987 . 224 pp.

This hanbook on approximate reasoning and decision making under incertainity is an illustration for the fact how knowledge engineering has influenced simulation

and reveals the link between both . The authors have adopted a new approach in dicsussing the problems , explaining the relationships between natuarl language and model building . Their approach is entirely non-numeric and when dealing with fuzzy statistics it allows natural language expression such as "high" to be used in lieu of numbers . Their new approach is based on fuzzy set theory - a branh of Modern Mathematics becomong more and more useful for practical applications , ranging from Linear Programming to Traffic Control . The authors retain as much as possible from the classical probabilistic methods , but introduce a series of modification necessary to deal with linguistic values . Novelties in this work , which is kind of pioneering contribution , are at least the follo - wing : constant and systematic use of the representation theorem ;coverage of the new area of Expert Systems with adequate exmples ; simulation and industrial engineering work based on the inference mechanisms using a Bayesian technique embedded in Fuzzy Theory . The Contents : Introduction ; Simulation models ; Linguistoc strategies ; Concepts of Fuzzy Set Theory ; Fuzzy random variables ; Limit theorems for fuzzy random variables ; Fuzzy-set valued measures ; Relation - ship between fuzzy random variables and fuzzy-set valued measures ; The Bayes formula for fuzzy probabilities .

C.CORDUNEANU : Principles of Differential and Integral Equations . Chelsea Publ. Comapny , New York , 1988 .

This book constitutes a new printing of the Second English edition , published by Chelsea in 1977 . The first edition of this book , in English , has been printed by Allyn & Bacon , Boston , 1971 . There are two Romanian editions of the book , printed at University of Iasi Press (1973 and 1977) . The book contains the basic facts from the theory of differential equations , as well as the theory of integral equations (including Fredholm theory for continuous kernels). Written twenty years ago , and slightly updated when the Second English edition was printed in 1977 , the book is still used at several prestigious schools from the U.S.A. and abroad .

NEW PH.D. IN MATHEMATICS (1989)

Most of those 260 mathematicians of Romanian extraction whose names are listed on pages 249 - 260 of this volume have earned the Ph.D. degree in Mathematics while in Romania . Only a relatively small number , among the youngest , have obtained the degree after their resettlement in the new countries . Actually , during the last years . most of the newcomers are young enough to hold a Ph.D. degree when they arrive . They usually attend Graduate cpurses and defend their theses at various universities in Western countries. To the best of our knowledge , during this year , two young mathematicians - Nicolae Anghel and Florin-Nicolae Diacu - have obtained the Ph.D. degree .

NICOLAE ANGHEL : L^2-index Theorems for Perturbed Dirac Operators . The Ohio Stae University , Columbus , Ohio . Adviser : Prof. Henri Moscovici .

Dissertation Abstract: The dissertation is concerned with a direct generalization of a well-known index theorem due to Callias (Comm.Math.Phys.,62(1978),213-234),to the case of certain spin manifolds with warped ends . The central result is:Let M be an odd-dimensional Riemannian spin manifold with a warped end $W = (\varepsilon,\infty) \times_f N$, N= compact manifold , $f \in C^\infty((\varepsilon,\infty))$, $f > 0$ and $f(r) \to \infty$ as $r \to \infty$. Let $S = \Sigma \otimes V$ be the spinor-type bundle Σ on M with a trivial Hermitean bundle V . If $A \in C(M,End(V))$ is a skew-Hermitean endomorphism such that $A|_W$ is independent of the radial direction r for $r \geq R$, $R \in (\varepsilon,\infty)$,and $-A^2$ is positive at infinity , then the perturbed Dirac operator $L = D \otimes I + I \otimes A$, where D is the Dirac operator on Σ , is a Fredholm operator and

$$L^2\text{-index}(L) = \int_N \hat{A}(N) \wedge ch(V_R)_+ .$$

Here , $\hat{A}(N)$ stands for the total $\hat{A}$-class of N , $(V_R)_+$ is the bundle over $N \equiv \{R\} \times N$, given by $(V_R)_+ = \{v \in V_R \equiv V|_{\{R\} \times N} : \frac{1}{\sqrt{-1}}(-A^2)^{-\frac{1}{2}} Av = v\}$, and $ch(V_R)_+$ is the Chern character of $(V_R)_+$.

The proof of the basic result relies on a series of index-preserving deformations of L.One key deformation rests on an odd-dimensional variant of Gromov-Lawson relative index theorem .

FLORIN-NICOLAE DIACU : Partielle Zusammenstösse und Sonderlösungen im N-Körperproblem . Universität Heidelberg , West Germany . Adviser : Prof. W. Jäger .

Dissertation Abstract:Einfuhrung:Das N-Korperproblem;Singularitaten im N-Kor-

perproblem;Kriterien fur Zusammenstosse;Regularisierung;Die Natur der Singularitaten. 1.Kapitel:Partielle Zusammenstosse;Grundgleichungen und Grundbeziehungen; Zusammenstosse in endlicher und unendlicher Zeit;Die Regularisierung der Bewegungsgleichungen;Das Zeituntervall der Losung;Eigenschaften des Zusammenstosses. 2.Kapitel:Ergebnisse uber Sonderlosungen;Die Geradlinige Bewegung;Die kollinearen und flachen Bewegungen;Syzygy Losungen.

This dissertation is a contribution to the Qualitative Theory of differential equations occuring in the n-body problem . Classical results , such as the Theorem of Weierstrass-Sundman , are generalized . Modern methods , based on Topology and Theory of Dynamical Systems , are used in the study of the classical n-body problem and its modifications .

Note. We have only partial information in connection with other mathematicians of Romanian extraction who defended the Ph.D. degree recently .

Mrs. Anca Deliu-Stanescu has obtained her Ph.D. degree in Mathematics from Washington University ,St.Louis , MO.

P E R S O N A L I A

NICOLAE ANGHEL has been appointed as an Assistant Professor at the Department of Mathematics of North Texas State University in Denton , Texas , 76203 .

ANCA DELIU-STANESCU has been appointed as an Assistant Professor at the School of Mathematics , Georgia Institute of Technology , Atlanta , Georgia , 30332 .

Professor IOANA CIORANESCU has joined the faculty at the Department of Mathematics , University of Puerto Rico , Rio Piedras , Puerto Rico , 00931 .

Professor SILVIU TELEMAN has joined the faculty at the Department of Mathematics, University of Puerto Rico , Rio Piedras , Puerto Rico , 00931 .

Professor SORIN POPA , until recently with INCREST Bucharest , has joined the faculty at the Department of Mathematics , UCLA , Los Angeles , California , 90024.

Dr. CIPRIAN BORCEA has come to the United States in January 1989 and is currently associated with the School of Mathematics , Institute for Advanced Study , Princeton , New Jersey , 08540 .

Dr. FLORICA BUCUR , until recently a faculty member with the Department of Mathematics at the Institute of Civil Engineering (Institutul de Construcții) in Bucharest , has left Romania and is presently in Italy (Ferara).

SANDU CRIVINEANU , a Computer Scientist who resided in Brașov until recently , has decided to leave Romania . His last address in the West , known to us , is :Gasthof Haindl , Markt 6 , Room 3 , 2851 KRUMBACH , Austria . He has applied to immigrate to the United States .

ILEANA STREINU has arrived in the U.S. in January 1989 (together with her husband Ciprian Borcea;see above) , called by her mother who resides in this country . She is now a Graduate student at Rutgers University .

GEORGE ISAC , from the College Militaire Royal de St. Jean , Canada , is present in the pages of the periodical "LIBERTATEA" with five poems : Drumurile ; Speranța ; Fir de dor ; Marele dans ; Marele continuu . Of course , this is a complement to his permanent mathematical activity . He was present in several volumes of Libertas Mathematica . We wish him success in the new endeavour .

Professor ALEXANDRA BELLOW , from Northwestern University , has received recently an award from the Humboldt Foundation in West Germany . Congratulations !

MARCEL ROSCULEŢ , an Emeritus Professor with the Polytechnic Institute of Bucharest is 70 years old in 1989 . He is warmly congratulated by his colleagues on this occasion . Last year (1988) , two volumes of poetry have been published by Marcel Rosculeţ . Reviews of these volumes are inserted in this issue of L.M.

CORNELIU CONSTANTINESCU , Professor of Mathematics at the Federal Polytechnic of Zurich , is 60 years old in 1989 . Best wishes from his colleagues on this anniversary .

IVAN SINGER , a senior scientist with the INCREST , Bucharest , is 60 years old in 1989 . From his colleagues abroad , the best congratulations on the occasion of his anniversary .

ELENA MOLDOVAN-POPOVICIU , an Emeritus Professor with the University of Cluj-Napoca , is warmly congratulated by his colleagues abroad on the occasion of her 65-th anniversary .

Professor ADRIANA NASTASE , Head of the Department "Aerodynamik des Fluges" at the Technische Hochschule in Aachen ,West Germany , has organized this year the VI-th Aerodynamic Seminar (in Aachen , July 6 and 7 , 1989). Among the participants one finds specialists from Japan , Israel and West Germany .

Professor CONSTANTIN VIRGIL NEGOIŢA from the Hunter Collegy of CUNY is the Chairman of the organizing committee of the 8-th International Congress of the "World Organization of Systems and Cybernetics" , to be held in New York ,June 11 - 14 , 1990 , at the Hunter College .

Professor IRINEL DRAGAN , from the University of Texas at Arlington , has spent two months in Europe during the Summer of 1989 , visiting the Universities of Nijmegen in Holland and Bergamo in Italy .

Professor CIPRIAN FOIAŞ from Indiana University has participated in the International meetings held in Belgium during the month of June , 1989 : Mathematical Theory of Networks and Systems (Amsterdam) and Operator Theory (Rotterdam) . He Has also traveled to Japan , attending meeting and lecturing there .

Professor CONSTANTIN CORDUNEANU from the University of Texas at Arlington has participated in the International Conference on Mathematical Theory of Networks and Systems (Amsterdam) and attended the Gregynog Symposium on Differential Equations organized by the University of Wales at Gregynog Centre , Wales .

SERGIU AIZICOVICI , until 1988 a Researcher with the University of Iaşi , has been appointed an Associate Professor of Mathematics at the Ohio University , in Athens , Ohio , 45701 .

Professo MIRCEA PREDELEANU , with the Ecole Polytechnique de Palaiseau , France , has participated in the International Symposium of Mechanics held at the Colorado State University , Fort Collins , Colorado .

Professor CHRISTIAN CONSTANDA from Strathclyde University in Glasgow , Scotland . has traveled to Canada during the Summer of 1989 , participating in several meetings and visiting higher learning institutions in that country .

Professor I.D.LANDAU,from the University of Grenoble , France , is the General Chairman of the European Control Conference ECC-91 , to be held from July 2 - 5 , 1991 , at Alpes Congres , Grenoble , France .

Dr. Alec G. STANCULESCU (the son of Mrs. Ioana Stanculescu , the former librarian of the Mathematical Institute of the Academy in Bucharest) is presently Associate Research Fellow at Stanford University , Palo Alto , California . He is also the President of "FINTRONIC,U.S.A." .

Dr. MIHAI BOTEZ who left Romania two years ago , after a period of struggle against the Romanian authorities , has joined the research staff at the Hoover Institution in Palo Alto , California .

Professor MARIAN ARON , from the Plymouth Polytechnic , England , has visited several Institutions of Higher Learning in Canada , during the Summer of 1989 .

Professor DAN BURGHELEA from Ohio State University has been a Visiting Professor at the Federal Polytechnic in Zurich , Switzerland .

SERGIU KLAINERMAN , until recently with the Courant Institute at NYU , has been appointed as a Professor with Princeton University , Princeton ,N.J.

NICOLAE DINCULEANU from University of Floroda in Gainesville has been an invited speaker at the International Conference on Analysis and Measure Theory held in Capri , Italy , 1988 . He also participated at a Symposium on Stochastic Theory held at the University of California at Dan Diego , La Jolla , California .

THE AUTHORS OF VOLUME IX

M.AKKAR , at the time when paper was submitted , had the following address:Maison du Maroc/1,Boulevard Jourdan/75014 - PARIS , France .

A.BEDDAD is a faculty member of the Ecole Normale Superieure de Takaddoum /Avenue Oued Akreuch/B.P. 5118?RABAT , Morroco.

CONSTANTIN CORDUNEANU is a Professor of Mathematics , Department of Mathematics / University of Texas at Arlington/Box 19408/Arlington , Texas , 76019 . For a biographical note , see Volume I of Libertas Mathematica .

IRINEL DRAGAN is a Professor of Mathematics , Department of Mathematics /University of Texas at Arlington / Box 19408 / Arlington , Texas , 76019 .

Z.FANG is associated with the Department of Mechanical Engineering / Ecole Polytechnique de Montreal / MONTREAL , P.Q. , Canada .

G.LADAS is Professor of Mathematics , University of Rhode Island , KINGSTON , R.I. 02881 . He has obtained his Ph.D. degree at Courant Institute of NYU and has joined the faculty at U.R.I. twenty years ago . He has served as Department Chairman and is an active contributor to the Theory of Differential Equations and related areas (delay equations,integral equations).

MARICA LEWIN is associated (teaching and research) with the Faculty of Industrial Engineering , Israel Institute of Technology (Technion) , Haifa , 32000 , Israel . For a biographical note see volume VII of Libertas Mathematica .

MARIAN KWAPISZ is currently a Professor of Mathematics with the Mathematical Institute of the University of Gdansk , Poland .
He obtained his Ph. D. degree in Mathematics in 1961 , from the University of Lodz , Poland . The title of his thesis was "The modified method of Picard successive approximations for solving ordinary differential equations and differential-difference equations" . The adviser was Prof. Z.Zahorski. In 1966 M.Kwapisz obtained his "habilitation" , presenting another thesis dealing with qualitative pro - blems for differential and related equations . Marian Kwapisz has published a large number of papers in scientific joirnal around the worls , and has visited various mathematical research centers in the U.S.A. , Soviet Union and many other countries . His interest in research are concentrated in the area of functional equations (includifferential equations , integral equations ,delay equations) , and

deal with constructive methods for the existence of solutions . He has become interested in the numerical procedures of solution of various classes of functional equations . He was elected a Dean by his colleagues , as a representative of "Solidarnosc" , but then he was dismissed by the authorities . He was an active participant in struggle for democracy in Poland .

MOHHAMAD H. MOADAB was born in Iran and completed his college in the U.S.A. He has obtained Master degrees in Mathematics and Civil Engineering from the University of Texas at Arlington , and the Ph. D. degree in Mathematics from the same Institution in 1988 . Part of his Ph. D. thesis has been published in Libertas Mathematica , volume VIII(1988) . He is presently on the faculty at Odessa College , Odessa , Texas . His main interests are in the theory of discrete dynamical processes , wuth applications in System Engineering .

M.OUDADESS is a faculty member at the Ecole Normale Superieure de Takaddoum / Avenue Oued Akreuch / B.P..5118 ? RABAT / Morroco .

B.G.PACHPATTE is a Professor of Mathematics (and Chairman) with the Department of Mathematics and Statistics / Marathwada University / Aurangabad (Maharashtra) / 431 004 INDIA . He is an active contributor to the Theory of Differential Equations and related areas . He visited several times the United States of Amaerica , including one-year visiting period at the University of Texas at Arlington . He has published more than 300 papers in journals dedicated to research matters .

ION PARASCHIVOIU is Professor of Mechanical Engineering at the Ecole Polytechnique de Montreal . For a biographical note see Libertas Mathematica , vol. IV.

DAN PASCALI resides at the address indicated in the section "Mathematicains of Romanian Extraction residing outside Romania" and his biographical data can be found in Volume III of Libertas Mathematica .

NICOLAE H. PAVEL is a Professor of Mathematics at Ohio University in Athens , Ohio . His biographical note is included in volume VII of Libertas Mathematica.

CH.G.PHILOS is a faculty member with the Department of Mathematics , University of Ioannina , Greece . He is an active contributor to the Theory of Differential Equations and related areas .

JOS POLTERS is a faculty member with the Department of Mathematics at the Catholic University in Nijmegen , The Netherlands .

Y.G.SFICAS is a faculty member with the Department of Mathematics of the University of Ioannina , Greece . His current interests are in the Theory of Differentaial Equations and relatre areas (delay equations,integro-differential equations) in which field he has many important contributions . He visited several times the United States of America (University of Rhode Island).

STEF TIJS is a faculty member with the Department of Mathematics at the Catholic University of Nijmegen , The Netherlands .

CARMEN VLAD is a faculty member at Pace University in New York City . For a biographical note , see Libertas Mathematica , volume VII (1987) .

S,ZAIDMAN is Professor of Mathematics , with the Department of Mathematics and Statistics at the University of Montreal , MONTREAL , P.Q. , Canada . His major interests are in the Theory of Differential Equations (ordinary , with partial derivatives and abstract) and the Theory of Almost Periodic Functions . His recent book on Partial Differential Equations is reviewed in this volume .

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Persons who have recently left Romania have brought to our knowledge the fact that Professor Emeritus CAIUS IACOB , from the University of Bucharest , a member of the Romanian Academy , has been attacked one late evening when approaching his residence in Bucharest by individuals who did not leave any doubt that they were agents of the Romanian secret police (Securitatea) . Professor Caius Iacob , now at the age of 77 , has been severely beaten by those individuals . Apparently , the reason for this "punishment" from the part of Romanian secret police was the fact that Professor Caius Iacob has discussed the miserable situation of Romanian intellectuals , who are the object of the most abject persecution from the part of communist authorities , with a foreign visitor . The Romanian mathematicians living in the free world are vehemently protesting this treatment to which the scientists are subject by the communist government , and the criminal act of physically punishing those who do not obey the absurd laws adopted in Romania (where you are obliged to report to the police any encounter with a foreign citizen , and to present a written document containing the matters discussed during the meeting).

L I B E R T A S M A T H E M A T I C A

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Prof.C.Corduneanu
Department of Mathematics
University of Texas at Arlington
Box 19408
ARLINGTON , TX 76019

The publication can be also ordered at the following address :

A.R.A.Publications
4310 Finley Avenue # 6
LOS ANGELES , CA 90027

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Subscription Agencies , Booksellers get a 20% discount from the institutional rates indicated above . Institutions with standing orders get the same discount. Volume X(1990) will be available at $ 45.00 Institutional , and $ 22.00 for indi - viduals .

A.R.A. is publishing also the periodical "Journal of A.R.A." , once a year . This publication is mostly dedicated to Humanities and Social Sciences , and to A.R.A.'s Affairs .

Starting 1989 , a new periodic publication has been added : A.R.A. Newsletter. It will contain mostly cultural/scientific news related to A.R.A.'s activities , and will seve as a communication vehicle between A.R.A.'s members .