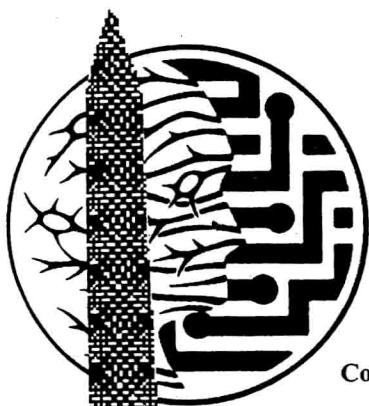
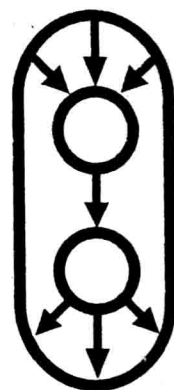


**1999 International Joint Conference on
Neural Networks
(V. 1)**



IJCNN'99

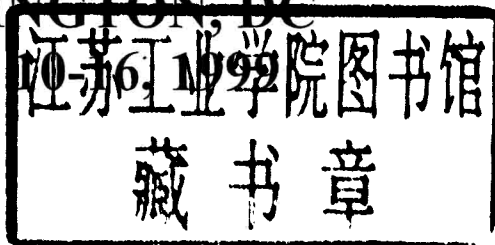


Cosponsored by: The International Neural Network Society
The Neural Networks Council of IEEE

International Joint Conference on Neural Networks

WASHINGTON, DC

JULY 10-15, 1999



PROCEEDINGS

Volume 1 of 6
Pages 1 - 741

The 1999 International Joint Conference on Neural Networks Proceedings

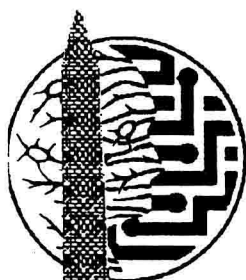
Copyright and Reprint Permission: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For other copying, reprint, or republication permission, write IEEE Copyrights Manager, IEEE Operations Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. All rights reserved. Copyright © 1999 by the Institute of Electrical and Electronics Engineers, Inc.

IEEE Catalog Number: 99CH36339

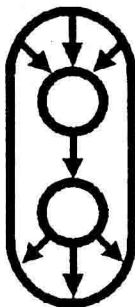
ISBN: 0-7803-5529-6 (Softbound Edition)
0-7803-5530-X (Casebound Edition)
0-7803-5531-8 (Microfiche Edition)

ISSN: 1098-7576

Welcome to IJCNN'99



Washington Monument and
Capitol dome as seen from the
Lincoln Memorial Reflecting Pool



On behalf of the Organizing Committee I would like to welcome all of our attendees to the 1999 International Joint Conference on Neural Networks (IJCNN'99). I believe that you will agree with me that the Conference is fortunate to have very high quality technical and tutorial programs and distinguished plenary speakers. We appreciate your participation and look forward to a very rewarding week

Special appreciation is due to Elsevier Scientific for sponsoring the welcome reception and to Ward Systems Group for sponsoring the Financial Series Forecasting Competition.

These Proceedings are provided to enhance the benefit of the Conference to you. They complement the Book of Summaries distributed at the Conference. Every effort has been made to ensure inclusion of all papers appropriately submitted by registered authors and the accuracy of the various indexes and accompanying materials; however, we apologize for any errors which may have inadvertently been made in this regard. Special thanks to Dr. Mary Pastel Anderson, Vice General Chair, and Dr. Jonathan Boswell, Publications Chair, for doing the lion's share of the work in producing these Proceedings.

I would like to express our heartfelt thanks to the members of the Program Committee who carried out the review of summaries submitted for the Conference and who are listed on the next page. In addition I deeply appreciate the efforts of INNS staff and of Ms. Jackie Haynes, Mrs. Arlene Underdonk, Ms. Norma Knapp, and Mr. Phil Quinn for all of their assistance.

David G. Brown, Ph.D.
General Chair, IJCNN'99

IJCNN'99 Organizing Committee

General Chair	David Brown , Food and Drug Administration
Vice General	Mary Pastel Anderson , Food and Drug Administration
Technical Program Co-Chairs	Daniel Alkon , National Institutes of Health Clifford Lau , Office of Naval Research
Special Sessions	Jose Principe , University of Florida
Review	Mary Lou Padgett , Auburn University
Tutorials	Harold Szu , Naval Surface Warfare Center
Publicity and IEEE Liaison	Gary Yen , Oklahoma State University
Local Arrangements	Larry Medsker , American University
Publications	Jonathan Boswell , Food and Drug Administration
Laboratory Liaison	Paul Keller , Pacific Northwest National Laboratory
Cooperating Societies Liaison	Asim Roy , Arizona State University
European Liaison	Rolf Eckmiller , University of Bonn John Taylor , King's College
Asian Liaison	Shun-Ichi Amari , University of Tokyo Hui Sheng Chi , Beijing University
Volunteer Coordinators	Tuky Adali , University of Maryland, Baltimore County Joseph Yue Lang , Catholic University

Cooperating Societies

American Association for Artificial Intelligence (AAAI)
The American Physical Society (APS)
Asian Pacific Neural Network Assembly (APNNA)
International Conference on Neural Information Processing (ICONIP'99)
The Cognitive Science Society
European Neural Network Society (ENNS)
International Conference on Artificial Networks (ICANN'98)
The Institute for Operations Research and the Management Sciences (INFORMS)
The International Society for Optical Engineering (SPIE)
Japanese Neural Network Society (JNNS)

Technical Committee Co-Chairs
Clifford Lau, Office of Naval Research
Daniel Alkon, National Institutes of Health

IJCNN'99 Program Committee

Ashraf Abdelbar	C. Lee Giles	Mary Lou Padgett
Tulay Adali	Stephen Grossberg	Todd Peterson
Shun-ichi Amari	Karen Haines	Karl Pribram
Mary Pastel Anderson	Yasuhisa Hasegawa	Jose Principe
Nuno Bandeira	Michael Hasselmo	Tamas Roska
Mitra Basu	Zhen-ya He	Asim Roy
Jim Bezdek	Robert Hecht-Nielsen	Irwin Sandberg
David Brown	Yu Hen Hu	Louisa Sellami
Harry Burke	Jenq-Neng Hwang	Bing Sheu
Masud Cader	Behzad Kamgar-Parsi	Ron Sun
Gail Carpenter	Nicolaos Karayiannis	Harold Szu
David Casasent	Walter Karplus	John Taylor
Vladimir Cherkassky	Stamatios Kartalopoulos	Evangelia Micheli-Tzanakou
Hui Sheng Chi	Nikola Kasabov	Shiro Usui
Jai Choi	Mitsuo Kawato	DeLiang Wang
Nicholas de Claris	Jim Keller	Jun Wang
Ian Cloete	Paul Keller	Paul Werbos
Gregory Creech	Robert Kozma	Bernard Widrow
Taher Daud	Bart Kosko	Charles Wilson
Joel Davis	George Lendaris	Jack Winters
Judith Dayhoff	Daniel Levine	Youshou Wu
Witali Dunin-Barkowski	Paulo Lisboa	Don Wunsch
Russel Eberhart	Gen Matsumoto	Lei Xu
Rolf Eckmiller	James McClelland	Gary Yen
Lee Feldkamp	Larry Medsker	Lofti Zadeh
Francoise Fogelman-	Damon Miller	Mona Zaghloul
Soulie	Feriel Mouria-Beji	Zhen Zhang
Walter Freeman	Nabeel Murshed	Yixin Zhong
Toshio Fukuda	Robert Newcomb	Jacek Zurada
Kunihiko Fukushima	Sigeru Omatu	



Message from the INNS President

Dear Colleagues,

It is my great pleasure as President of the International Neural Network Society (INNS) to welcome you to The International Joint Conference on Neural Networks (IJCNN'99), here in Washington, D.C. This premier conference on neural networks is jointly sponsored by INNS and the IEEE Neural Networks Council (IEEE/NNC), with INNS serving as conference management this year. I am sure that you will enjoy the excellent program that has been carefully developed by General Chair, David Brown, and Technical Program Co-Chairs, Daniel Alkon and Clifford Lau.

IJCNN'99 spans the neural network field from neurons to consciousness, from training algorithms to robotics, from chaos to control, from fuzzy logic to evolutionary computing. Leading off with a theme symposium on biological neural networks, the Conference will explore the potential impact of recent discoveries in neurobiology on the computational intelligence community.

The program of IJCNN'99 covers many important directions of research in neural networks. The various plenary talks, special sessions and tutorial short course program have been carefully chosen to further supplement the various core sessions.

We have greatly enjoyed working with Cliff Lau and the IEEE/NNC in putting IJCNN'99 together. I hope that you find the meeting both stimulating and inspiring and that you will appreciate the mission of our Society to serve the neural network community. Let me close this message by welcoming you again.

Sincerely,

David Casasent
Carnegie Mellon University
President, International Neural Network Society

1999 INNS OFFICERS & BOARD OF GOVERNORS

David Casasent (President), *Carnegie Mellon University*

David G. Brown (President Elect), *Food and Drug administration*

Daniel S. Levine (Past President), *University of Texas at Arlington*

Gail Carpenter (Secretary), *Boston University Center for Adaptive Systems*

Michael Hasselmo (Treasurer), *Boston University*

Board of Governors

Daniel L. Alkon, *National Institutes of Health*

Huisheng Chi, *Peking University*

George Cybenko, *Dartmouth College*

Judith E. Dayhoff, *University of Maryland*

Walter Freeman, *University of California - Berkeley*

Kunihiko Fukushima, *The University of Electro-Communications*

C. Lee Giles, *NEC Research Institute*

Stephen Grossberg, *Boston University*

Mitsuo Kawato, *Advanced Telecommunications Research Institute*

Bart Kosko, *University of Southern California*

Gen Matsumoto, *The Institute of Physical and Chemical Research (RIKEN)*

James McClelland, *CNBC*

Jose Principe, *Computational Neuro Engineering Lab*

Francoise Fogelman-Soulie, *Business & Decision*

Harold Szu, *NSWCDD*

John G. Taylor, *Kings College London*

Paul Werbos, *US National Science Foundation*

Bernard Widrow, *Stanford University*

Lotfi A. Zadeh, *University of California at Berkeley*

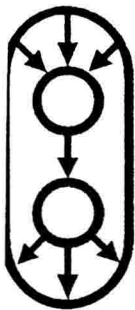
IJCNN'99 Meeting Management

International Neural Network Society

19 Mantua Rd Mount Royal, NJ 08061

(609) 423-7222 (609) 432 3420 fax

innsmtg@talley.com



Message From The IEEE/NNC President

Dear Colleagues:

On behalf of the IEEE and the Neural Networks Council (NNC), I would like to add my welcome to you in attending the 1999 International Joint Conference on Neural Networks (IJCNN'99). This year IJCNN brings us back to the Washington DC area, where there is no shortage of tourist attractions, fireworks, and politics.

In IJCNN'99, we have put together a comprehensive program that covers the entire spectrum of activity in neural networks and applications, from biological neural models to mathematical foundations to pattern recognition. There is something for everyone. The tutorial program is extensive and outstanding. In conjunction with the conference, there is an exciting theme symposium on biological approaches and a NSF workshop on neural networks research in the Former Soviet Union. In addition, there is the CEC'99 the week before the conference in DC. You are invited to participate in all these tutorials, workshops, symposiums, and conferences.

In addition to the technical activities, the NNC is also proud to sponsor a large number of students to travel to DC and to attend IJCNN. The student reception will bring together the future generation of neural networks researchers to interact with the current generation. There is also a special technical session by high school students, who will be the future leaders.

I hope this joint sponsorship of IJCNN'99 will benefit the neural networks community, and I hope you will enjoy this conference as much as I did in sponsoring it and organizing it.

Sincerely,

Clifford Lau
IEEE/NNC President

Neural Network Council Officers

Clifford Lau (President) *Office of Naval Research*

James C. Bezdek (Past President), *University of West Florida*

Zbigniew Michalewicz (Executive Vice President), *University of North Carolina*

Piero Bonissone (Vice President - Finances), *General Electric Company*

Enrique H. Ruspini (Vice President - Conferences), *SRI International*

John Yen (Vice President - Publications), *Texas A&M University*

Janie M. Fouke (IEEE Division X Director)

Michelle Cahoon (Secretary), *University of West Florida*

IJCNN'99 Exhibitors

Booth #105

Elsevier Science, Inc.
655 Avenue of the Americas
New York, NY 10010
212-633-3758

Booth #107

MIT Press
5 Cambridge Center
Cambridge, MA 02142
617-258-5764
amesj@mit.edu
www-mitpress.mit.edu/

The MIT Press publishes trade and academic books in the areas of computer science, neural networks, artificial intelligence, neuroscience and cognitive science.

Booth #111

PCAI
P. O. Box 30130
Phoenix, AZ 85046-0130
602-971-1869
info@pcai.com
www.pcai.com/pcai

PCAI Magazine helps business professionals understand new developments in Artificial Intelligence. It's an application-oriented magazine, providing useful 'hands-on' information. PCAI features topics such as data mining, expert systems, neural networks, and object-oriented development. Every issue includes feature articles, product updates, real-world application stories, Buyer's Guide, and more.

Booth #109

Scientific Book Displays
3450 Martha Custis Drive, Suite 312
Alexandria, VA 22302
703-820-2320

Exhibits technical books and journals of interest to the scientific community. This year's display will include selected titles from Springer Verlag, Cambridge University Press among others. Order at the Conference and receive substantial savings.

Tutorials Presented at IJCNN'99

Saturday Short Courses

Introduction to Neural Networks

George Lendaris

When Your Coffee Pot Plays Chess: Fundamentals of Machine Intelligence

David Brown

Sunday Tutorials

Track 1 Hybrid Systems & Soft Computing

A An Introduction to Evolutionary Computation

David Fogel

B Fuzzy Industrial Applications

Mo Jamshidi

C Soft Computing & Knowledge Management

Larry Medsker & Thomas Beckman

Track 2 Biomedical Diagnosis

A ROC Analysis & Finite-sample Dependence of Performance of Classical & Neural- Network Classifiers

Robert Wagner

B Brain Imaging

John Taylor

Track 3 Brains & Biological Neural Networks

A Neuromodulation & Cortical Function

Michael Hasselmo

C Ionic Current Model of the Outer Retinal Cells

Shiro Usui

D Massively Parallel Distributed Processing in the Brain: New Developments

Karl Pribram

E From Single Neurons to Brain Chaos

Walter Freeman & Stephen Bressler

Track 4 Cognition, Pattern Recognition

A Pattern Recognition & Neural Networks

David Casasent

B Adaptive Resonance Theory

Gail Carpenter

Track 5 Robot Control & Neurocontrol

A Neural Networks & Q-Learning for Robotics

Claude Touzet

B Neurocontrol

Paul Werbos

Track 6 Learning Algorithms & Architectures

- A Back-Propagation Learning Guided by Control Technique
Antonio de Padua Braga
- B Practical Aspects of Vapnik-Chervonenkis (VC) Theory
Vladimir Cherkassky
- C Stochastic Optimization Via The Simultaneous Perturbation Algorithm
James Spall
- D Cortronic Neural Networks
Robert Hecht-Nielsen
- E Autonomous Learning: The New Connectionist Algorithms
Asim Roy

Track 7 Unsupervised Learning, Independent Component Analyses & Blind Source Separation

- B Independent Component Analysis
Erkki Oja
- C Unsupervised Sensory Learning
Harold Szu

Track 8 Speech & Language Processing

- C Connectionist & Hybrid HMM/Connectionist Systems for Speech Recognition
Edmondo Trentin & Marco Gori

Track 9 Financial Analyses

- A Designing Neural Networks for Credit Analysis
Andre de Carvalho

Track 10 Biosensors & Biocomputing

- C Analysis of DNA Sequences with Artificial Neural Networks
A. G. Hatzigeorgiou, M. Reczko, V.B. Bajic & I.V. Bajic
- E Overview of pulse coupled neural networks (PCNNs)
Mary Lou Padgett

Track 11 Engineering Diagnosis/Application

- B Neural Networks for Nondestructive Evaluation Applications
L.W. Schmerr, L. Udpa, S. S. Udpa & F.C. Morabito
- D Neural Learning in Structured Domains
M. Gori, M. Maggini

Track 12 Implementation

- B Implementation of Fuzzy Logic Control Systems
Takeshi Yamakawa

Financial Series Forecasting Competition

IJCNN'99 offered a financial series forecasting competition, which took place over the period of June 23, 1999, to July 7, 1999 inclusive. The objective of the competition was to forecast consistently the daily value of a financial series over the period using neurally inspired models. Twenty-three researchers participated in the competition, and the top competitors achieved outstanding results. In first place is Klaus Breslauer, Vancouver, British Columbia. He was closely followed by Min Qi, Kent State University, and Parinya Disornetiwat, University of Missouri, Rolla. Further details are given in the appended description of the Competition.

We are greatly indebted to Dr. Masud Cader, International Finance Corporation, for conceiving of and managing the Competition. Data was provided by the Emerging Market Database group of the IFC. Server space and web programming were provided by Melange Graphics, and prizes were provided by Ward Systems for the top two finishers.

IJCNN'99 Keynote and Plenary Presentations

Sunday 7/11	Keynote Address Computational Neurobiology/Biophysics John Hopfield
Sunday 7/11	Plenary Speech Functional Approximation and Rule Extraction with Fuzzy Clustering Jim Bezdek
Monday 7/12	Joint Theme Symposium and Conference Plenary Speech The Valuated State Space Approach and Evolutionary Computation for Problem Solving Lawrence Fogel
Monday 7/12	Keynote Discussion Session John Hopfield
Wednesday 7/14	Plenary Speech Three Bedrooms, Two Baths, and Four Hidden Layers: The Neural Network House Michael Mozer
Wednesday 7/14	Awards Banquet Plenary The HAL9000 Computer and the Vision of 2001: A Space Odyssey David Stork
Thursday 7/15	Plenary Speech Independent Components of Functional Brain Imaging Terrence Sejnowski
Thursday 7/15	Plenary Discussion Session Terrence Sejnowski
Thursday 7/15	Plenary Discussion Session Michael Buro
Friday 7/16	Plenary Speech How Machines Have Learned to Play Othello Michael Buro

Author Index

A	Page
James J. Abbas	2215, 2319
Hossam Abdelbaki	3236, 3241
Asim M. Abdelbaki	1515, 4079
Ken-ichi Abe	4099
Robert J. Abraham	2757
Pamela A. Abshire	182
Giuseppe Acciani	1110, 3254
I. Acevedo-Sotoca	2363
Kristin Adams	2530
Tulay Adali	1429, 1433, 1560, 2976, 3425
Rafik Adamezai	669
K.M. Adeney	1362, 3656
Rafik Adamezai	669
Ramesh K. Agarwal	2076
Adrian Agostini	1199
Arturo Hernandez Aguirre	467
Klaus H. Ahn	1511, 2816
Sung M. Ahn	1136
Narendra Ahuja	1929
Kazuyuki Aihara	233, 514
Bruce J. Ainsworth	3796
Shotaro Akaho	927
Norio Akamatsu	4134
Kenzo Akazawa	2981
Norio Akita	2617, 2622
Matti Aksela	2812
J.D. Alkhatib	1543
Marinel Alangu	862
Patricia Alarcon	2916
L. Al-Dabbagh	3386
M. Al-Dabbagh	3386
Frederic Alexandre	247, 252, 2441, 3451
Yousif Al-Jordan	1491
A.R. Allen	851
Nigel M. Allinson	1456
Khalid Al-Mashouq	1491
Rabib Al-Mashouq	1457
Torsten Alvager	3573, 3618
Hiroyuki Aman	488
Veronique Amarger	3609
Mohammed Ameen	1022
Adnan Amin	2903
N. Ampazic	1850
Francois Ancil	3802
Tim Anderson	1608, 1614
Eric Anderson	3618
Michonni Andoh	3170

Peter Andras	817
Stefano Anderson	3810
Andreas G. Andreou	182, 2329, 2333
M. Angel	4012
D. Anguita	939
R. Annan	3216
E.V. Antonova	239, 243
Osamu Arai	504
Dalton S. Arantes	1265
Alvin R. Arango	1012
Cynthia Archer	916
William W. Armstrong	2289
Juan Ignacio Arribas	1429, 1560
Mounir Arif	710, 3280
Hideki Asai	2402, 3750
Hiroyuki Asakawa	3558
Raul R. Leal	3968
Ascencio	
Z.H. Ashour	1624
Amir Assadi	562, 1004, 1010
Murad Assagari	1615
Peter Aszalos	64
Amir B. Atiya	349, 356
Yanni Attikiouzel	409
Yandina S. Avakian	2328
Gasser Auda	2777
Leonardo Auslander	904
Loretta S. Auvil	2480
Ed D. Avramis	119
Anatoliy B.	4107
Averbukh	
A.A.S. Ayoub	456
Arnulfo P. Azcarraga	510
Mahmoud R. Azmi	3219, 3221
Sadaf	3791

B	Page
Norio Baba	2867, 3856
Andrew D. Baker	989
Jeremy B. Badler	146
Masood A. Badri	2528
Jalal Baghdadi	1329
Sung-Wook Baik	1136, 3168
D. Bailey	3204
Deborah C. Baird	2152
Thiagarajan	3119
Balachander	
Karthika Balakrishnan	27
Tracey A. Bale	1511, 2816
Sang-Woo Ban	2386

Zuhair Bandar	3114
Jason Bare	4245
J. Barhen	3779
C.V. Barcan	279
Cory Barker	1271
Fabrizio Barone	975
Andrew R. Barron	375
M. Barron	2128
Geoffrey L. Barrows	2296
I. Baruch	2578
Susan I. Bassett	3147
E. Basson	219
Devasis Bassu	359, 364, 1620
Gianfranco Basu	1896
Lia Caetano Bastos	1959, 3556, 3560
Rogério Cláudio Bastos	1959, 3556, 3560
Mitra Basu	1259, 2674
Jagalskhan	1271
Basham	
Eric Bax	572
N. Saba Bayindir	2220
Thad W. Beavers	605
Viktor Beccarone	149
Hans N. Beck	388
M. Becker	102
Sven Behnke	1356
Elizabeth C.	374, 2651
Behman	
S.A. Belbas	655
Abdelmajid Belghit	2401
D.A. Bell	1895
Dirk Belter	249
Jesse L. Bemley	4422
Jessye Bente	4456
Gyorgy Benedek	64
Dieter Benjamin	1866
Younes Bennani	3008, 3291
Kristin P. Bennett	904
Amine Bensaid	3894
Simon Y. Berkovich	69
Miguel A. Bernal	2114
Philip J. Best	12
Tatiana G.	152
Bezudnaya	
Umesh Bhagwan	1215
R.M. Bharadwaj	3447
Dinesh K. Bhatia	621
Rushi Bhatt	27
Basabi Bhattacharya	188
Shoaib Bhuiyan	2839

Erik P. Blech	2797
M. Blumenstein	2893
Yu Bo	162
Ladislao Bodnar	117
A.A. Bogdanov	2026, 4116
Lois Boggess	4156
Karenal Bollh	86
Kurt D. Bollacker	1924
Patrice Bonaventura	2020
Romuald Bone	2594
A. Boni	939
Yann Boniface	2441
Manno Edwards	534, 2364
Bordon	3816
Mauricio Jose Bordon	2200
Roman M. Borsnik	49
Fabrice Bossaert	1866
Berry Brissomator	2192
Celso Pascoli Bottura	2200
Baurem Bouzenn	2452
Bouchra Bouqata	3894
A.P. Braga	1074
Rafik Braham	3030
Draneh Brahmi	3614
Neil M. Branston	535
Elizabeth J. Brater	2412, 2419
Macarie Breazu	1743, 2694
Stoyan L. Bressler	1161
Michael E. Brier	3669
Marina Brucke	2292
Eric L. Brown	2310
Guy A. Brown	2711
Bernd Bruckner	3690
Vladimir Bruso	3636
Bill P. Buckles	467
James J. Bugday	2464, 3197
Daniel Bullock	288
Julio Buziak	2392
Darren Burford	2816
Adi Burkin	263, 315
Philippe Burlina	2747
Pierre Bursasano	983, 1117
	2037, 4012
Gyorgy Buzsaki	58
C	Page
Brian Callaway	2215
D. Calvert	1568
Shannon R. Campbell	97
P. Campolucci	2398
Heather M. Canady	3768
Angelo Cangelosi	4365
Nicola Capuano	3810

R. Caradonna	1140
Howard C. Card	3163, 3722
J.J. Romero Cardalda	4002
B. Cardelli	4012, 4027
John Carew	562, 1004, 1010
Gaz Carbari	2243
John G. Carney	1215
Carl A. Carronier	1008
A.C.P.L.F. Carvalho	3371
David Cascenti	2122, 2286
J.P. Castagna	3758
G. Castellano	3136
Oscar Castillo	4202, 4208
Thomas P. Chaffell	191, 197, 1979, 2023
C.W. Caulkins	3371
Gert Chauwen-Berzins	2061, 2135
Jose Homero Feitosa Cavalcanti	3457
Edgardo Casmol	2721
Eui-Young Cha	2872
T. Chada	4127
Raymond K. Chafin	2704
Chang-Hyun Cha	2017
Lai-Wan Chan	1393, 1521
Stephen Ngai Chan	4191
Man-chung Chan	1554
Hong	2266, 1389
Chang-Hyun Chan	2017
Edmond Ching-Ping Chang	2763
Chang	1006
Chang-Hyun Chan	2017
Justin Chang	4151
Yi-Hsiung Chang	3511
Kui-yu Chang	1107
Yan-Zen Chang	2451
Yuan-Hsiang Chang	3674, 4181
Chris Charalambous	3888
Andreas Charitou	3888
Sylvain Charrier	1092
Chanchal Chatterjee	1043
Ravindra Chavcesuk	3844
C. Chavy	3046
Geraldine Cheang	316
Abdennasser Chebira	2141
Rana Chellappa	2742
C.H. Chen	3397, 3913
Chiu-Ming Chen	1737
D. Chen	3622
Dingding Chen	1231
Hsuen-Fan Chen	4259
Hung-Pin Chen	3850

Jai-Juin Chen	1889
Jian Chen	258
Jun-Cheng Chen	1712
Kaihua Chen	4111
Ke Chen	2673, 2640
Lihui Chen	1097
Mia-Sara Chen	2716
Penny Pei Chen	1973
Shu-Hong Chen	3873
Yan Qiu Chen	1097
Yuan Chen	4225
Yi-Yuan Chen	4259
Zhenxiang Chen	258, 1753
Zhiqiang Chen	2427
Chun-Hao Cheng	3850
K.C. Cheng	2867
Vladimir Cherkassky	625, 1065
John Y. Chenne	3639
Yiu-ming Cheung	955, 961, 3883
Cheng-Chi Chi	224, 2210
Sheng-Chai Chi	3098, 3850
Zhen-Chi	2102
E. Chiarantoni	1140
Vladimir Chiriacov	1556
Jeong-Nae Chio	2210
Hong-Suk Cho	1024, 3801
Jae-Heung Cho	2920
Jeon-Hyun Cho	2872
Jun-Ki Cho	2386
Sungzeon Cho	227, 3036
Yong Cho	3063
Chang-Hyun Cho	2017, 1883
Han-Go Choi	2920
Jo Choi	2872
Sooyong Choi	1077
Chen-Hsiung Chou	3844
C.I. Christodoulou	3591
Chen Chua	1024
Naoya Chujo	3170
Chen-Hyun Cho	2872
Jae H. Chung	1994
Jeon-Hyun Cho	2872
Angelo Ciaramella	975
Fests-And-Siro	1994, 1560
Michael Ciraula	611
G.M. Clark	263
I. Cloete	1345, 1350, 1829
Bugene Clotilde	2772
Brant Coghlan	2282
Marc Cohen	2343
Michael Cohen	288
Colin Cole	1934, 1982