Table of Contents (June--December 1995) CBMS San Francisco (Not Included)
Chatham Bars Inn

June 12--16

June 18--20 Summer Class June 26--30 Boston Esplanade July 4 July 9 Seattle Summer Research Conference Manchester, England IMA Conference Park City, Utah July 10--12 July 30 Publick Theatre -- Much Ado about Nothing Lowell Summer Music Festival -- Christine Lavin July July After dinner speaker - Student Workshop August 8 After dinner speaker - Student Wolf August 16--20 Boothbay Harbor -- Family Vacation Ventucky (Not included) Lexington, Kentucky (Not included) August 31 Mathematics Department Reception Endicott House September 16

Octover 15--22 Eigenvalue Workshop -- Toulouse, France

November 16 Penn State

LCS Holiday Party, JFK Library December 16

This table is filed under ~/DEPT/BIO/1995

Alan Edelman June - December 1995



MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SUMMER PROFESSIONAL PROGRAM 6.50s A Peek at Parallel Processing from an **Applications Perspective**

Alan Edelman:

Dept. of Mathematics and Laboratory for Computer Science, MIT

Shang-Hua Teng: Dept. of Computer Science, University of Minnesota

Robert Schreiber: NASA Ames Research Research Center

June 26 - 30, 1995

Course: 6.50s

Date: June 26 - 30, 1995

Tuition: \$1,950

CEUs:

Parallel computing has matured. Gone is the hype about how these machines would change the world and the heightened expectations that could never be fulfilled. What is emerging is a new reality: parallel computing works, but sometimes with difficulty. Nevertheless, it is currently the only way to achieve top performance on important applications.

This course, now in its second year, cuts through the promotional fluff by giving the students a broad perspective on what parallel machines are good for, what they are not good for, and how they can be used for real applications.

We begin with an overview of the current models of parallel machines and architectures explaining the ever changing trends in the industry. We focus on the mythsand realities of parallel computing that are relevant for users who wish to create real applications. We will provide in-depth training on an MIT supercomputer. By completion of this course, students will be ready to solve real scientific problems on any parallel machine. A secondary focus is the analysis of parallel performance: its uses and misuses.

A special additional topic that we will cover in 1995 is a tutorial on floating point arithmetic on the technical details of the well-publicized Intel Pentium bug and on arithmetic standards.

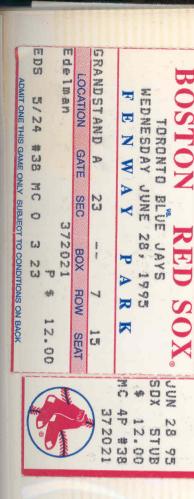
Sample applications will include a selection from Poisson solvers, mesh generation, mesh partitioning, chemistry computations, multigrid computations, sparse matrix computation, N-body simulations, vortex methods, finite difference computations, finite element computations, finite volume computations, and other general numerical simulations or partial differential equations. We will not presume familiarity with these methods.

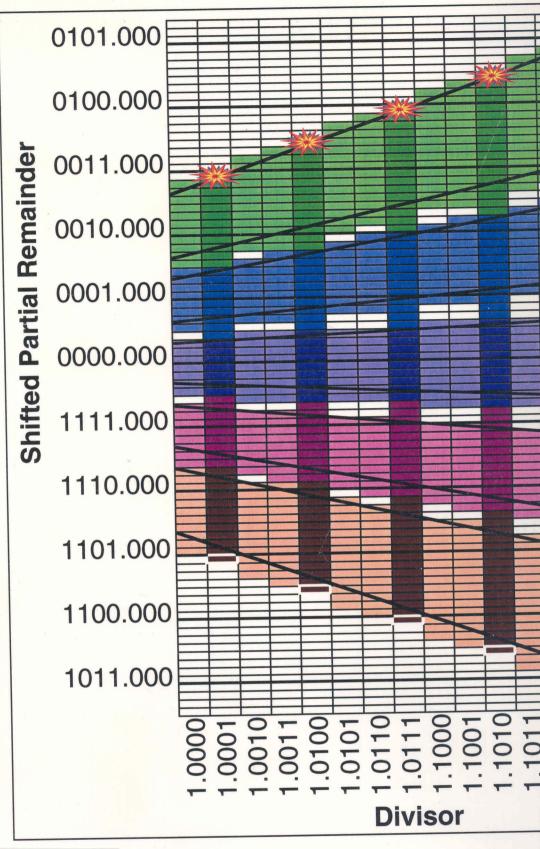
TARGET AUDIENCE

Engineers and scientists performing numerically intensive computations who might currently be using vector supercomputers or fast workstations and may be wondering whether the time has come to take the plunge into parallelism. The course is valuable for any individual facing the dilemma of whether now is the time to go parallel, and for those who have decided that it is. The course is also appropriate for individuals who wish an introduction to the applications listed above.

ABOUT THE COURSE

The course is a condensed version of MIT's graduate level course 18.337 on Parallel Scientific Computing, first introduced into the curriculum in 1994 and taught again in 1995, covering the latest developments in this rapidly changing field. One component of the course is the lectures that introduce concepts, techniques, and algorithms. An equally important component is the laboratories designed to bridge the gap between theory and practice. The laboratory is the essential medium that allows students to complete the course with the skills needed to solve real world problems.

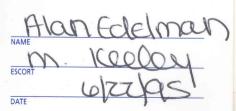


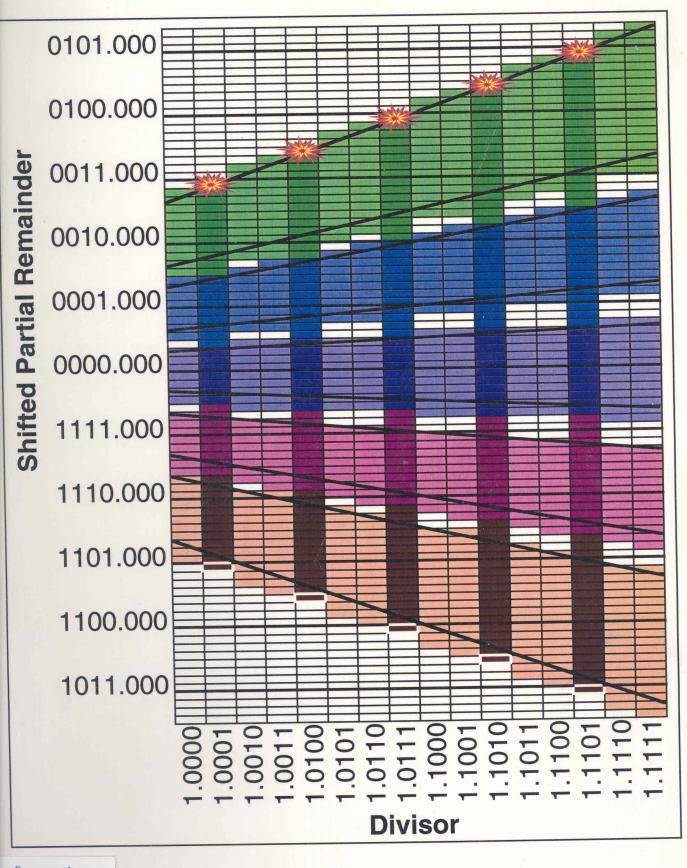


Thinking Machines Corporation



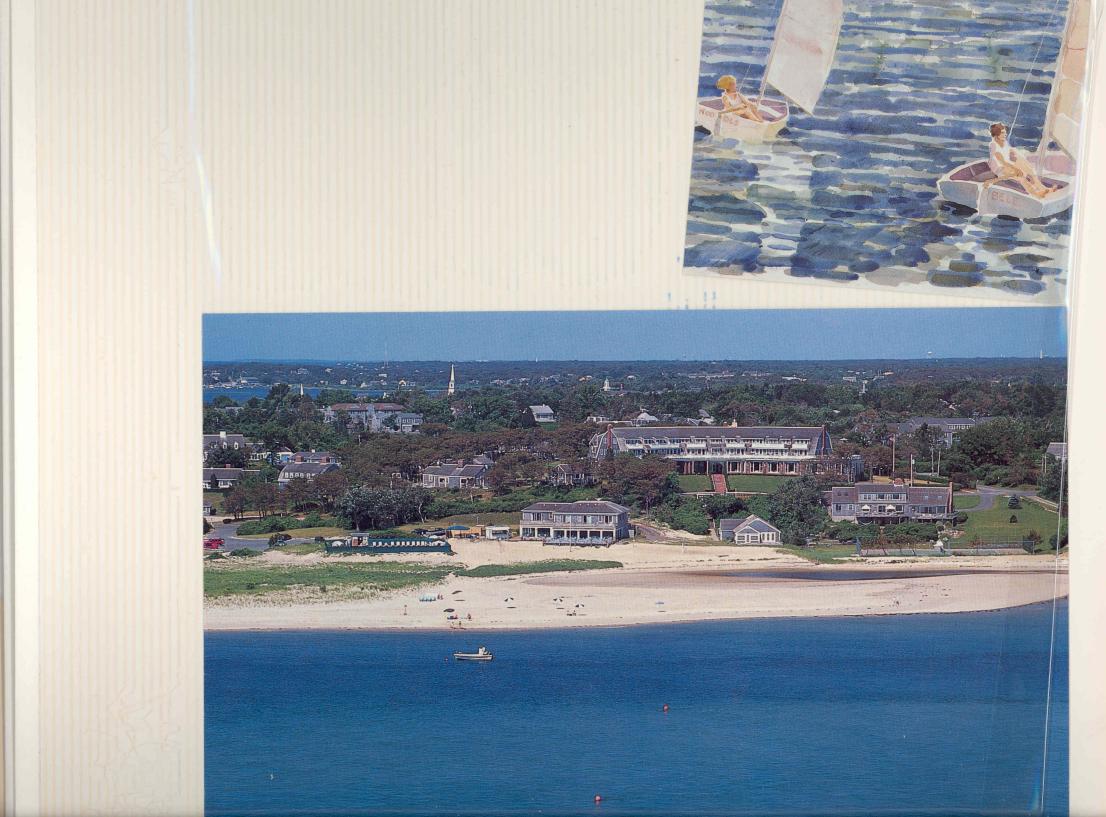
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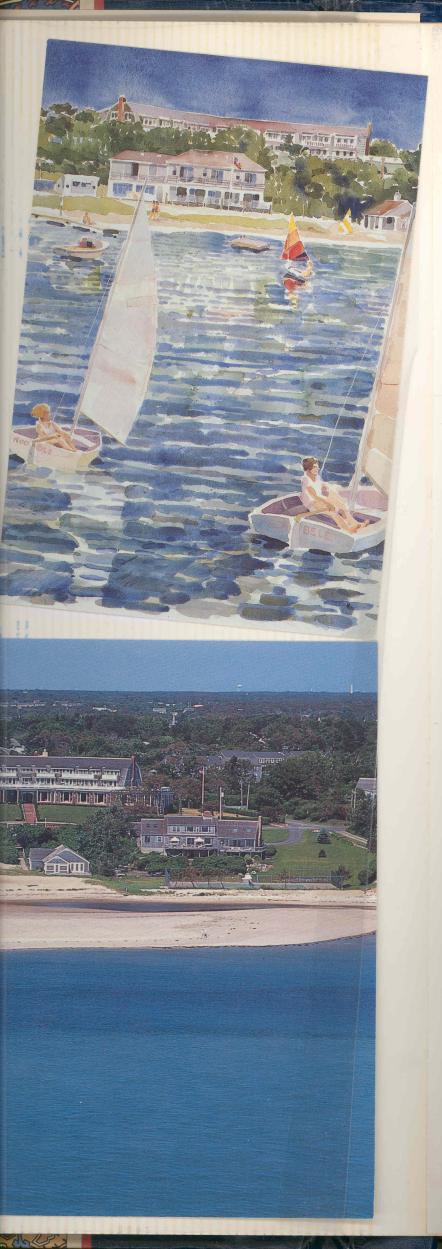




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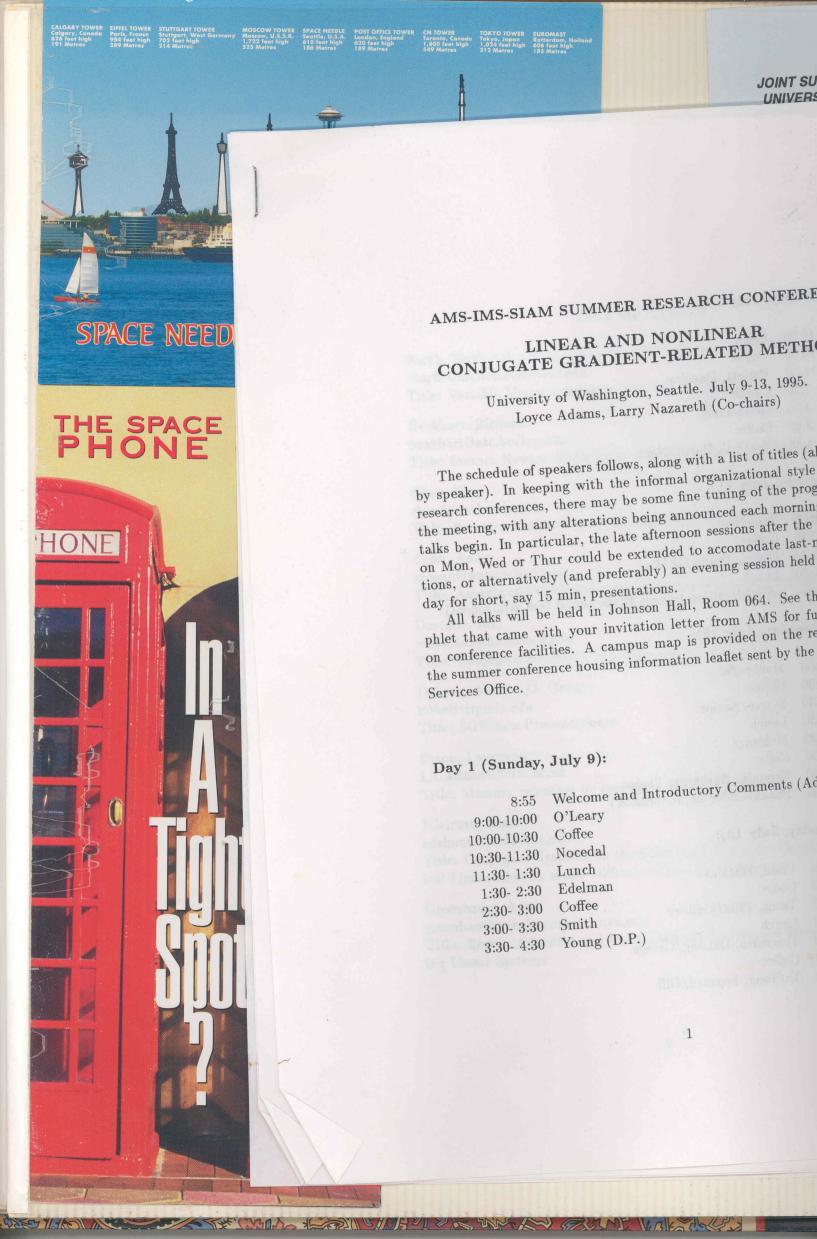
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AMS-IMS-SIAM SUMMER RESEARCH CONFERENCE

LINEAR AND NONLINEAR CONJUGATE GRADIENT-RELATED METHODS

University of Washington, Seattle. July 9-13, 1995. Loyce Adams, Larry Nazareth (Co-chairs)

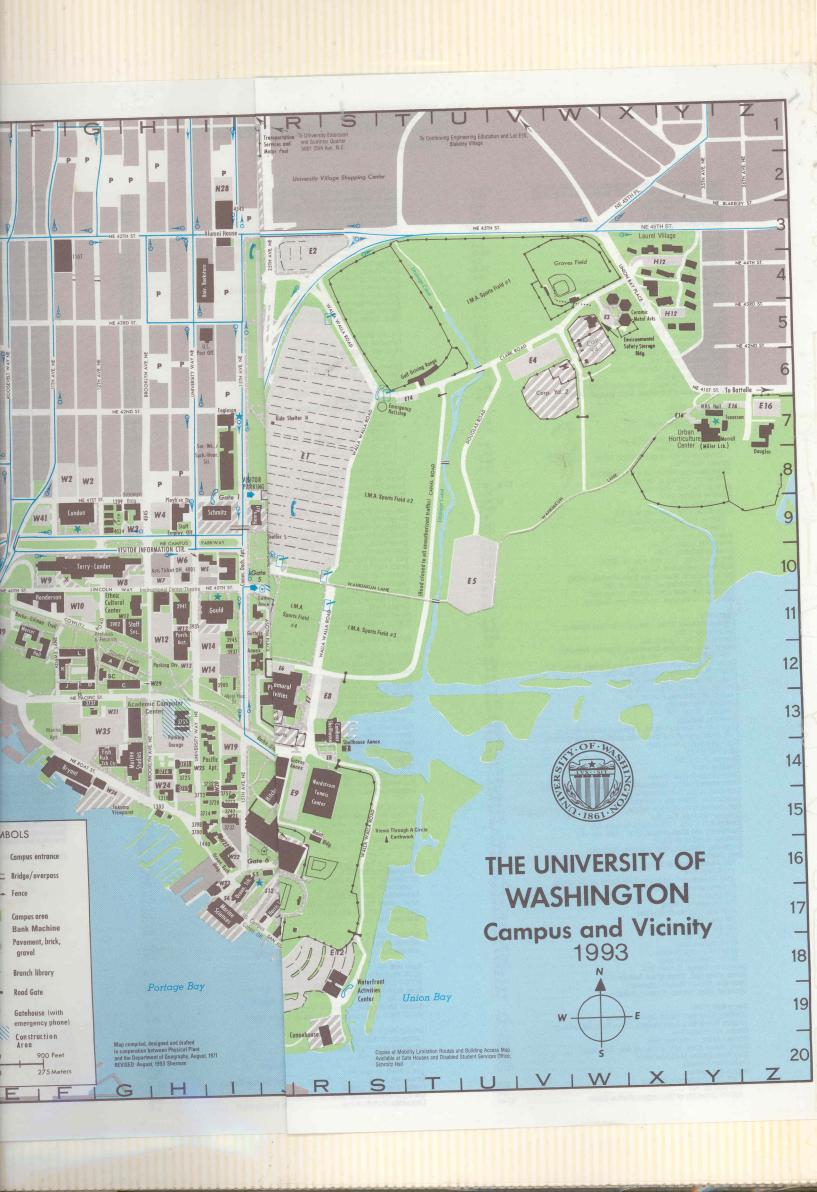
The schedule of speakers follows, along with a list of titles (alphabetized by speaker). In keeping with the informal organizational style of summer research conferences, there may be some fine tuning of the program during the meeting, with any alterations being announced each morning before the talks begin. In particular, the late afternoon sessions after the coffee break talks begin. In particular, the late afternoon sessions after the coffee break talks begin. Wed or Thur could be extended to accommodate last-minute additions, or alternatively (and preferably) an evening session held on Wednestions, or alternatively (and preferably). Room 064. See the blue paments of the program of th

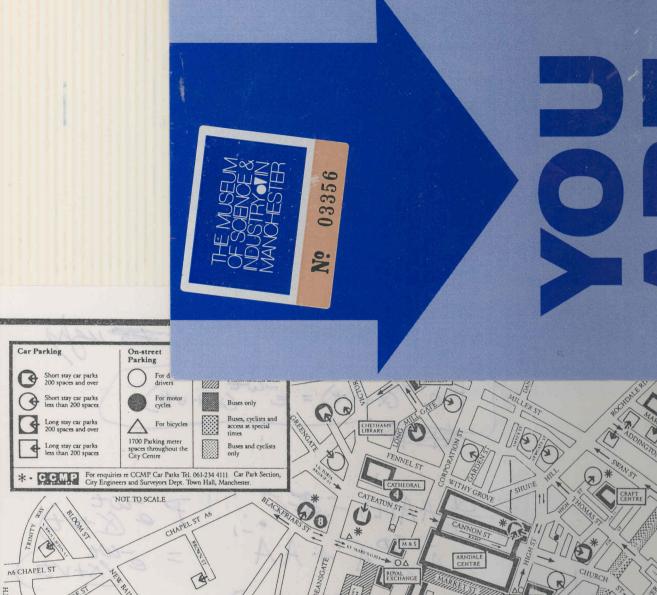
All talks will be held in Johnson Hall, Room 064. See the blue pamphlet that came with your invitation letter from AMS for further details on conference facilities. A campus map is provided on the reverse side of the summer conference housing information leaflet sent by the UW Housing Services Office.

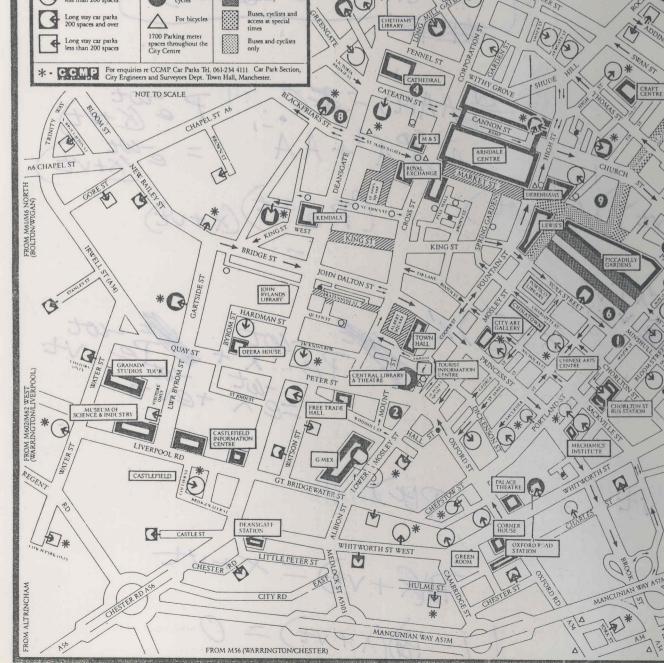
Day 1 (Sunday, July 9):

Welcome and Introductory Comments (Adams) 8:55 O'Leary 9:00-10:00 Coffee 10:00-10:30 Nocedal 10:30-11:30 Lunch 11:30- 1:30 Edelman 1:30-2:30 Coffee 2:30-3:00 Smith 3:00- 3:30 Young (D.P.) 3:30- 4:30









A brief guide to the site

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IMPORTANT DEADLINES

Participant Info Sheet/Prereg Form to AMS: May 24

Housing reservations to the University of Washington on:

- 1. Smooth dynamical systems: June 2
- 2. Hamiltonian dynamics and celestial mechanics: June 2
- 3. Matroid theory: June 9
- 4. Linear and nonlinear CG-related methods: June 16
- 5. Finsler geometry: June 23
- 6. Analysis of multi-fluid flows: June 30
- 7. Electrical impedance tomography: June 30

IMPORTANT PHONE NUMBERS

| AMS-IMS-SIAM Conference Office | TBA |
|-------------------------------------|--------------|
| Chamber of Commerce | 206-461-7200 |
| AMS Headquarters Office | 800-321-4267 |
| Mathematics Library, Padelford Hall | 206-543-7296 |
| Police on Campus (Emergency) | 9-911 |
| Univ of Washington, McCarty Hall | 206-543-5527 |
| University of Washington (Main) | 206-543-2100 |
| Mathematics Department | 206-543-1150 |

AMS-IMS-SIAM CONFERENCE OFFICE

The AMS Conference Office will be located in Room 119 in Johnson Hall. The office hours are: Saturday: 6:00 p.m. to 8:00 p.m. Sunday-Thursday: 8:00 a.m.-noon and 1:00 p.m.- 5 p.m.

Travel Expense Vouchers: Participants who have been informed by the Associate Executive Director of the American Mathematical Society that they will be supported for their travel/subsistence should note the following procedure for reimbursement of expenses.

- 1. Participants will be required to fill out an expense voucher at the conference and return it to the conference coordinator, between Monday and Wednesday morning or prior to leaving the conference. The expense vouchers will be processed at AMS Headquarters and checks will be mailed to the address indicated on the voucher eight weeks after the conference has ended. Checks cannot be produced at the conference.
- 2. To comply with NSF regulations, any expenses for which reimbursement is requested must be documented by copies of receipts. Conference fees cannot be reim-

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TBA 206-461-7200 800-321-4267 delford Hall 206-543-7296 rgency) Carty Hall 9-911 206-543-5527 n (Main) 206-543-2100 206-543-1150

CONFERENCE OFFICE

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IMA Conference on Linear Algebra and Its Applications 10-12 July, 1995 University of Manchester Final program

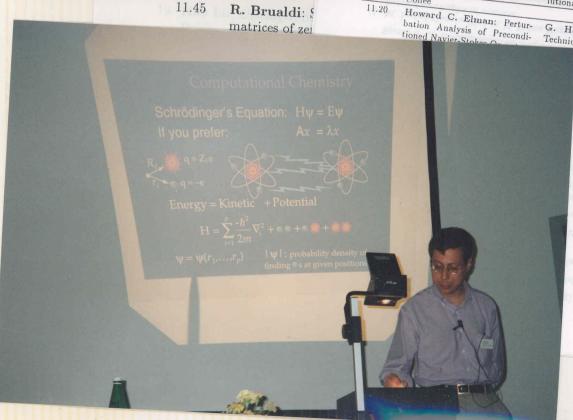
Note on Duration of Talks

The period scheduled for each ta



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G. Heinig: Transformation Techniques for Structured Ma-S. P. Eveso Distribution Matrices



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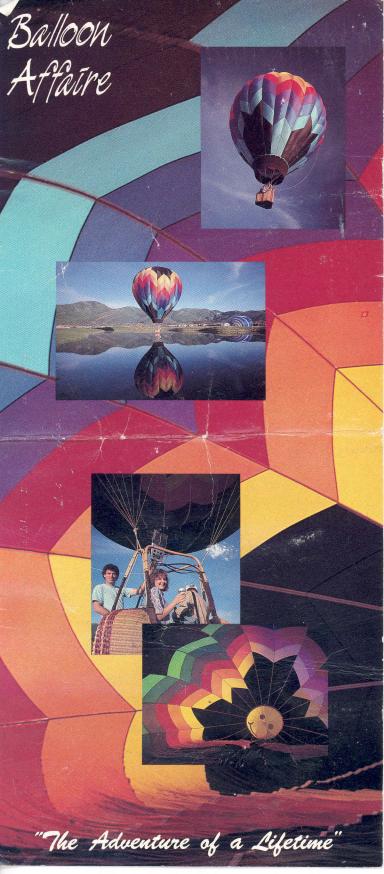
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WEDNESDAY, August 2

Free afternoon

| THURSDAY, | August | 3 |
|-----------|--------|---|
|-----------|--------|---|

| 13.00-13.30 | CHARLES KENNEY, "A Schur-Frechet algorithm for computing the logarithm of a matrix" |
|------------------|--|
| 13.30-14.00 | MICHAEL BERRY, "Sparse matrix reordering schemes for browsing hypertext" |
| 14.15-14.45 | AVRAM SIDI, "Convergence theory for simultaneous iteration and Krylov subspace methods for eigenvalues with special properties" |
| 14.45-15.15 | ALAN EDELMAN, "Mathematics of the Pentium divide flaw" |
| 15.15-15.45 | Tea |
| 15.45-16.15 | LARS ELDEN, "Schur-related algorithms for triangularizing Toeplitz matrices" |
| 16.15-16.45 | SHIVKUMAR CHANDRASEKARAN, "A fast stable solver for nonsymmetric Toeplitz systems" |
| 17.00-17.30 | MING GU, "A fast algorithm for solving Toeplitz systems of equations" (will be presented in the Theatre) |
| 17.30-18.00 | TONY CHAN, "Probabilistic analysis of Gaussian elimination without pivoting" (will be presented in the Theatre) |
| | |
| FRIDAY, August 4 | the contract of the second was a second of the second of t |

| 13.00-13.30 | JESSE BARLOW, "Better bidiagonal reduction for computing the singular value decomposition" |
|-------------|--|
| 13.30-14.00 | ESMOND NG, "On state-of-the-art sparse Cholesky factorization algorithms" |
| 14.15-14.45 | BERESFORD PARLETT, "Computing eigenvectors of tridiagonal matrices" |
| 14.45-15.15 | NOEL NACHTIGAL, "Application of QMR to the solution of the Euler equations" |
| 15.15-15.45 | Tea |
| 16.15-16.45 | PATRICIA HOUGH, "Complete orthogonal decomposition for weighted least squares" |
| 17.00-17.30 | LOTHAR REICHEL, TBA (will be presented in the Theatre) (will be presented in the Theatre) |
| 17.30-18.00 | V. KAHAN (to be presented by JIM DEMMEL), "On the baleful effects of computer benchmarks upon applied mathematics, physics and chemistry" (will be presented in the Theatre) |

NUMERICAL LINEAR ALGEBRA WORKSHOP

PARK CITY, UTAH JULY 31-AUGUST 4, 1995

All talks will take place in Coalition 2, except where noted.

| MONDAY, July 31 | |
|-----------------|---|
| 13.30-14.00 | ROLAND FREUND, "A Lanczos-type algorithm for multiple starting vectors" |
| 14.15-14.45 | JOCELYNE ERHEL, "A parallel preconditioned GMRES algorithm on the Intel Paragon" |
| 14.45-15.15 | QIANG YE, "Convergence analysis of finite precision bi-conjugate gradient algorithms for nonsymmetric linear systems" |
| 15.15-15.45 | Tea |
| 16.15-16.45 | DANIELLA CALVETTI, "Iterative methods for the solution of ill-conditioned linear systems" |
| 17.00-17.30 | ALAN EDELMAN, "Numerical linear algebra on the Grassmann manifold" (will be presented in the Theatre) |
| 17.30-18.00 | BO KAGSTROM, "A geometric approach to perturbation theory of matrices and matrix pencils: versal deformations and stratifications" (will be presented in the Theatre) |
| 18.00-19.00 | Reception on the North Patio |
| TUESDAY, August | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 13.00-13.30 | RICARDO FIERRO, "A matrix-preserving low-rank revealing decomposition" |
| 13.30-14.00 | ZHAOJUN BAI, "ABLE: An Adaptive Block Lanczos Method for Eigenproblems" |
| 14.15-14.45 | MARLIS HOCHBRUCK, "Krylov subspace approximations to the matrix exponential operator" |
| 14.45-15.15 | ILSE IPSEN, "Relative error bounds for eigenvalues of graded matrices do not require grading" |
| 15.15-15.45 | Tea |
| 15.45-16.15 | BERESFORD PARLETT, talk moved to Friday at 14.15 |
| 16.15-16.45 | DAVID WATKINS, "QR-like algorithms for calculating eigenvalues-an overview of convergence theory and practice" |
| 17.00-17.30 | DAVID DAY, "How the QR algorithm fails to converge and how to fix it" (will be presented in the Theatre) |
| 17.30-18.00 | MICHAEL OVERTON, "On the Lidskii-Vishnik-Lyusternik perturbation theory for eigenvalues of matrices with arbitrary Jordan structure" (will be presented in the Theatre) |



CONTINUATION METHODS AND POLYNOMIALS SYSTEMS WORKSHOP

PARK CITY, UTAH JULY 31-AUGUST 3, 1995 All talks will take place in the South Lounge, except where noted.

| MONDAY, July 13.00-14.00 | 31 MOODY T. CHU, North Carolina State University "Continuous realization methods and their applications to linear algebra" |
|-----------------------------|--|
| 14.15-15.15 | TY. LI, Michigan State University "A continuation approach to the algebraic eigenvalue problem" (will be presented in the Theatre) |
| 15.15-15.45 | Tea |
| 15.45-16.45 | CHARLES WAMPLER, General Motors "A product decomposition theorem for polynomial continuation" |
| 17.00-18.00 | JAN VERSCHELDE, Katholieke Universiteit Leuven "Geometrical homotopy methods for solving polynomial systems" |
| 18.00-19.00 | Reception on the North Patio |
| TUESDAY, Aug 13.00-14.00 | ust 1 EUSEBIUS DOEDEL, Concordia University "Numerical methods and software for continuation and bifurcation problems in differential equations" |
| 14.15-15.15 15.15-15.45 | ANDREW SOMMESE, Notre Dame University Notre Dame "A numerical method for studying irreducible components of algebraic sets" (will be presented in the Theatre) Tea |
| 15.45-16.45 | RONALD COOLS, Katholieke Universiteit Leuven "Multivariate integration rules, polynomial equations and symmetries: another eternal golden braid" |
| 17.00-18.00 | PIERRE VERLINDEN, Katholieke Universiteit Leuven "A real zero-diminishing homotopy for an exponential polynomial" |
| WEDNESDAY, A | August 2 |
| | gust 3 HUBERT SCHWETLICK, Tech. Univ. Dresden "Path following and computing singular points of large nonlinear equations by implicit block elimination" |
| | JAMES A. YORKE, University of Maryland, College Park "Period doubling and the continuation of periodic orbits" (will be presented in the Theatre) |
| 15.15-15.45 | Tea |
| 15.45-16.45 | R. BAKER KEARFOTT, The University of Southwestern Louisiana "Experimental results: an interval step control for continuation methods" |
| | BIRK HUBER, Cornell University "Homotopies preserving the Newton polytope" |

25TH ANNIVERSARY SEASON







Much Ada About Nothing

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by William Shakespeare

Directed and Choreographed by Nancy Saklad

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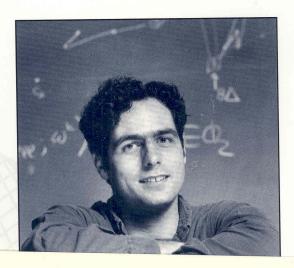


Most of my professors have been terrific teachers. That's one of the things that makes me think I want to go into teaching. They're very down-to-earth, very accessible. I'm fortunate to be here

Th

Silvina Zarate Undergraduate, mathematics

14



1995 MIT Student Workshop on Scalable Computing

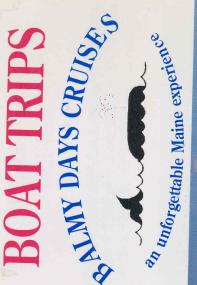
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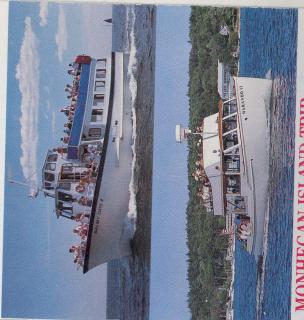


AGENDA

Wellesley Science Center August 8, 1995

Scenic one hour trip on the Squirrel Island Ferry



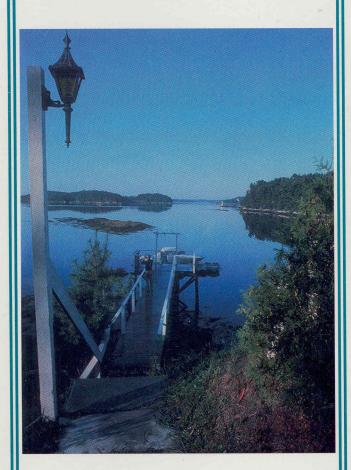


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Monhegan Associates **Trail Map**

Monhegan is a fragile, wild, beautiful cherished for generations by artists, w and nature lovers. Outside the Monhe village, in the Island's "wildlands," th approximately 17 miles of walking tra These trails are on the natural surface land — soil, rocks, grass — which is u rough, sometimes wet and often steep Island's ecology is easily altered by hu please make every effort to maintain t Island in its natural state for those wh after you. Do not pick or uproot plan mosses. There have been forest fires of Monhegan and the danger of fire is al present.

Do not smoke or build fires outside village.

To Orient You:

From the dock, follow the road up the the main north-south road. Turn righ to reach the center of the village, Burn Trail (#4) and Lobster Cove (where Trail begins). Turn left (north) to reach the the schoolhouse, the Lighthouse Mus White Head Trail (#7) and Black Head (#10).

The Island is about .7 of a mile wide miles long. Trails on this map are not to scale, and distances are sometimes distorted to emphasize direction. Mo is hilly: the time required to cover a distance is greater than that needed ground.

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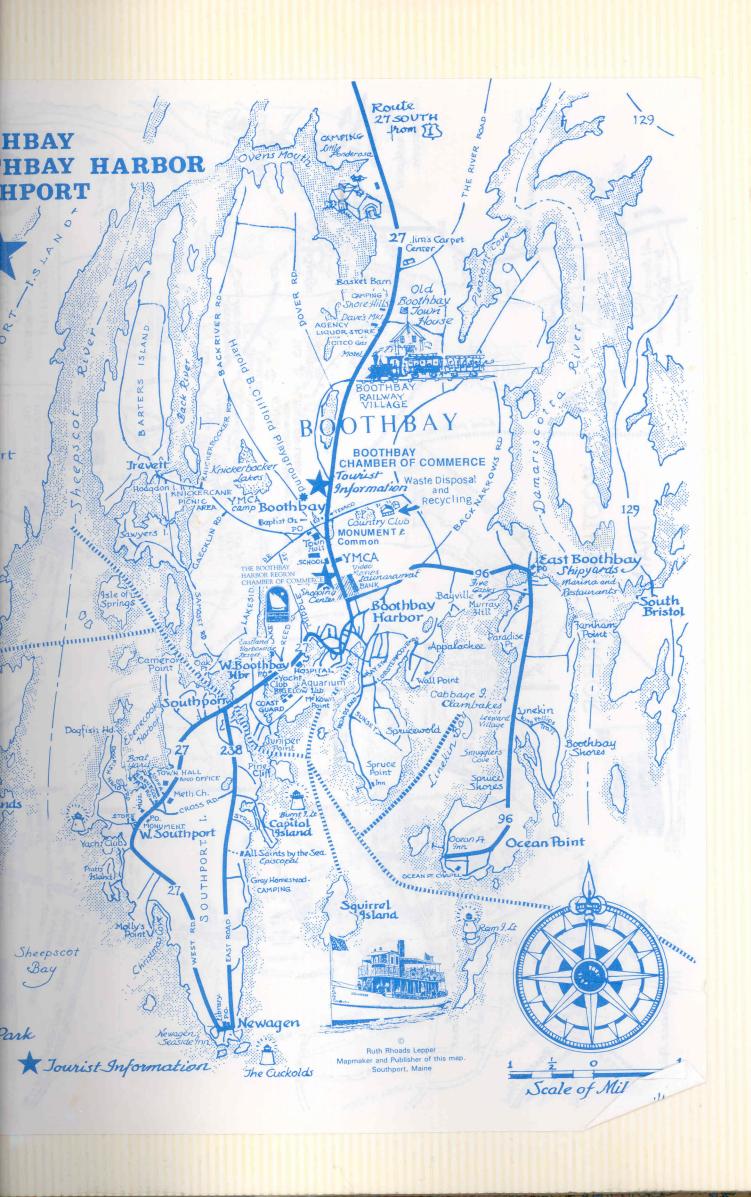
d, beautiful island, by artists, writers the Monhegan Idlands," there are walking trails. It is usually I often steep. As the altered by humans, to maintain the for those who come uproot plants and forest fires on it is always.

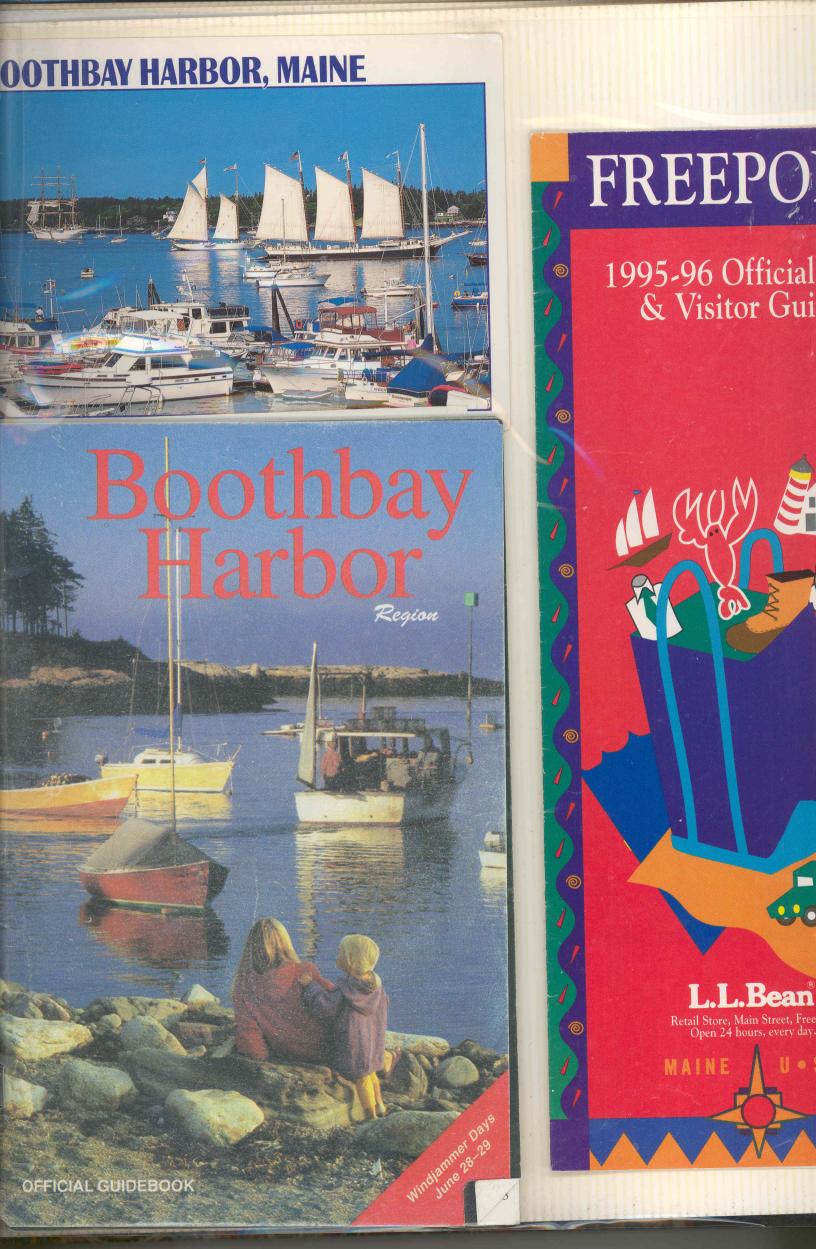
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e road up the hill to ad. Turn right (south) village, Burnt Head ove (where Trail #1) to reach the library, and Black Head Trail

a mile wide and 1.7 s map are not drawn are sometimes direction. Monhegan ed to cover a given that needed on level







FREEPORT

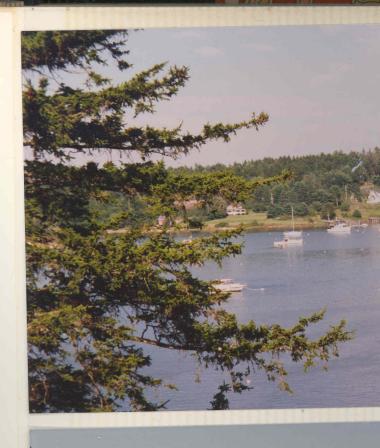
1995-96 Official Map & Visitor Guide



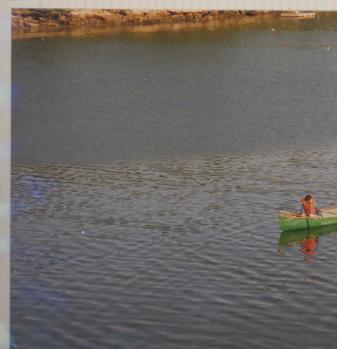
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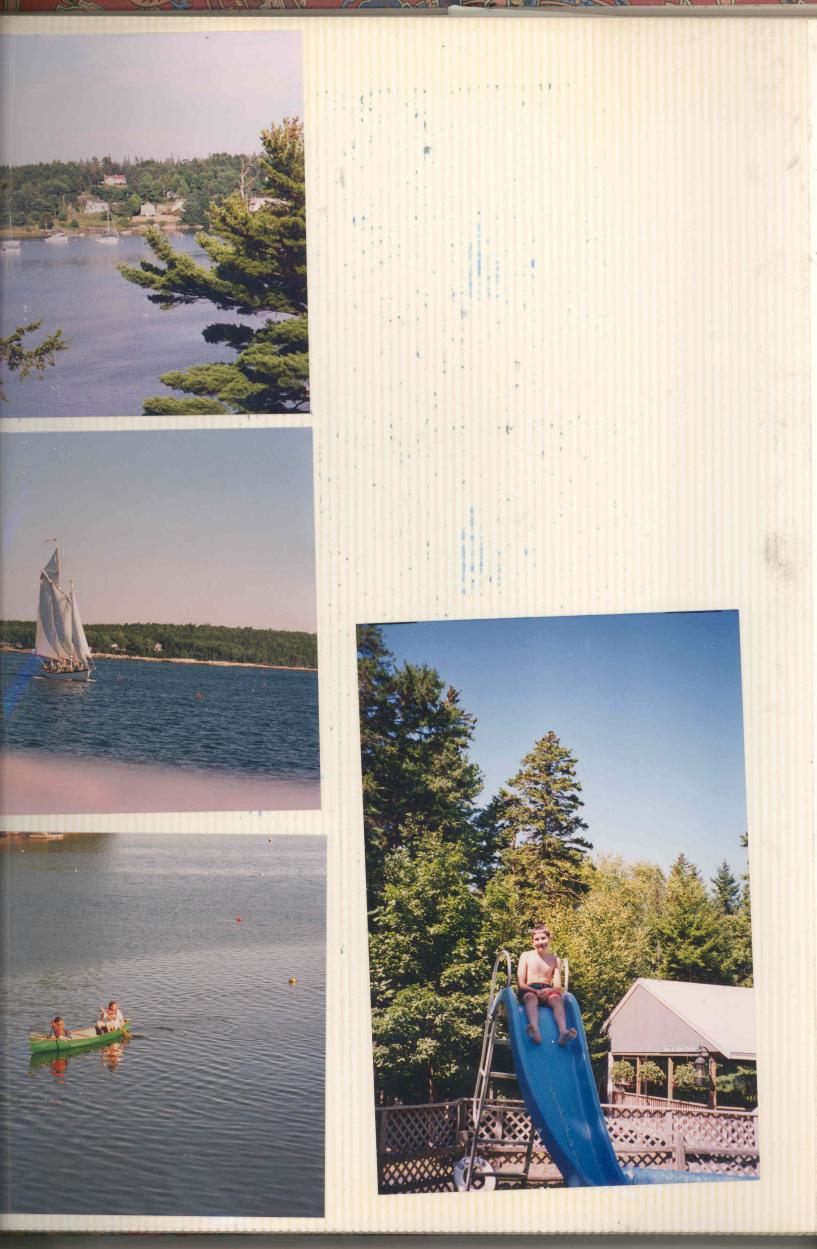
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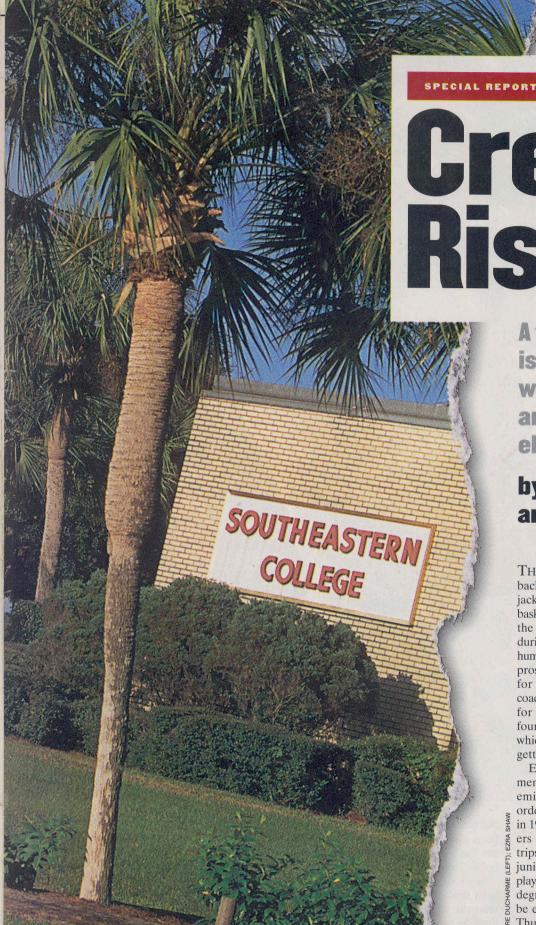
MAINE U . S . A











Credit Risk

> A tiny Bible college is entangled in what could become an enormous NCAA eligibility scandal

by Alexander Wolff and Don Yaeger

THE SLOT players sat bleary-eyed in the background, prospecting for their elusive jackpots. But among a handful of college basketball coaches gathered in the lobby of the Aladdin Hotel in Las Vegas one night during the summer of 1993, the talk was of human lucre. The nation's finest high school prospects had come to the Nevada desert for an All-Star tournament, and these coaches—procurers of talent, preoccupied for years simply with getting players—found themselves discussing a sideline in which they had recently become experts: getting players eligible.

Ever since the NCAA's landmark enactment of Proposition 48 set minimal academic standards for athletes to meet in order to compete as freshmen, beginning in 1986, some of the best high school players have been forced to postpone their trips to the big time and make detours to junior college. Once enrolled at a juco, a player has had to earn a two-year associate degree before he could transfer to, and be eligible to play at, any NCAA school. Thus some college coaches began priding themselves on their ability to guide aca-

Mathematics Department
Reception

at

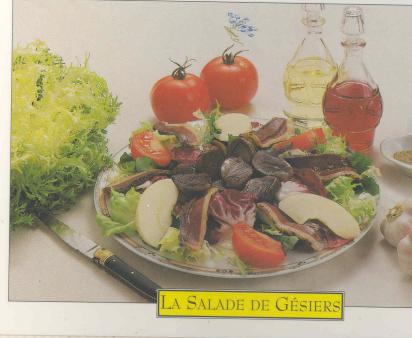
Endicott House Saturday, September 16th 4-7 p.m.

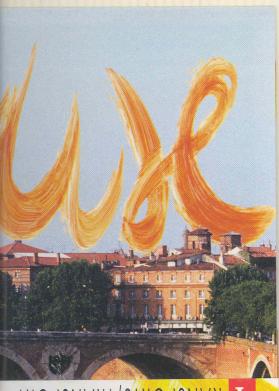
Come to see old friends and welcome the new members of the Department

RSVP by Friday, September 8th, 253-4382



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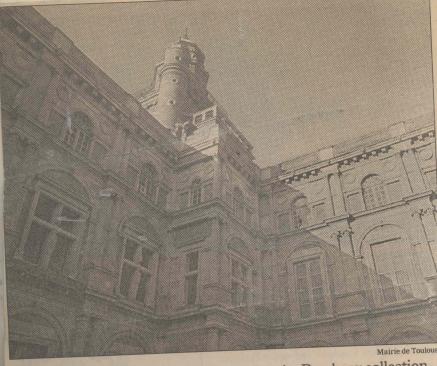
loisirs

Une exposition exceptionnelle de 150 dessins originaux de plus de 30 créateurs

proposée par

La Librairie **Ombres Blanches** à Toulouse

Caisse d'Epargne de Midi-Pyrénées



The 1555 Assézat mansion, which houses the Bemberg collection.

New Museum in Toulouse

The Assézat mansion in Toulouse, France, recently opened as the Fonda-tion Bemberg to display five centuries of European art. The collection represents the lifelong passion of Georges Bemberg, who donated 331 works, including 28 Bon-

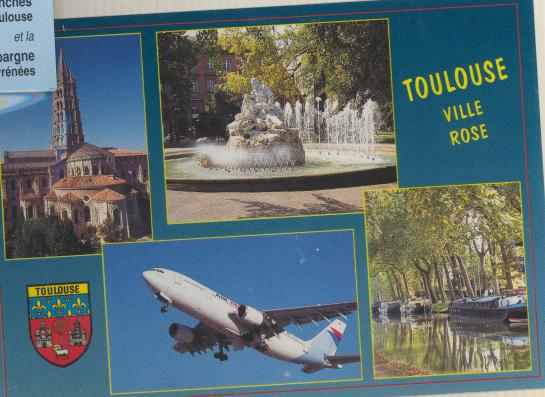
The mansion that contains the collection was built in 1555 with the Assézat family's pastel dye fortune. The \$3 million interior restoration was financed by Mr. Bemberg, who, at 80, is an heir to Argentina's largest brewery.

After entering the courtyard crowned by spires, visitors pass into the first of nine galleries, illuminated by a turquoise Venetian crystal chandelier, where Canaletto's "Vue de Mestre" is displayed.

Limoges porcelain and enamels and German bronzes follow. Among the works representing the Dutch are paintings by Pieter de Hooch. On the second level, highlights of the 19th and 20th centuries include paintings by Camille Pissarro, Paul Gauguin, the Fauves and later canvases by Henri Matisse, including "Vue d'Antibes." In a nearby hallway is Pierre Bonnard's "Le Moulin Rouge" and Claude Monet's "Bateaux sur la Plage à Étretat."

The museum is at the Place d'Assézat, Rue de Metz, 61.12.06.89, near the Esquirol Métro stop. It is open 10 A.M. to 5 P.M. (to 6 P.M. during the summer); closed Tuesday; \$5.
SHELLEY ASPAKLARIA

WHEN THE WAS T

















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CENTRE pour I'UNESCO







Dominique Bau Maire de Toulouse

vous prie de lui faire l'honne à la réception qui sera donnée au D le mardi 17 octobre 1995, à l'occasion du 2º S'eminaire de l'Année Intern

Cette invitation strictement personnelle sa

MAIRIE DE TOULO



DEPARTMENT SCIENCE AND COLLO

Thursday, Nove 302 Pond 4:00 p

Dr. Alan Massachusetts Insti

On the Pentium

ABSTI

Despite all of the publicity surrounding la details of the bug are poorly understood. W proof of the Coe, Tang, result that the at positions 5 through 10. Also we explain w ments in [1,2) is on the order of 1e-5.

REFRESHMENTS WILL BE SER



Dominique Baudis Maire de Toulouse

rrie de lui faire l'honneur d'assister n qui sera donnée au Donjon du Capitole, nardi 17 octobre 1995, à 18 h 30.

aire de l'Année Internationale de l'Algébre Linéaire.

tion strictement personnelle sera exigée à l'entrée.



MAIRIE DE TOULOUSE

PARTMENT OF COMPUTER IENCE AND ENGINEERING **COLLOQUIUM**

Thursday, November 16, 1995 302 Pond Lab 4:00 p.m.

by

Dr. Alan Edelman assachusetts Institute of Technology

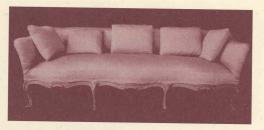
On the Pentium Division Flaw

ABSTRACT

e publicity surrounding last year's Pentium flaw, the mathematical are poorly understood. We discuss these details, supply a simplified , Tang, result that the at risk divisors have six consecutive ones in gh 10. Also we explain why the worst case absolute error for arguon the order of 1e-5.

ENTS WILL BE SERVED AT 3:30 p.m. in 332 POND

Before and after views of a Louis XV style Italian sofa in the Little Salon.





"Upholstery textiles do not last more than about twenty years here at the Gardner without showing significant fading, shearing, and discoloration," says Chief Conservator Barbara Mangum, who has made a careful study of Museum records. "Most of the 189 works have been reupholstered about three times since the Museum opened. It's a little like painting the Brooklyn Bridge. One is never finished."

And so it was that Giséle Haven, a native of Lyons, France, who studied her craft in Paris as well as New York City, arrived in 1992 from the Society for the Preservation of New England Antiquities (SPNEA) to assist in the reupholstering of furniture at

a museum where reupholstering quite done. For Giséle, it was par nightmare, part dream come true

"The Little Salon was a very sad room when I got there," says Gis being French, takes eighteenth-co salons seriously. "It was a dispirite deflated, just like the pillows. The lot to do."

Indeed, there was. Most of the fu in the Little Salon had not been reupholstered for significantly lon the average. Of the five damaged four were members of sets that ha reupholstered all together lest one cover make the others look worse Moreover, three of the pieces in the Salon were covered in bland, neur fabrics chosen in the 1960s and 19 when aesthetics tended toward a minimalist upholstery that urged, look at me, look at the frame." Th fabrics were hardly reminiscent of richly colored and boldly patterne that Isabella Gardner had originall chosen for the room.

In the end, it was the latter considerable that decided the scope of the Little project, for in 1991 the Museum in decision to actively return the gallet

New Members

(from June 22, 1995, through

Mr. Philip Abell Ms. Gilda Abrahan David and Amy Abrams Miss Alicia Afalonis Mrs. Hollis Albright Ms. Caroline P. Allison Ms. Karen J. Alter and Mr. Brian T. Hanson Mrs. William Amory Mr. and Mrs. Peter Anderson Ms. Katherine Andre Ms. Barbara Arnold Mr. Benjamin Ascher Ms. Marny Ashburne Mrs. W. Benjamin Bacon Mr. David Bagdigian Ms. Lisa Baker Ms. Gilda Barabino Ann and Townsend Barker Stephen and Marie C. Barrett Frederick B. and Cynthia R. Beams Dr. Jonathan W. Becker Mr. and Mrs. George D. Behrakis Dr. Warren Bennett Mrs. Nancy K. Berezin Dr. Harris Berman Dr. Caroline Bernstein Ms. Karina S. Bertsch Dr. Bonita L. Betters-Reed Mrs. Ben Beyea Ms. Gina Biancarosa Ms. Amy L. Biasotto Dr. Benjamin E. Bierbaum Mr. Mark Birchem Mr. Robert W. Bland Mr. and Mrs. Thomas Blumenthal Ms. Joan Boccadoro Mr. David Bono Mr. Bradford and Ms. Stanton Ms. Martha Jane Bradford and Mr. Alfred M. Ajami

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Ms. Elizabeth A. Humphreys Mr. and Mrs. Robert Hungate

Ms. Sieglinde Hughe

e reupholstering is never Giséle, it was part dream come true.

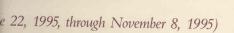
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s the latter consideration scope of the Little Salon If the Museum made a ly return the galleries to the look its founder intended. Archival photographs taken in 1926 document Isabella's tastes in upholstery fabrics and form. Checking the twenty-four pieces of upholstery in the room against the photographs, a conservation and curatorial team began work to reupholster all but one of the pieces.

Before Giséle could begin reupholstering, there was historic research to do. Giséle and the textile conservation staff researched the fabrics. The conservators of objects had work to do on the pieces' frames, such as consolidating flaking paint. Besides the archival photographs, there were some written records to investigate that documented fabrics used in the past, and, happily, some pieces of 1926 fabric were found in storage. Other clues turned up in the workroom, where an uncovered furniture frame will often yield scraps of fabric or evidence of old upholstering techniques. In this undercover detective work, old tacks always cause a commotion.

"Old tacks are easily dated," Giséle explains, "and because of their configuration, they are very difficult to remove. Some of the old tacks have been left in the frames with little vestiges of fabric clinging to them. That is very good for us because not only



Ms. Myna Jayne Joseph

Fortenbaugh
Jeffrey Franc
Frank
razier and
Dempsey
A. Frost
E. Fuller
Fuller, Jr., and
Gomez-Fuller
Adolfo R. Garcia
Jart
Daniel W. Gerrity

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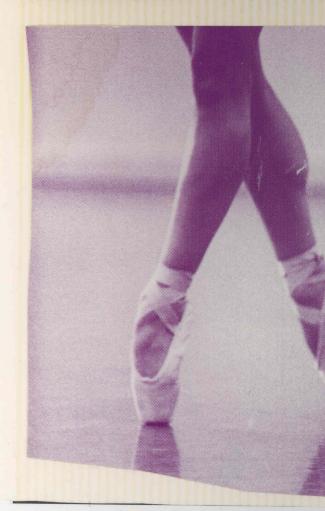
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Robert C. Hooper vath Hughes A. Humphreys Robert Hungare

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HAPPILY EVER AFT Dances and Fairy Tales

OCTOBER 12-29, 1995
Approximate Running Time: 2 hours, 25 n
There will be two intermissions.
See program insert for casting.

THE STEADFAST TIN SOLDIN

Music by Georges Bizet
(Scenes Bohemiennes from La Jolie Fille de Perth and selec
Choreography by Bruce Marks and Bruc
Scenery and Costume design by Jens-Jacob
Lighting design by Craig Miller

-Intermission-

THE NIGHTINGALE

World Premiere

Music by Jonathan McPhee Choreography by Lucinda Hughe Scenery Design by Edie Whitsett Costume Design by Larae Hascal Lighting Design by Brian MacDevi

-Intermission-

THE PRINCESS AND THE PE

World Premiere

Music by Gustav Holst
Choreography by Daniel Pelzig
Scenery Design by Michael Anania
Costume Design by Mariann Verhey
Lighting Design by Brian MacDevin



Y EVER AFTER s and Fairy Tales

OBER 12-29, 1995
nning Time: 2 hours, 25 minutes.
ill be two intermissions.
gram insert for casting.

ADFAST TIN SOLDIER

ic by Georges Bizet
Fille de Perth and selections from Jeux d'Enfants)
Pruce Marks and Bruce Wells
ne design by Jens-Jacob Worsaae
design by Craig Miller

-Intermission-

NIGHTINGALE

World Premiere
by Jonathan McPhee
phy by Lucinda Hughey
Design by Edie Whitsett
Design by Larae Hascall
esign by Brian MacDevitt

-Intermission-

ICESS AND THE PEA

Vorld Premiere

c by Gustav Holst

caphy by Daniel Pelzig

sign by Michael Anania

sign by Mariann Verheyen

sign by Brian MacDevitt

BOSTON BALLET OUNOM 1995-96

AT THE WANG CENTER FOR THE PERFORMING ARTS

THE STORIES

Synopsis of The Steadfast Tin Soldier

n Christmas Eve in Denmark, children are excitedly opening their presents. A little boy receives a box of treasured tin soldiers, which are placed with all the other toys. The soldiers, each straight as a rifle stick, and wearing a painted red and blue uniform, are all alike, since they were cast from the same tin spoon. Yet one stands apart: he is the most steadfast of them all.

Also among the gifts is the beautiful Paper Ballerina, set in front of her pasteboard castle. Although for him it's love at first sight, the Steadfast Tin Soldier is rather shy in approaching her.

At night, all the toys come to life to dance about and play, but the soldiers maintain their staunch vigil. In a fit of jealousy, a rival for the beautiful Ballerina's attentions—a scheming Jackin-the-Box—pushes the Steadfast Tin Soldier out the window. The rumpled Tin Soldier is found by a street urchin, who puts him in a paper boat and pushes him down the gutter. The Steadfast Tin Soldier is washed out to sea.

Surviving tides, torrents, and hungry fish, the Tin Soldier is miraculously rescued when the very family he belonged to discovers him inside the fish they are eating for dinner.

The Tin Soldier is reunited with his true love, the Paper Ballerina. But suddenly, a cruel breeze sweeps the Ballerina into the fireplace. The Tin Soldier follows her and throws himself into the flames. Joined by their passion, they are consumed by the fire, but united in love forever.

Synopsis of The Nightingale

he Emperor of China lives in a splendid palace that is believed to be the most beautiful in the whole world. The palace garden is a wonder too. It is full of exquisite flowers; the loveliest of which have tiny silver bells tied to them to make sure that no one passes by without noticing them. Deep in the forest, beyond the Emperor's palace, is the most wonderful thing of all - a Nightingale who sings so beautifully that all who hear her songs can never forget them. The Emperor, hearing of this unique bird, journeys to the forest and brings her back to his palace. The Nightingale performs so beautifully for the Emperor that he is moved to tears. As a sign of his gratitude, he asks the bird to remain at his side forever. Touched by the Emperor's tears, the Nightingale agrees.

One day a package containing a beautiful, jeweled music box in the shape of a bird arrives from the Emperor of Japan. The Emperor, delighted with the gift, arranges for the real Nightingale to sing with her mechanical counterpart. The duet fails miserably because the real Nightingale sings in her own way, and the other bird's song comes out of a machine. So the clockwork bird is set to sing alone. Over and over, the mechanical bird sings the same tune. Overwhelmed by the dazzling beauty of the toy bird, no one notices when the real bird returns to the wild. And then, as machines do, the music box breaks.

The Emperor, devastated that he has not only lost the mechanical bird but the real Nightingale as well, becomes gravely ill and is visited by Death in his bed chamber. Delirious, the Emperor cries out for music. The real Nightingale hears his plea and lures Death away with her enchanting voice. Thankful for the Nightingale's assistance, the Emperor expresses remorse



To Allen

With best wishes for a merry Christmas
and a happy new year.

Red a Rappy Hannukah too!

With Dest wishes

Arms, Gik, Divakar o Prabhakar



Zalig Kerstfeest en Gelukkig Nieuwjaar!

Joyeux Noël et Heureuse Année!

Merry Christmas and a Happy New Year!

Frohe Weihnachten und ein Glückliches Neues Jahr!

Elektrotechniek-ESAT

KATHOLIEKE UNIVERSITEIT LEUVEN KARDINAAL MERCIERLAAN 94 B-3001 HEVERLEE, BELGIUM

Bart De Moor

December 1995 8 Kings Walk Atlanta GA 30307 404) 370-1971

Dear Han!

Happy holidays!

Rich and I have had a very eventful year. After our wedding in May, we went to England and Ireland for a 3 week honeymoon. We first spent a few days in Oxford and then took a self-guided six-day walking tour of the Cotswolds region of England. Our luggage was transported each night to the next town, and we set out every day for a six to nine mile trek over gorgeous countryside, through sheep and cow pastures and pretty little towns. The lambs were so cute that I made Rich swear off eating lamb for the duration of the honeymoon. The walking tour was a wonderful adventure, with just the two of us, guided by maps provided by the tour company. We then flew to Dublin for a couple of days, where I was able to find out quite a bit about my greatgrandparents. The highpoint was tracking down the church where they had married in 1880 and seeing my grandfather's birthplace. We rented a car and made our way towards the west coast of Ireland, to the town of Tralee. We stayed in a small, charming castle. We walked around the lakes of Killarney and saw spectacular scenery. Our last night in Ireland was spent in a B&B in Glin, run by some distant cousins of Rich. They were very kind people that said "ye" and "tis" in a beautiful inflection. The last leg of the trip was in London for two days. Mainly we shopped around and went to the theater. We've both been to London a few times before, so it was a welcome transition between our honeymoon and the sad reality of having to return to the

Unfortunately, when we returned, we faced the daunting prospect of trying to find a place big enough for the two of us. After abandoning our dream of renting a huge house, we ended up in a two-story, three-bedroom townhouse. It's quite nice and spacious. We will be here (at December, or shortly thereafter, as long as I am in Atlanta, I can reliably be reached at Emory Law School, 1301 Clifton Rd., Atlanta, GA 30322. My phone there is 404)727-

The last bit of news is the most important. Rich and I are expecting a baby at the end of April! We are, of course, very excited about this development. Before the baby is born, there is the small matter of my tenure vote, which will occur sometime in March. Thus far, I have been able to hide the pregnancy at work, though that is sure to change in the next few weeks. Being 8 months pregnant at the time my senior faculty will consider whether I am worthy of tenure will certainly be a challenge in stress management. Wish me luck.

Well, that is my year in a nutshell. I hope all is well with you and that 1996 will develop to be a great year for you. Rich and I wish you the very best.

Lone, Colleen







Dear Alar, GREETINGS OF THE SEASON.

het me say once again how much it meant to me that you came for my weedding. I hope very much that I can make it to Bosten in the fall, as I make a swing to Yale for my ten-year reunion. If all goes well, there will be a baby in tow! (see letter I. All my best to you! Zore, Colleen

MASSACHUSETTS INSTITUTE OF TECHNOLOGY LINCOLN LABORATORY

244 WOOD STREET
LEXINGTON, MASSACHUSETTS 02173-9108

13 December 1995

Area Code 617 981-2574

Professor Alan Edelman
Massachusetts Institute of Technology
Room 2-280
77 Massachusetts Avenue
Cambridge, MA 02139

Dear Professor Edelman:

On behalf of MIT Lincoln Laboratory and the Distinguished Lecture Committee, please accept our appreciation for your lecture on the "The Mathematics of the Intel Pentium Division Flaw."

Travel commitments precluded my attendance at your lecture and luncheon. I am told it was "standing room only" attendance. Thank you again, and best wishes for your continued success.

Sincerely,

Charles M. Rader, Chairman

Charles Mr Rades

Distinguished Lecture Committee





You are cordially invited to attend the MIT

Laboratory for Computer Science
Holiday Party
to be held

at

The John F. Kennedy Library

Columbia Print

Boston, Massachusetts

on

Saturday December 16th, 1995 from

6:30 pm - 11:00 pm

Please RSVP by Monday, December 4th (617) 253-5851



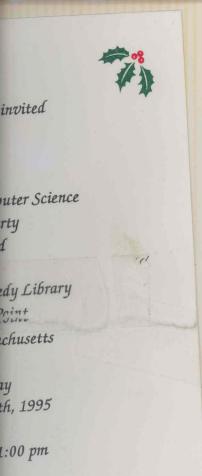












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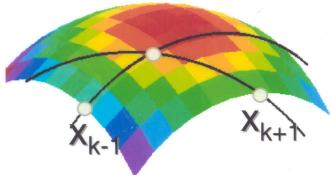
Numerical Methods 1

Prof. Alan Edelman

Wednesday/Friday 3-4:30 Room 1-390

Topics:

IEEE Floating Point Standard Classical Iterative Methods Direct Methods for Linear Systems Eigenvalues and the SVD The Pentium Flaw Modern Iterative Methods FFT Multigrid



Advanced introduction to applications and theory of numerical methods. Concentration on numerical linear algebra. Multigrid will be covered in far more depth than in previous years. We may also try one application on a parallel computer.

Web page: http://web.mit.edu/18.335/WWW/