The Bulletin of the International Linear Algebra Society

IMAGE

Serving the International Linear Algebra Community

Issue Number 72, pp. 1–41, Spring 2024

Editor-in-Chief: Louis Deaett, louis.deaett@quinnipiac.edu

Contributing Editors: Mohsen Aliabadi, Adam Berliner, Anthony Cronin, Jephian C.-H. Lin, Rajesh Pereira, and Amy Wehe

Advisory Editor: Kevin N. Vander Meulen *Managing Editor*: Rachel Quinlan

Past Editors-in-Chief: Robert C. Thompson (1988); Jane M. Day & Robert C. Thompson (1989); Steven J. Leon & Robert C. Thompson (1989–1993); Steven J. Leon (1993–1994); Steven J. Leon & George P.H. Styan (1994–1997); George P.H. Styan (1997–2000); George P.H. Styan & Hans J. Werner (2000–2003); Bryan Shader & Hans J. Werner (2003–2006); Jane M. Day & Hans J. Werner (2006–2008); Jane M. Day (2008–2011); Kevin N. Vander Meulen (2012–2017)

About *IMAGE* 2

Feature Article

Matrix Derivatives: Why and Where Did It Go Wrong?, by Jan R. Magnus 3

Book Reviews

Matrix Analysis and Entrywise Positivity Preservers, by Apoorva Khare, Reviewed by Chi-Kwong Li 10

Matrix Inequalities and Their Extensions to Lie Groups, by Tin-Yau Tam and Xuhua Liu, Reviewed by M. S. Moslehian 12

Obituary Notices

David H. Carlson, 1936–2024 14

Nicholas J. Higham, 1961–2024 14

Send News for *IMAGE* Issue 73 15

ILAS News

David Bindel Selected as 2024 SIAM Fellow 15

ILAS Election Results 15

ILAS President/Vice President Annual Report 16

ILAS 2023–2024 Treasurer's Report 20

Conference Reports

Events organized by Red ALAMA, Spain, 2023–2024 22

ILAS at the Joint Mathematics Meetings, USA, January 3–6, 2024 23

International Conference on Linear Algebra and its Applications (ICLAA), India, December 18–21, 2023 24

SIAM Conference on Applied Linear Algebra, France, May 13–17, 2024 26

Upcoming Conferences and Workshops

The 8$^{\text{th}}$ Linear Algebra, Matrix Analysis and Applications Meeting (ALAMA), Spain, June 12–14, 2024 28

Workshop on Matrices and Operators, USA, June 15–16, 2024 28

Special session on Linear Algebra, Matrix Analysis and Applications *at the* XXVIII Congress of Differential Equations and Applications/XVIII Congress of Applied Mathematics (CEDYA/CMA), Spain, June 24–28, 202429

Contents continued on page 2.

Special sessions on Linear Algebra, Matrix Analysis and Applications *and on* Random walks, Kemeny's constant and applications *at* Mathematical Modelling in Engineering & Human Behaviour (MM&HB) 2024, Spain, July 10–12, 2024 29
Special sessions on Combinatorial Matrix Theory *and on* Spectral Graph Theory *at the* Women in Combinatorics Virtual Conference 2024, to be held online, July 15–16, 2024 30
Special session on Linear Algebra and Matrix Analysis *at the* European Congress of Mathematics, Spain, July 15–19, 2024 30
The 35^{th} International Workshop on Operator Theory and its Applications (IWOTA), UK, August 12–16, 2024 31
Applied Matrix Positivity II, UK, November 4–8, 2024 32
The 9^{th} Linear Algebra Workshop (LAW'25), Slovenia, June 2–6, 2025 32
XXII Householder Symposium on Numerical Linear Algebra, USA, June 8–13, 2025 33
The 17^{th} Workshop on Numerical Ranges and Numerical Radii (WONRA), Taiwan, June 19–21, 2025 34
The 26^{th} ILAS Conference, Taiwan, June 23–27, 2025 34

Ongoing Online Seminars
Graph Theory Seminar, University of Waterloo 36
Matrix Seminar, University of Nevada, Reno 36
05C50 Online, University of Manitoba 36

IMAGE Problem Corner: Old Problems with Solutions
Problem 71-1: A Property of 4×4 Hadamard Matrices 38
Problem 71-2: Cauchy-Schwarz and the Characteristic Polynomial 38

IMAGE Problem Corner: New Problems
Problem 72-1: Pascal Matrices 41
Problem 72-2: Diagonal Scaling and Matrix Powers 41
Problem 72-3: Numerical Range of a 2×2 matrix 41

About *IMAGE*

ISSN 1553-8991. Produced by the International Linear Algebra Society (ILAS). Two issues are published each year, on June 1 and December 1. The editors reserve the right to select and edit material submitted. All issues of *IMAGE* may be viewed online at `http://www.ilasic.org/IMAGE`. *IMAGE* is typeset using LaTeX. Photographs for this issue were obtained from websites referenced in articles, university department websites, conference websites, or from contributors directly, unless indicated otherwise here:

Subscriptions: Contact ILAS Secretary/Treasurer Minerva Catral (`ILASsecretarytreasurer@gmail.com`) to subscribe or send a change of address for *IMAGE*.

Editor-in-Chief: Louis Deaett (`louis.deaett@quinnipiac.edu`).

Managing Editor: Rachel Quinlan (`rachel.quinlan@universityofgalway.ie`).

Contributing Editors: Mohsen Aliabadi (`maliabadisr@ucsd.edu`), Adam Berliner (`berliner@stolaf.edu`), Anthony Cronin (`anthony.cronin@ucd.ie`), Jephian C.-H. Lin (`jephianlin@gmail.com`), Rajesh Pereira (`pereirar@uoguelph.ca`), and Amy Wehe (`awehe@fitchburgstate.edu`).

Advertisers: Contact Amy Wehe (`awehe@fitchburgstate.edu`).

With this issue, *IMAGE* welcomes Rachel Quinlan as Managing Editor, and bids farewell to Problem Corner editor Rajesh Pereira, whose generous tenure of service to *IMAGE* (and ILAS) in this capacity stretches all the way back to issue 57. Our tremendous thanks to Rajesh!

For more information about ILAS, its journals, conferences, and how to join, visit `http://www.ilasic.org`.