

Curriculum Vitae

CHRISTOPHER MICHAEL BRISLAWN

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Research Interests

Applied mathematics, mathematical signal processing, joint time-frequency analysis, statistical signal & image processing, digital communications, source coding, wavelet transforms, multirate filter banks, multilinear algebra & tensor decompositions.

Professional Positions

- 2014– Affiliate Research Scientist; New Mexico Consortium.
- 2007– Scientist; Group CCS-3 (Information Sciences), Computer, Computational, and Statistical Sciences Division, Los Alamos National Laboratory (LANL).
- 1993–2007 Member of the Technical Staff; Group CCS-3, LANL.
- 1990–93 Postdoctoral Associate; Group CIC-3 (Computer Research & Applications Group), Computing, Information, and Communications Division, LANL.
- 1989–90 Visiting Assistant Professor; Dept. of Mathematics, University of Southern California.
- 1989 Instructor (Graduate Faculty); Dept. of Mathematics, University of Colorado.
- 1982–88 Teaching/Research Assistant, Instructor; Dept. of Mathematics, University of Colorado.
- 1980–81 Undergraduate Engineering Summer Intern; Boeing Aerospace Company, Seattle, WA.

Education

- 1988 Ph.D., Mathematics; University of Colorado—Boulder. Advisor: Professor Arlan B. Ramsay. Ph.D. dissertation: reference [D1]. University of Colorado Doctoral Fellowship.
- 1982 B.S. (with Distinction and Honors), Mathematics; Harvey Mudd College, Claremont, CA. Advisor: Professor Melvin Henriksen. National Merit Scholarship.

Professional Societies and Organizations

- Member, American Mathematical Society (AMS)
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE)

Standards Committees, Organizing Committees, and Other Professional Service Activities

- 2017– Group representative on the LANL Worker Safety & Security Team.
- 2014 Organizing Committee Member (Government Labs Liaison), IEEE Southwest Symposium on Image Analysis & Interpretation, San Diego, CA, 4/6–8.
- 2008 Workshop organizer, Motion Compensation for JPEG 2000 Video Coding, LANL, 6/16–19.
- 2007–08 LANL representative on the NGA Motion Imagery Standards Board.
- 1999–2003 LANL Principal Member of the International Committee for Information Technology Standards (INCITS), Working Group L3.2. INCITS Technical Committee L3 is the ANSI-sanctioned US Technical Advisory Group to ISO/IEC JTC1/SC29 for Coding of Audio, Picture, Multi- and Hypermedia Information. Led a LANL team participating in the

development of the ISO/IEC JPEG 2000 family of International Standards for still image coding (ISO/IEC 15444–x). Contributed research, development, and standards text for JPEG 2000 Part 1 [S42] and JPEG 2000 Part 2 (Extensions) [S2]. Proposed and served as first editor of JPEG 2000 Part 10 (Extensions for three-dimensional data) [S1].

1991–96 Coauthor, FBI Wavelet/Scalar Quantization Grayscale Fingerprint Image Compression Specification [S57], the first standardized application of wavelet transforms.

Journals Reviewed

Proc. ACM SIGGRAPH; AMS Notices; AMS Proceedings; Proc. Austral. Math. Soc. Wkshp. on Harmonic Analysis & Appl.; Computers & Math. with Appl.; Proc. IEEE Asilomar Conf. Signals, Systems, and Computers; Proc. IEEE Int'l. Conf. High-Performance Computing; IEEE Trans. Circuits & Systems Video Technology; IEEE Trans. Image Processing; IEEE Trans. Information Theory; IEEE Trans. Signal Processing; IEEE Signal Processing Letters; ITB J. Engineering Science; J. Molecular Biology; Optical Engineering; Physica D; Physics Letters A; SIAM J. Numerical Analysis.

PhD Dissertations Supervised

Mihaela D. Pal (Michelle Quirk), University of Texas—Austin (Mathematics), 2003. Thesis: “Theory of Principal Component Filter Banks with Applications to Multicomponent Imagery.” UT faculty co-supervisor: Professor E. Ward Cheney.

LANL Postdocs Mentored

Brendt Wohlberg, University of Cape Town, 2000–02.

Allon Percus, Université Paris—Sud, 1999–2000.

Won Ha Kim, University of Wisconsin, 1997–2000.

Alexei Ashikhmin, Institute for Information Transmission Problems—Russian Academy of Sciences, 1996–99.

LANL Student Interns Mentored

Jose Luis Ruiz Chavira, New Mexico State University, 2006–07.

Scott Izu, New Mexico State University, 2005–07.

Jeffrey D. Blanchard, Washington University—St. Louis, 2004.

Matthew Macauley, Harvey Mudd College, 2003.

Michelle Quirk, University of Texas—Austin, 1999–2003.

Oliver Treiber, University of Maryland, 1999.

Shane Crockett, U.S. Naval Academy, 1998.

Bertrand Mazieres, Ecole Nationale Supérieure des Télécommunications—Paris, 1997.

Seyfullah Oguz, University of Wisconsin, 1996.

Larry Dean Risinger, University of New Mexico, 1995–97.

Armein Langi, University of Manitoba, 1995.

Jan Peter Peeters Weem, University of Colorado—Boulder, 1995.

Hua Davison Zhang, University of North Texas, 1994–95.

Veyis Nuri, Washington State University, 1993–94.

David Alvarez, University of California—Berkeley, 1993.

Carl Taswell, Stanford University, 1993.

Invited Lectures

- 2019 SIAM Conference on Computational Science and Engineering, Spokane, WA, 2/26.
- 2018 AMS Special Session on Inverse Problems, Portland State Univ., 4/15.
- 2015 AMS Special Session on Data Analysis & Physical Processes, Univ. Nevada–Las Vegas, 4/18.
- 2014 AMS Special Session on Harmonic Analysis & Applications, Univ. New Mexico, 4/5.
- 2012 IEEE SW Symposium on Image Analysis & Interpretation, Santa Fe, NM, 4/24.
- 2009 IEEE Conference on Signals, Systems & Computers, Asilomar, CA, 11/1–4 (Session Chair).
- 2007 IEEE Conference on Signals, Systems & Computers, Asilomar, CA, 11/7.
AMS Special Session on Computational Methods in Harmonic Analysis and Signal Processing, Univ. New Mexico, 10/13.
February Fourier Talks, Norbert Wiener Center, Mathematics Dept., Univ. Maryland, 2/15.
Graduate Seminar, Electrical & Computer Engineering Dept., Univ. New Mexico, 2/2.
- 2006 IEEE Conference on Signals, Systems & Computers, Asilomar, CA, 10/31.
- 2005 Mathematics Department Colloquium, Univ. Iowa, 2/8.
- 2004 AMS Special Session on Multiscale Methods, Univ. New Mexico, 10/16.
- 2002 Workshop on Image Analysis and Data Understanding, LANL, 12/6.
Mathematical Physics Seminar, Mathematics Dept., Univ. Texas–Austin, 4/26.
5th NSF New Mexico Analysis Seminar, New Mexico State Univ., 2/22.
- 2000 Structural Dynamics Summer School, Engineering Sciences & Appl. Div., LANL, 6/27.
- 1999 Wavelet & Harmonic Analysis Seminar, Mathematics Dept., Univ. Maryland, 11/18.
Conf. on Image Processing, Multiresolution Analysis, and Statistics, Georgia Tech, 9/10.
IEEE Midwest Symp. on Circuits and Systems, New Mexico State Univ., 8/11.
- 1998 Center for Applied Scientific Computing, Lawrence Livermore Nat'l. Lab, 7/17.
Intelligence Technology Seminar, Washington D.C., 1/14.
- 1997 AMS Special Session on Harmonic Analysis, Univ. Maryland, 4/13.
- 1996 Los Alamos IEEE Computer Society Chapter Meeting, LANL, 12/10.
SPIE Conf. on Applications of Digital Image Processing, Denver, 8/9.
National Instruments, Austin, TX, 4/25.
Workshop on Error-Resilient Image and Video Compression, SPAWAR Systems Center, San Diego, 2/14.
- 1995 Motorola Government & Space Technology Group, Phoenix, 5/23.
Math Department Seminars, Univ. Colorado–Boulder, 4/18–19.
Wavelet Seminar, Math Department, Georgia Tech, 2/20.
AAAS Annual Meeting, Session on Mathematical Image Processing, Atlanta, 2/19.
- 1994 IMACS World Congress on Computation and Applied Math, Georgia Tech, 7/12.
National Media Lab Conf. on Solid-State Memory Technology, Pasadena, 5/25.
AMS Annual Meetings, Special Session on Wavelets, Cincinnati, 1/12.
- 1993 Wavelet Seminar, Math Department, MIT, 4/22.
SPIE Conf. on Visual Information Processing, Orlando, 4/16.
- 1992 AMS Summer Research Conf. on Wavelets, Mt. Holyoke College, 6/30.
Math Department Colloquium, Univ. Nevada–Las Vegas, 4/22.

- Seminar, Center for Applied Mathematical Sciences, Univ. Southern California, 4/6.
 Claremont Colleges Applied Math Seminar, Claremont Graduate School, 4/3.
 AMS Annual Meetings, Special Session on Harmonic Analysis, Signal Processing, and
 Computational Mathematics, Baltimore, 1/9.
- 1991 Nonlinear Control Theory Workshop, Center for Nonlinear Studies, LANL, 7/15.
 Math Department Colloquium, Univ. New Mexico, Albuquerque, 4/30.
- 1990 Southern California Functional Analysis Seminar, CalState–L. A., 4/28.
 Western States Mathematical Physics Meeting, CalTech, 2/13.
- 1989 Claremont Colleges Mathematics Colloquium, Harvey Mudd College, 12/6.

Research Presentations

- 2017 CCS-7 Seminar Series, LANL, 9/19 (lecture).
 2014 ISR-2 Seminar Series, LANL, 3/13 (lecture).
 2010 Information Science and Technology Center Seminar, LANL, 2/10 (lecture).
 2009 Satellite Systems Review Panel, Patrick Air Force Base, FL, 10/28 (lecture).
 2008 Workshop on Motion Compensation for JPEG 2000 Video Coding, LANL, 6/16-19 (workshop
 organizer and speaker).
 Wide Area Motion Imagery Meeting, Santa Fe, NM, 3/27 (lecture).
 2007 DARPA/MTO Analog-to-Information Program PI Review, Annapolis, MD, 4/30–5/1 (lecture).
 2006 DARPA/MTO Analog-to-Information Program PI Review, Boulder, CO, 10/31–11/1 (lecture).
 Laboratory-Directed Research & Development Annual Review, LANL, 7/12 (poster).
 NSF Workshop on Current Trends in Harmonic Analysis and Its Applications: Wavelets and
 Frames, Univ. Colorado, 5/18 (lecture).
 DARPA/MTO Analog-to-Information Program Meeting, Arlington, VA, 4/13-14 (lecture).
 2005 Spectral Analyst Exchange Forum, LANL, 4/19-21 (poster).
 ILabs Semiannual Review & Workshop, ILabs West, Sunnyvale, CA, 4/6 (lecture).
 2004 IEEE Digital Signal Processing Workshop, Taos, NM, 8/1-4 (2 posters).
 2003 SPIE Conf. on Visual Commun. & Image Processing, Lugano, Switzerland, 7/10 (lecture).
 2002 NIMA Image Compression Symposium, Arnold, MO, 5/15 (lecture).
 IEEE SW Symp. on Image Analysis & Interpretation, Santa Fe, 4/8 (poster).
 2001 New Mexico InfoMesa Summit, LANL Research Park, 8/28 (poster).
 2000 Brown Bag Seminar, Center for Nonlinear Studies, LANL, 11/21 (lecture).
 1997 DOE Appl. Math. Sciences PI Meeting, Lawrence Berkeley Nat'l. Lab, 4/3 (poster).
 1996 IEEE Int'l. Symp. on Time-Frequency & Time-Scale Analysis, Paris, 6/19 (poster).
 IASTED Conf. on Signal & Image Processing and Applications, Annecy, France, 6/13 (lecture).
 1995 NASA Data Compression Workshop, Univ. Utah, 3/27 (lecture).
 1994 IEEE Int'l. Symp. on Time-Frequency & Time-Scale Analysis, Philadelphia, 10/26 (poster).
 Conf. on Wavelets & Large-Scale Image Processing, Argonne Nat'l. Lab, 10/21 (lecture).
 LANL/Univ. Colorado Applied Math Workshop, LANL, 5/4 (lecture).
 IEEE Data Compression Conf., Snowbird, UT, 3/29-31 (poster/system demo).
 UNM/NASA Microelectronics Research Center, Albuquerque, 3/1 (lecture).

- 1993 IEEE Conf. on Signals, Systems & Computers, Asilomar, CA, 11/1 (lecture).
 FBI Symp. Criminal Justice Info. Services Tech., NIST, Gaithersburg, MD, 9/9-10 (lecture/computer demo).
 DOE Special Technologies Expo, Oak Ridge Nat'l. Lab, 5/3-6 (poster/computer demo).
 Operator, Wavelet, and Control Theory Conf., Univ. North Carolina—Charlotte, 5/1 (lecture).
 Special Session on Wavelets, AMS Regional Meeting, Howard Univ., 4/18 (lecture).
 IEEE Data Compression Conf., Snowbird, UT, 3/31 (lecture).
 DOE Computational Science Spring Workshop, LANL, 2/22 (poster/computer demo).
 LANL/UA Applied Math Workshop, Univ. Arizona, 1/29 (lecture).
- 1992 FBI Technical Review Conf., NIST, Gaithersburg, MD, 12/8 (WSQ spec. presentation).
 IEEE Int'l. Symp. on Time-Frequency & Time-Scale Analysis, Victoria, BC, 10/5 (poster).
 DOE Computational Science Summer Workshop, LANL, 7/29-30 (survey lectures).
 IEEE Int'l. Conf. on Acoustics, Speech, & Signal Processing, San Francisco, 3/24 (lecture).
- 1991 11th Annual Int'l. Conf. of the Center for Nonlinear Studies, LANL, 5/20 (poster).
- 1990 Center for Applied Math. Sciences, Univ. Southern California, 10/16, 23 (survey lectures).
 CBMS–NSF Regional Conf. on Wavelets, Univ. Massachusetts—Lowell, 6/12 (poster).
- 1989 Analysis Session, AMS Summer Meetings, Univ. Colorado, 8/9 (lecture).
- 1988 AMS Summer Research Institute on Operator Theory, Univ. New Hampshire, 7/6 (lecture).
- 1982 Pi Mu Epsilon Session, AMS/MAA Joint Summer Meetings, Univ. Toronto, 8/26 (lecture).

Professional Training

- 2014 “Python for Scientists and Engineers,” Univ. New Mexico—Los Alamos, 2/24–28/14. Instructor: Jonathan Rocher, Enthought Inc.
- 2013 “Fundamentals of Nuclear Weapons,” course #701 (noncredit student), Theoretical Institute for Thermonuclear and Nuclear Studies, Fall 2013. Instructors: LANL staff.
- 2010 “Advanced Python Numeric Programming for Scientists and Engineers,” LANL, 7/6–8/10. Instructor: Warren Weckesser, Enthought Inc.
- 2009 “Intelligence Communications Workshop,” LANL, 4/8–9/09. Instructors: Kris Wheaton, Linda Bremmer, Institute of Intelligence Studies, Mercyhurst College.
- 2008 “Introduction to AccelDSP,” LANL, 10/30–31/08. Instructor: Ken Deegan, Xilinx Authorized Training Provider.
- 2006 “Simulink for System and Algorithm Modeling,” Albuquerque, NM, 3/6–7/06. Instructor: Laurens Schalekamp, MathWorks Inc.
- 2004 “An Introduction to Nuclear Weapon Primary Physics,” LANL, 10/27/04. Instructor: LANL staff.
 “Python for High-Productivity Computing,” Los Alamos Computer Science Institute, Santa Fe, NM, 10/12/04. Instructor: Craig Rasmussen, LANL.
- 2001 LANL Leadership Center Seminar: “Building an Innovation Factory,” LANL, 2/26/01. Instructor: Andrew Hargadon.
- 2000 “LANL Senior Scientist Institute,” Santa Fe, NM, 10/22–26/2000. Instructors: Carol Kinsey Goman, Hendrie Weisinger, and John Clifford.
- 1998 “Software Engineering for Scientists and Engineers,” LANL, 9/30/98–10/2/98, 10/14–15/98. Instructors: Brent Gorda, Greg Wilson, and Steve McConnell, Bonsai Software Inc.
- 1996 “C++ Hands-On Object-Oriented Programming,” course #337, Learning Tree International, 3/18–22/96.

Erdős Number

2

Ph.D. Dissertation

- [D1] C. M. Brislawn, “Traces and maximal theory: Function-theoretic properties of trace class kernels,” Ph.D. dissertation, Dept. of Mathematics, University of Colorado, Boulder, CO, May 1988.

Journal Articles

- [J1] C. M. Brislawn, “Factoring perfect reconstruction filter banks into causal lifting matrices: A Diophantine approach,” Feb. 2019, submitted for publication. Online: <https://arxiv.org/abs/1902.09040>
- [J2] C. M. Brislawn, “A linear Diophantine approach to lifting factorization via causal complementation,” 2017, submitted for publication.
- [J3] C. M. Brislawn, “Group-theoretic structure of linear phase multirate filter banks,” *IEEE Trans. Information Theory*, vol. 59, no. 9, pp. 5842–5859, Sept. 2013. Online: <http://arxiv.org/abs/1309.7665>
- [J4] C. M. Brislawn, “Group lifting structures for multirate filter banks II: Linear phase filter banks,” *IEEE Trans. Signal Process.*, vol. 58, no. 4, pp. 2078–2087, Apr. 2010. Online: <http://arxiv.org/abs/1310.2208>
- [J5] C. M. Brislawn, “Group lifting structures for multirate filter banks I: Uniqueness of lifting factorizations,” *IEEE Trans. Signal Process.*, vol. 58, no. 4, pp. 2068–2077, Apr. 2010. Online: <http://arxiv.org/abs/1310.2206>
- [J6] B. Wohlberg and C. M. Brislawn, “Symmetric extension for lifted filter banks and obstructions to reversible implementation,” *Signal Processing*, vol. 88, no. 1, pp. 131–145, Jan. 2008. Online: <http://dx.doi.org/10.1016/j.sigpro.2007.07.010>
- [J7] C. M. Brislawn and B. Wohlberg, “Gain normalization of lifted filter banks,” *Signal Processing*, vol. 87, no. 6, pp. 1281–1287, Jun. 2007. Online: <http://dx.doi.org/10.1016/j.sigpro.2006.11.006>
- [J8] C. M. Brislawn and B. Wohlberg, “The polyphase-with-advance representation and linear phase lifting factorizations,” *IEEE Trans. Signal Process.*, vol. 54, no. 6, pp. 2022–2034, Jun. 2006. Online: <http://dx.doi.org/10.1109/TSP.2006.872582>
- [J9] C. M. Brislawn, “Classification of nonexpansive symmetric extension transforms for multirate filter banks,” *Appl. Comput. Harmonic Anal.*, vol. 3, pp. 337–357, 1996. Online: <http://dx.doi.org/10.1006/acha.1996.0026>
- [J10] C. M. Brislawn, “Preservation of subband symmetry in multirate signal coding,” *IEEE Trans. Signal Process.*, vol. 43, no. 12, pp. 3046–3050, Dec. 1995. Online: <http://dx.doi.org/10.1109/78.476454>
- [J11] C. M. Brislawn, “Fingerprints go digital,” *Notices Amer. Math. Soc.*, vol. 42, no. 11, pp. 1278–1283, Nov. 1995, invited paper. Online: <http://www.ams.org/notices/199511/brislawn.pdf>
- [J12] J. N. Bradley and C. M. Brislawn, “Image compression by vector quantization of multiresolution decompositions,” *Physica D*, vol. 60, pp. 245–258, 1992. Online: [http://dx.doi.org/10.1016/0167-2789\(92\)90241-E](http://dx.doi.org/10.1016/0167-2789(92)90241-E)
- [J13] C. Brislawn and I. G. Rosen, “Wavelet based approximation in the optimal control of distributed parameter systems,” *Numerical Functional Analysis & Optimiz.*, vol. 12, pp. 33–77, 1991, <ftp://ftp.usc.edu/pub/cams/cams91-5.ps>, <http://dx.doi.org/10.1080/01630569108816419>. Online: <http://citeseerx.ist.psu.edu/viewdoc/versions?doi=10.1.1.8.1731>

- [J14] C. Brislawn, “Traceable integral kernels on countably generated measure spaces,” *Pacific J. Math.*, vol. 150, no. 2, pp. 229–240, 1991. Online: <http://msp.org/pjm/1991/150-2/p03.xhtml>
- [J15] C. Brislawn, “Kernels of trace class operators,” *Proc. Amer. Math. Soc.*, vol. 104, no. 4, pp. 1181–1190, Dec. 1988. Online: <http://www.ams.org/proc/1988-104-04/S0002-9939-1988-0929421-X/S0002-9939-1988-0929421-X.pdf>

Invited Book Chapters

- [B1] C. M. Brislawn, “On the group-theoretic structure of lifted filter banks,” in *Excursions in Harmonic Analysis*, vol. 2, ser. Applied and Numerical Harmonic Analysis, T. Andrews, R. Balan, J. Benedetto, W. Czaja, and K. Okoudjou, Eds. Boston: Birkhäuser, 2013, pp. 113–135, invited book chapter. Online: <http://arxiv.org/abs/1310.0530>
- [B2] C. M. Brislawn, W. B. Clodius, N. R. Harvey, M. D. Quirk, and J. Theiler, “Multispectral and hyperspectral image processing, Part 3: Transforms, classification, and coding,” in *Encyclopedia of Optical Engineering*, R. G. Driggers, Ed. New York: Marcel Dekker, 2003, pp. 1421–1441, invited book chapter.
- [B3] W. B. Clodius, J. Theiler, and C. M. Brislawn, “Multispectral and hyperspectral image processing, Part 2: Spectral analysis,” in *Encyclopedia of Optical Engineering*, R. G. Driggers, Ed. New York: Marcel Dekker, 2003, pp. 1406–1420, invited book chapter.
- [B4] C. M. Brislawn and M. D. Quirk, “Image compression with the JPEG-2000 standard,” in *Encyclopedia of Optical Engineering*, R. G. Driggers, Ed. New York: Marcel Dekker, 2003, pp. 780–785, invited book chapter.
- [B5] C. M. Brislawn, “The FBI Fingerprint Image Compression Specification,” in *Wavelet Image and Video Compression*, P. N. Topiwala, Ed. Boston, MA: Kluwer, 1998, ch. 16, pp. 271–288, invited book chapter.
- [B6] C. M. Brislawn, “Symmetric Extension Transforms,” in *Wavelet Image and Video Compression*, P. N. Topiwala, Ed. Boston, MA: Kluwer, 1998, ch. 5, pp. 83–91, invited book chapter.

Published Abstracts

- [A1] C. M. Brislawn, “A Diophantine approach to causal lifting factorization of discrete wavelet transforms,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 39, no. 2, Portland State Univ., Portland, OR, April 2018, abstract #1137-42-240, invited talk. Online: https://www.ams.org/amsmtgs/2248_abstracts/1137-42-240.pdf
- [A2] C. M. Brislawn, “A theory of causal lifting factorization for perfect reconstruction filter banks,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 36, no. 2, Univ. Nevada—Las Vegas, April 2015, abstract #1110-94-331, invited talk.
- [A3] C. M. Brislawn, “Groups of linear phase filter banks,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 35, no. 2, Univ. New Mexico, April 2014, abstract #1099-94-316, invited talk.
- [A4] C. M. Brislawn, “Uniqueness of lifting factorizations for linear phase filter banks and wavelets,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 28, no. 4, Univ. New Mexico, Oct. 2007, abstract #1032-94-123, invited talk.
- [A5] M. D. Quirk and C. M. Brislawn, “Two-channel adaptive orthonormal filter banks for hyperspectral imagery,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 26, no. 3, Texas Tech. Univ., Apr. 2005, abstract #1006-94-168, invited talk.
- [A6] C. M. Brislawn and B. Wohlberg, “Matrix theory for the polyphase-with-advance representation of multirate filter banks,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 25, no. 4, Univ. New Mexico, Oct. 2004, abstract #1000-94-17, invited talk.

- [A7] M. D. Pal and C. M. Brislawn, “Feature extraction from hyperspectral images compressed using JPEG-2000 standard,” in *Proc. Int’l. Conf. Acoust., Speech, Signal Process.* Salt Lake City, UT: IEEE Signal Process. Soc., May 2001, abstract #IMDSP-SF2.9.
- [A8] C. M. Brislawn, “Existence and characterization of nonrecursive inverses for rational filter banks,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 18, no. 2, Univ. Maryland, Apr. 1997, pp. 343–344, abstract #920-93-23, invited talk.
- [A9] J. N. Bradley, C. M. Brislawn, and T. Hopper, “The FBI wavelet/scalar quantization gray-scale fingerprint image compression standard,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 15, no. 1, Cincinnati, OH, Jan. 1994, p. 160, abstract #889-94-04, invited talk.
- [A10] C. M. Brislawn, “Some algebraic obstructions to the existence of compactly supported symmetric wavelets,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 14, no. 3, Howard Univ., Apr. 1993, pp. 368–369, abstract #881-41-20.
- [A11] C. M. Brislawn and I. G. Rosen, “Wavelet based approximation in the optimal control of distributed parameter systems,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 13, no. 1, Baltimore, MD, Jan. 1992, p. 96, abstract #871-49-08, invited talk.
- [A12] C. Brislawn, “Geometric traces and nuclear operators on L^p spaces,” in *Abstracts of Papers Presented to the Amer. Math. Soc.*, vol. 10, no. 4, Boulder, CO, Aug. 1989, p. 291, abstract #850-47-90.

Conference Proceedings

- [C1] C. M. Brislawn, J. L. Woodring, S. M. Mniszewski, D. E. DeMarle, and J. P. Ahrens, “Subband coding for large-scale scientific simulation data using JPEG 2000,” in *Proc. SW Symp. Image Analysis and Interpretation.* Santa Fe, NM: IEEE Computer Society, April 2012, pp. 201–204, invited paper. Online: <http://arxiv.org/abs/1310.2289>
- [C2] J. Woodring, S. Mniszewski, C. Brislawn, D. DeMarle, and J. Ahrens, “Revisiting wavelet compression for large-scale climate data using JPEG 2000 and ensuring data precision,” in *Proc. IEEE Symp. on Large Data Analysis and Visualization.* Providence, RI: IEEE Computer Society, Oct. 2011, pp. 31–38.
- [C3] C. M. Brislawn, “Gain scaling for multirate filter banks,” in *Proc. Conf. Signals, Systems, Computers.* Asilomar, CA: IEEE, Nov. 2009, pp. 437–441, invited paper. Online: <http://arxiv.org/abs/1310.2305>
- [C4] C. M. Brislawn, “Equivalence of symmetric pre-extension and lifting step extension in the JPEG 2000 standard,” in *Proc. Conf. Signals, Systems, Computers.* Asilomar, CA: IEEE, Nov. 2007, invited paper. Online: <http://dx.doi.org/10.1109/ACSSC.2007.4487610>
- [C5] J. L. Ruiz-Chavira, J. Ramirez-Angulo, and C. M. Brislawn, “Implementation of accurate blind real time interference suppression,” in *Proc. Midwest Symp. Circuits and Systems.* Montreal, Quebec: IEEE Circuits and Systems Soc., Aug. 2007, pp. 209–212. Online: <http://dx.doi.org/10.1109/MWSCAS.2007.4488572>
- [C6] C. M. Brislawn and B. Wohlberg, “Symmetry-preserving lattice vector quantization for reversible half-sample symmetric FIR filter banks,” in *Proc. Conf. Signals, Systems, Computers.* Asilomar, CA: IEEE, Nov. 2006, pp. 878–882, invited paper. Online: <http://dx.doi.org/10.1109/ACSSC.2006.354876>
- [C7] P. Schelkens, A. Munteanu, A. Tzannes, and C. Brislawn, “JPEG2000 Part 10—Volumetric data encoding,” in *Proc. Int’l. Symp. Circuits Systems.* IEEE, May 2006, pp. 3874–3877. Online: <http://dx.doi.org/10.1109/ISCAS.2006.1693474>

- [C8] M. D. Quirk and C. M. Brislawn, "Existence of optimal paraunitary finite impulse response filter banks for continuous objective functionals," in *Proc. Digital Signal Process. Workshop*. Taos, NM: IEEE Signal Process. Soc., Aug. 2004, pp. 44–48. Online: <http://dx.doi.org/10.1109/DSPWS.2004.1437908>
- [C9] C. M. Brislawn and B. Wohlberg, "Lifted linear phase filter banks and the polyphase-with-advance representation," in *Proc. Digital Signal Process. Workshop*. Taos, NM: IEEE Signal Process. Soc., Aug. 2004, pp. 29–33. Online: <http://dx.doi.org/10.1109/DSPWS.2004.1437905>
- [C10] P. Schelkens, C. M. Brislawn, J. Barbarien, A. Munteanu, and J. Cornelis, "JPEG2000–Part 10: Volumetric imaging," in *Applications of Digital Image Processing XXVI*, ser. Proc. SPIE, vol. 5203. San Diego, CA: SPIE, Aug. 2003, pp. 296–305. Online: <http://dx.doi.org/10.1117/12.512540>
- [C11] B. Wohlberg and C. M. Brislawn, "Reversible integer-to-integer transforms and symmetric extension of even-length filter banks," in *Visual Commun. & Image Process.*, ser. Proc. SPIE, vol. 5150. Lugano, Switzerland: SPIE, Jul. 2003, pp. 1709–1718. Online: <http://dx.doi.org/10.1117/12.503222>
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