Curriculum Vitae

Sandra Lach Arlinghaus, Ph.D. Geography
(Location Theory / Theoretical Geography)

Adjunct Professor
School for Environment and Sustainability (SEAS)
The University of Michigan (Ann Arbor)

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Text (preferred to voice): (734) 546-5057;
URL for home page: https://public.websites.umich.edu/~sarhaus/
Deep Blue Archive, IMaGe: https://deepblue.lib.umich.edu/handle/2027.42/58219
ORCID: orcid.org/0000-0001-5500-8825
publons.com/**a/1425823/**
Mathematics Genealogy Project
Math Tree: link.
Erdös Number: 2
Research Gate
Physical mail (last choice) to: 3401 23rd Avenue, Meridian, MS 39305 U.S.A.

- **The University of Michigan, Ann Arbor, MI**
  Currently, Adjunct Professor, SEAS (School for Environment and Sustainability) and Board of Directors Chene Street History Study. Formerly: Adjunct Professor of Urban Planning; Guest Faculty Advisor Virtual Reality (College of Engineering); Board of Directors Project MyHeart/YourHeart UM Cardiovascular Center.
- **Institute of Mathematical Geography (IMaGe).** Founding Director. DeepBlue archive

EDUCATIONAL HISTORY

- Ph.D. (Location Theory, or more broadly, Theoretical Geography), University of Michigan, Geography, 1977. Advisor: Waldo R. Tobler. Dissertation Co--Chairmen: Waldo R. Tobler and John D. Nystuen. Outside member: Andreas Blass (Department of Mathematics). Dissertation title: "***On Geographical Network Location Theory***." (Grade point average: "A")
- M.A., Wayne State University, Geography, 1976. Advisor: Jack A. Licate. Thesis title: "***Graph Theory in Geography: A Survey of Previous and Potential Uses***."
- Graduate study in Mathematics, specializing in Graph Theory, Wayne State University. Advisor: Geert Prins. (Full--time student in program leading to Ph.D., 1968-70)
- Graduate study in Mathematics, specializing in Geometry, University of Toronto. Advisor: H. S. M. Coxeter. (Full--time student in program leading to Ph.D., 1966-67)

- Graduate study in Mathematics, University of Chicago. (Full--time student in program leading to Ph.D., 1964-66; GRE's, 99th percentile, math., verbal, aptitude; 92nd percentile advanced math achievement.) Advice on a continuing basis over many years from Saunders Mac Lane; Advisor assigned: Alberto Pedro Calderon. Graduate course work from: John G. Thompson, A. Zygmund, I. Satake, J. Alperin, G. Glauberman, and others. I. Kaplansky, Dep't. Chair.
- A.B. Mathematics, Vassar College, 1964. Minor: Zoology. Second (unofficial) minor in History. (Combined SAT's 1400+ on two tests)
- Diploma, University of Chicago Laboratory Schools, (top 10 %), 1960. Participant in "Sophomore Project" and Seminar, as written about by Herbert A. Thelen in *Education and the Human Quest*, University of Chicago Press, 1960, 1972. In pages 90 to 96, I am "Jane."
- Education in Paris, France (with parents): Alliance Francaise, Paris, summer school, 1956. Ecole Alsacienne, 1955-56. Petit Ecole du Pere Castor, 1952-53. American School of Paris, 1949. Resident with home-schooling from Madame Henri Bardel, 1950.
- Mentored by Saunders Mac Lane from the age of 10 through beginning graduate school.
- French---Advanced Pass, Univ. of Michigan Language Exam, 1976.
- German---Advanced Pass, Univ. of Chicago Language Exam, 1965.
- Training course on Xerox 9500 from a representative of Xerox, 1987.
- Electronic typesetting using TeX, 1988. University of Chicago Press, typeset and proofed the mathematics for W. Welford's *Useful Optics*.
- Producer, Ann Arbor Community Access Television, 1988.
- Assistant in food writing, Chicago Sun-Times, 1958-60.
- Junior Life Saving, American Red Cross, 1950s. One save, recorded in Minnesota.

ACTIVITIES, IN PROGRESS IN 2025.

- Continuing work at developing both field study and documentation of the kudzu project, focused on utilizing 7.3 million acres of unused edible crop.
- Continuing work with Les Dames d'Escoffier, as Co-Founder and Acting President of the Ann Arbor Chapter and as a Dual Member of the Chicago Chapter and of the New Orleans Chapter.
    - Invited Judge, Woman of Purpose Growth Grants, Les Dames d'Escoffier International. Invitation from Kathy Gold, Co-chair, LDEI Awards Committee. International Committee of five members from across North America and elsewhere. Completed May, 2025.
    - Invited Judge, Scholarships for Impactful Change, Les Dames d'Escoffier International. Invitation from Kathy Gold, Co-chair, LDEI Awards Committee. International Committee of five members from across North America and elsewhere. Completed June, 2025.
    - With the International organization involving 45 local or regional chapters, world wide. One focus for me, with them, is on the kudzu project.

    - With the local Ann Arbor regional chapter in support of existing students within SEAS.
        - Samantha Maldonado
        - Forging connections for scholarships for SEAS students.
- *Solstice: An Electronic Journal of Geography and Mathematics*. Archived in Deep Blue. I am sole author of articles unless otherwise indicated.
    - 2025, Volume XXXVI, Number 2.
- 2025: Co-President, Ann Arbor Chapter of Les Dames d'Escoffier International
- Continuing in 2025: Reviewer, *Computers, Environment, and Urban Systems* (CEUS).
- Continuing in 2025: Reviewer, *Mathematical Reviews.*
- 2019 to present**.** Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing. Liz Williams, Founder.
- 2023-present. Leader, Kudzu Kickoff project. Project designed to make kudzu and attractive product for human consumption of the 7.5 million acres of wild kudzu in the southeastern USA.
- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago with regard to the Alma Lach Culinary special collection and the Donald F. Lach special collection.
- 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
- 2010-present. Class Officer (Executive Committee), Vassar College.
- 1990-present. Founding Editor of *Solstice: An Electronic Journal of Geography and Mathematics*. DeepBlue archive: http://deepblue.lib.umich.edu/handle/2027.42/61423
- 1985-present. Founding Director, Institute of Mathematical Geography. DeepBlue archive: http://deepblue.lib.umich.edu/handle/2027.42/61423

RECENT COMPLETED ACTIVITIES

2025

- *Solstice: An Electronic Journal of Geography and Mathematics*. Archived in Deep Blue. I am sole author of articles unless otherwise indicated.
    - 2025, Volume XXXVI, Number 1. Frontmatter. ARTICLES: Beauty and the Notational Beast; Virtual GeoMuseum, Space Cadets: Exhibition of Images, with Daniel A. Griffith; Virtual GeoMuseum, Space Cadets: Text Linked to Images, with Daniel A. Griffith and input from Andrea I. Frank,

Peter Leopold, Harold Moellering, Gwen Nystuen, Leslie Nystuen; Notes, with Joseph J. Kerski and Frank H. Arlinghaus, Jr. Endmatter.

- Connections to the Past: Ann Arbor's Lineage Reveals Links to Carol Brock. Sandra Lach Arlinghaus and Peggy Lampman. ***The Feast***. Online link, pp. 8-11. [Contains labelling error introduced in the editorial process.] Les Dames d'Escoffier International.
- Urban Geography Compression Patterns: Non-Euclidean and Fractal Viewpoints. Daniel A. Griffith and Sandra Lach Arlinghaus. **AppliedMath,** Volume V, Issue 1. 21 January 2025. MDPI, Basel, Switzerland. DOI: https://doi.org/10.3390/appliedmath5010009. License: CC BY 4.0.

2024

- Solstice: An Electronic Journal of Geography and Mathematics.
  - 2024, Volume XXXV, Number 2. Deep Blue link to a full set of files.

    Frontmatter. ARTICLES IMaGe at 40 (Sandra L. Arlinghaus); NameScapes (Joseph J. Kerski); Endmatter.

  - 2024, Volume XXXV, Number 1. Deep Blue link to a full set of files.

    Frontmatter. ARTICLES Maps and Math: Identifying Learning Opportunities, Part 2 (Sandra L. Arlinghaus, Joseph J. Kerski, and William C. Arlinghaus); Kudzu Project Update (Sandra L. Arlinghaus and William E. Arlinghaus); Notes; Endmatter.

- Weekend of June 1 in Poughkeepsie NY (I think that's the timing but I wasn't there; the 'gift' given was time and technological expertise and editorial/creative service):

  Dear Dr. Arlinghaus,
  You are being celebrated at Vassar! We are delighted to share that a gift has been given in your honor to support the College's greatest needs. Please know how grateful our students and faculty are for this kind expression of support that helps strengthen the Vassar educational experience.
  Sincerely, Sandra Frinton, Associate Director of Donor Relations
- IMaGe Monograph Thirty, June 2024. Sandra L. Arlinghaus with input from William E. Arlinghaus, David E. V. Arlinghaus, Alma Lach, and William C. Arlinghaus. ***Family Food Systems: Matters of Taste*** **.** Link to a page containing document and associated supplementary files.
- Invited Judge, Woman of Purpose Growth Grants, Les Dames d'Escoffier International. Invitation from Deborah Mintcheff, Co-chair, LDEI Awards Committee, New York City. One task completed May, 2024.
- Daniel A. Griffith, Sandra L. Arlinghaus, William C. Arlinghaus. Graph Theory and Geography: From Collaboration to Autocorrelation. ***Annals***, **American**

Association of Geographers. Taylor & Francis. 2024. Online publication of 'pre-publication, February 19, 2024.

- Sandra L Arlinghaus, Joseph J Kerski, Willian C Arlinghaus. Teaching Mathematics Using Interactive Mapping. December 2023/January 2024 (copyright date varies with format; copyright retained by authors). CRC Press, Taylor & Francis Group,Routledge. Published in various formats: Library (hard) cover; soft cover; Amazon Kindle; Ebook+.
    - Hard cover: https://www.routledge.com/Teaching-Mathematics-Using-Interactive-Mapping/Arlinghaus-Kerski-Arlinghaus/p/book/9781032305332?gclid=EAIaIQobChMIi5fB49S2gwMVAXN_AB16mQmtEAAYASAAEgILq_D_BwE
    - Soft cover: https://books.google.com/books?id=-I3hEAAAQBAJ&pg=PA2007&lpg=PA2007&dq=teaching+mathematics+using+interactive+mapping+crc+press&source=bl&ots=5dpFh_Q7-0&sig=ACfU3U3rdn8P4Bs8LaYOPxQWPy0Ffqd8Hw&hl=en&sa=X&ved=2ahUKEwju85mG2raDAxWWmWoFHZU6CYU4ChDoAXoECA0QAg#v=onepage&q=teaching%20mathematics%20using%20interactive%20mapping%20crc%20press&f=false
    - Amazon Kindle: https://www.amazon.com/Teaching-Mathematics-Using-Interactive-Mapping-ebook/dp/B0CLKZPW84?nodl=1&dplnkId=5126c5b8-4d5d-4b21-911c-7c0794a5800d
    - Ebook+. Vital source Bookshelf. This format is the only one that is fully interactive and thus, in most ways, the best format. https://www.vitalsource.com/products/teaching-mathematics-using-interactive-mapping-sandra-l-arlinghaus-joseph-v9781032614021?term=Teaching+mathematics+using+interactive+mapping

- Solutions Guide to the book above. Solutions Guide (PDF 798KB)
- IMaGe Monograph Twenty Six, Sandra L. Arlinghaus, William C. Arlinghaus, Ronald M. Horwitz, 2023. Direct link to document, Event Planning Using Spatial and Temporal Master Plans: A Detroit Case Study. Link to page containing document and associated supplementary files.
- IMaGe Monograph Twenty-Seven. Sandra L. Arlinghaus with input from Aileen Osofsky, Sandra DeMartino, William C. Arlinghaus, and others as noted throughout the text, 2023. Direct link to document, Goodwill Planning: A Personal Perspective on the American Contract Bridge League's Aileen Osofsky Goodwill Committee . Link to page containing document and associated supplementary files.
- IMaGe Monograph Twenty-Nine. Sandra L. Arlinghaus, writing as B. K. Barry. Mysteries, Bridge, and a Culinary Twist. A work of fiction displaying how academic approaches might enter a variety of situations in one's life.
- 2024: Co-President, Ann Arbor Chapter of Les Dames d'Escoffier International
- Continuing in 2024: Reviewer, *Computers, Environment, and Urban Systems* (CEUS).

- Continuing Reviewer, *Mathematical Reviews.*
- 2022-present. Meridian Architectural Trust (non-profit, 501(c)3.
    - Executive Committee member, 2023-present
    - Board of Directors member, 2022-present
    - Lunch and Learn Committee, Board Contact, 2022-present.
- 2019 to present**.** Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing. Liz Williams, Founder.
- 2016-present. Continuing work as founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. 2019--: Director of Outreach Ann Arbor Chapter. http://www.ldei.org Director of satellite Les Dames Meridian.
- 2023-present. Leader, Kudzu Kickoff project. Project designed to make kudzu and attractive product for human consumption of the 7.5 million acres of wild kudzu in the southeastern USA.
- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago with regard to the Alma Lach Culinary special collection and the Donald F. Lach special collection.
- 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
- 2010-present. Class Officer (Executive Committee), Vassar College.
- 1990-present. Founding Editor of *Solstice: An Electronic Journal of Geography and Mathematics*. DeepBlue archive: http://deepblue.lib.umich.edu/handle/2027.42/61423
- 1985-present. Founding Director, Institute of Mathematical Geography. DeepBlue archive: http://deepblue.lib.umich.edu/handle/2027.42/61423

2023

- Solstice: An Electronic Journal of Geography and Mathematics.
    - 2023, Volume XXXIV, Number 2. Deep Blue link to full set of files.

      Frontmatter. ARTICLES Maps and Math: Identifying Learning Opportunities (Sandra L. Arlinghaus, Joseph J. Kerski, and William C. Arlinghaus); Update: Kudzu Project (Sandra L. Arlinghaus); Kudzu Project: Beyond the Kickoff (Sandra L. Arlinghaus); Endmatter.

- 2023, Volume XXXIV, Number 1. Deep Blue link to full set of files. Special Issue: Kudzu Kickoff.

  Frontmatter. ARTICLES Kudzu Kickoff--Initiation (Sandra L. Arlinghaus); Kudzu Kickoff: March 26 and May7 (William E. Arlinghaus); Endmatter.

- Leader: Kudzu Kickoff. National-level effort to promote kudzu as human food through various culinary and academic associations. Archive.
  - Kudzu Kickoff: March 26, 2023.
  - Kudzu Kickoff, part 2, May 6, 2023.
- 2023: Co-President, Ann Arbor Chapter of Les Dames d'Escoffier International
- Continuing in 2023: Reviewer, *Computers, Environment, and Urban Systems* (CEUS).
- Continuing in 2023: Reviewer, *Mathematical Reviews.*
- 2022-present. Board of Directors member, Meridian Architectural Trust; Lunch and Learn Committee, Board Contact Person.
- 2019 to present**.** Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing. Liz Williams, Founder.
- 2016-present. Continuing work as founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. 2019--: Director of Outreach Ann Arbor Chapter. http://www.ldei.org Director of satellite Les Dames Meridian.
- 2023-present. Leader, Kudzu Kickoff project. Project designed to make kudzu and attractive product for human consumption of the 7.5 million acres of wild kudzu in the southeastern USA.
- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago with regard to the Alma Lach Culinary special collection and the Donald F. Lach special collection.
- 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
- 2012-2023. Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
- 2010-present. Class Officer (Executive Committee), Vassar College.
- 1990-present. Founding Editor of *Solstice: An Electronic Journal of Geography and Mathematics*. DeepBlue archive: http://deepblue.lib.umich.edu/handle/2027.42/61423
- 1985-present. Founding Director, Institute of Mathematical Geography. DeepBlue archive: http://deepblue.lib.umich.edu/handle/2027.42/61423

- ***Mathematical Reviews.*** Invited Reviews.

    - Nov. 22, 2022. **MR4434459** Alcalde-Unzu, Jorge; Moreno-Ternero, Juan D.; Weber, Shlomo The measurement of the value of a language. *J. Econom. Theory* 203 (2022), Paper No. 105468, 28 pp. (Reviewer: Sandra L. Arlinghaus) 91D30 (91B32 91F20)
    - Nov. 18, 2022. **MR4273775** Kumar, Pushpendra; Erturk, Vedat Suat; Murillo-Arcila, Marina. A complex fractional mathematical modeling for the love story of Layla and Majnun. *Chaos Solitons Fractals* 150 (2021), Paper No. 111091, 11 pp. (Reviewer: Sandra L. Arlinghaus) 34C60 (34A08 65L05 91B99)

2022

- **Continuing Board, Review, and Similar Work**
    - Reviewer, AppliedMath. MDPI, Basel, Switzerland.
    - March 14, 2022. Certificate for Review from *Transactions in GIS* presented by the Editors.
    - 2022-present. Board member, Meridian Architectural Trust; Lunch and Learn Committee, Board Contact Person.
    - Reviewer, *Computers, Environment, and Urban Systems* (CEUS), 2022.
    - 2010-present. Continuing work as a Class Officer, Vassar College.
    - 2012-present. Continuing work on Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
    - 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago to develop the Alma Lach Culinary special collection.
    - 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
    - 2016-present. Continuing work as founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. 2019--: Director of Outreach Ann Arbor Chapter. http://www.ldei.org Director of satellite Les Dames Meridian.
    - 2019 to present**.** Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing. Liz Williams, Founder.
- **Publications** (If no author is listed, then that means that SA is the sole author or otherwise, as indicated)
    - Book: Sandra L. Arlinghaus, Joseph J. Kerski and William C. Arlinghaus *Teaching Mathematics Using Interactive Mapping Technology*. Contract signed with CRC Press (a Division of Taylor and Francis). Deadline for

manuscript submission, December 1, 2022. Percentage contribution, 45% (a 45/45/10 split).

- Daniel A. Griffith, Sandra L. Arlinghaus and William C. Arlinghaus. Invited to compete to contribute to a special issue on Networks, for the *Annals* of the American Association of Geographers. Abstract submitted. First cut, based on Abstract evaluation, on the invitation list is June 1, 2022. Our submission made that cut, and therefore we need to submit a full article by December 1, 2022 for subsequent interaction and evaluation. Final product is slated for publication in 2024.
- 1990-present. ***Solstice: An Electronic Journal of Geography and Mathematics***. I continue to serve as Founding Editor and as frequent author or co-author, in addition to editorial work. *Solstice*, was born digital in 1990, and has been noted as the world's first online peer-reviewed journal. It has been written about in ***Science*** (AAAS), ***Science News***, ***American Mathematical Monthly***. One article in it finished high (semi-finalist) in the Pirelli INTERNETional Competition. The journal is catalogued in perpetual online archives including DeepBlue of The University of Michigan Library. http://www.imagenet.org/
  - 2022 Issue, Volume XXXIII, Number 1. June 21, 2022.
    - Co-author with Jonathan D. Mayer, What's My Number? A Conceptual Viewpoint.
    - The Law of Excluded Middle: To Be or Not To Be?
- ***Mathematical Reviews.*** Invited Reviews.
  - March 30, 2022. **MR4276983 Reviewed** Hunter, David J.; Warioba, Chisondi Segregation surfaces. *Math. Mag.* 94 (2021), no. 3, 163–172. (Reviewer: Sandra L. Arlinghaus) 91D20
  - February 18, 2022. **MR4277354 Reviewed** Botte, Marco Fixed gate point location problems. *TOP* 29 (2021), no. 2, 547–582. (Reviewer: Sandra L. Arlinghaus) 90B85
  - January 28, 2022. **MR4271864 Reviewed** Augeraud Veron, E.; Marhuenda, F.; Picard, P. M. Local social interaction and urban equilibria. *Math. Social Sci.* 112 (2021), 72–83. (Reviewer: Sandra L. Arlinghaus) 91D10

2021

- **Continuing Board, Review, and Similar Work**
  - 2010-present. Continuing work as a Class Officer, Vassar College.
  - 2012-present. Continuing work on Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
  - 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago to develop the Alma Lach Culinary special collection.
  - 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/

- 2016-present. Continuing work as founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. 2019--: Director of Outreach Ann Arbor Chapter. http://www.ldei.org Director of satellite Les Dames Meridian.
- 2019 to present**.** Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing. Liz Williams, Founder.

- **Publications** (If no author is listed, then that means that SA is the sole author or otherwise, as indicated)
  - Working with co-authors Joseph J. Kerski and William C. Arlinghaus on a new book, Teaching Mathematics Using Interactive Mapping Technology. In progress with CRC Press (a Division of Taylor and Francis).
  - Reviewer, Computers, Environment, and Urban Systems (CEUS), 2021.
  - Reviewer, Transactions in GIS (Geographic Information Systems), 2021.
  - Continuing work on Meridian Renaissance Project with development directions as listed, and as referenced in previous publications:
    - Implement 'History Garden' pilot project for plant identification of local species, including varieties of kudzu. Focus on the value of historic preservation, including of plants that might become eradicated.
    - Develop technical language for developers to use in site plan submission to the City planning department that involves 'swaps' of kudzu removal for enhanced urban planning benefit.
    - Develop curriculum to assist Project on Educational Opportunity. Motivated by Covid-19 issues.
    - Crime Mapping Project. Investigate possible 'Drone-Zones' in association with GIS technology.
  - 1990-present. ***Solstice: An Electronic Journal of Geography and Mathematics***. I continue to serve as Founding Editor and as frequent author or co-author, in addition to editorial work. *Solstice*, was born digital in 1990, and has been noted as the world's first online peer-reviewed journal. It has been written about in ***Science*** (AAAS), ***Science News***, ***American Mathematical Monthly***. One article in it finished high (semi-finalist) in the Pirelli INTERNETional Competition. The journal is catalogued in perpetual online archives including DeepBlue of The University of Michigan Library. http://www.imagenet.org/
    - 2021 Issue (see online for co-authors).
      - Volume XXXII, No. 1. June 20, 2021.
        - Update on Activities
        - Phoenix Meets Pegasus?
        - What's Wrong with This Picture

        - Magnolias and Mockingbirds: A Twisted Assessment of Danger
    - Volume XXXII, No. 2. December 21,2021.
        - Predomination, or, Which Comes First: The Concept or the Activity?
        - Culinary Essays
- ***Mathematical Reviews***, Invited reviews.
    - Submitted March 5, 2021. Two-Coloring Triples such that in Each Color Class Every Element is Missed at Least Once, Bala´zs Keszegh
    - Published July 15, 2021. **MR4171006 Reviewed** Hammack, Richard H. Graph exponentiation and neighborhood reconstruction. *Discuss. Math. Graph Theory* 41 (2021), no. 1, 335–339. (Reviewer: Sandra L. Arlinghaus) 05C60 (05C76)
    - Published March 30, 2021. **MR4115484 Reviewed** Birmelé, Etienne; de Montgolfier, Fabien; Planche, Léo; Viennot, Laurent Decomposing a graph into shortest paths with bounded eccentricity. *Discrete Appl. Math.* 284 (2020), 353–374. (Reviewer: Sandra L. Arlinghaus) 05C51 (05C12 05C78)
    - Published March 17, 2021. **MR4145444 Reviewed** Changat, Manoj; Narasimha-Shenoi, Prasanth G.; Nezhad, Ferdoos Hossein; Kovše, Matjaž; Mohandas, Shilpa; Ramachandran, Abisha; Stadler, Peter F. Transit sets of k-point crossover operators. *AKCE Int. J. Graphs Comb.* 17 (2020), no. 1, 519–533. (Reviewer: Sandra L. Arlinghaus) 05C62 (05C69 05C70)

2020

- Reviewer CEUS, 2020.
- Continuing work on Meridian Renaissance Project:
    - Implement 'History Garden' pilot project for plant identification of local species, including varieties of kudzu.
    - Develop technical language for developers to use in site plan submission to the City planning department that involves 'swaps' of kudzu removal for enhanced urban planning benefit.
    - Develop curriculum to assist Mayor's Project on Educational Opportunity.
    - Crime Mapping Project
- ***NCSE (National Council for Science and the Environment)*** Reviewer of Session Proposals for 2021 Annual Conference; four proposals reviewed, summer 2020.
- ***Les Dames d'Escoffier International. Quarterly.*** Spring 2020, p. 28. Green Tables Section. "Eating 'the Vine that Ate the South': Turnabout is Fair Play." Co-authored with William E. Arlinghaus and Weston Lindemann.
- November 30, 2020. Editorial work: IMaGe Monograph #24, William C. Arlinghaus, *Calculus 2 Workshops*. Institute of Mathematical Geography

- December 1, 2020. *Pre-Collegiate Education in Utopia*. IMaGe Monograph #25. Primary co-author with William C. Arlinghaus and William E. Arlinghaus. Institute of Mathematical Geography.
- 1990-present. ***Solstice: An Electronic Journal of Geography and Mathematics***. I continue to serve as Founding Editor and as frequent author or co-author, in addition to editorial work. *Solstice*, was born digital in 1990, and has been noted as the world's first online peer-reviewed journal. It has been written about in ***Science*** (AAAS), ***Science News***, ***American Mathematical Monthly***. One article in it finished high (semi-finalist) in the Pirelli INTERNETional Competition. The journal is catalogued in perpetual online archives including DeepBlue of The University of Michigan Library. http://www.imagenet.org/
    - 2020 Issues.
        - Volume XXXI, No. 1. June 20, 2020.
            - Isolation in East Central Mississippi. Virtual Pub Games in Meridian. Co-authored with William E. Arlinghaus and Daniel Rushing.
            - Isolation in East Central Mississippi: From Fiction to Non-Fiction. Co-authored with William E. Arlinghaus and Weston Lindemann
            - Project My Heart/Your Heart: Update on the Mississippi Connection. Co-authored with William E. Arlinghaus.
        - Volume XXXI, No. 2. December 21, 2020.
            - Update on Activities
            - Planning Units: Kudzu Opportunity Zones? Co-authored with William E. Arlinghaus and Weston Lindemann
            - Kudzu, Carbon Footprint, and Bioplastics. Co-authored with William E. Arlinghaus and Weston Lindemann.
            - Selections: From the IMaGe Archive—Global Art
- ***Mathematical Reviews***, Invited reviews.
    - July 15, 2021. **MR4171006 Reviewed** Hammack, Richard H. Graph exponentiation and neighborhood reconstruction. *Discuss. Math. Graph Theory* 41 (2021), no. 1, 335–339. (Reviewer: Sandra L. Arlinghaus) 05C60 (05C76)
    - March 30, 2021. **MR4115484 Reviewed** Birmelé, Etienne; de Montgolfier, Fabien; Planche, Léo; Viennot, Laurent Decomposing a graph into shortest paths with bounded eccentricity. *Discrete Appl. Math.* 284 (2020), 353–374. (Reviewer: Sandra L. Arlinghaus) 05C51 (05C12 05C78)
    - March 17, 2021. **MR4145444 Reviewed** Changat, Manoj; Narasimha-Shenoi, Prasanth G.; Nezhad, Ferdoos Hossein; Kovše, Matjaž; Mohandas, Shilpa; Ramachandran, Abisha; Stadler, Peter F. Transit sets of k-point crossover operators. *AKCE Int. J. Graphs Comb.* 17 (2020), no. 1, 519–533. (Reviewer: Sandra L. Arlinghaus) 05C62 (05C69 05C70)
    - October 16, 2020. **MR4103824 Reviewed** Dantas, Simone; Marinho, Rodrigo; Tanushevski, Slobodan The Solitaire Clobber game and

correducibility of graphs. *Discrete Appl. Math.* 281 (2020), 144–150. (Reviewer: Sandra L. Arlinghaus) 05C57 (05C40 91A43)

- October 7, 2020. **MR4078826 Reviewed** Cai, Yuliang; Zhang, Huaguang; Liu, Yang; He, Qiang Distributed bipartite finite-time event-triggered output consensus for heterogeneous linear multi-agent systems under directed signed communication topology. *Appl. Math. Comput.* 378 (2020), 125162, 18 pp. (Reviewer: Sandra L. Arlinghaus) 93D50 (05C90 65L99 93C05 94A05)
- September 16, 2020. **MR4110102 Reviewed** Lo, Yuan-Hsun; Fu, Hung-Lin; Zhang, Yijin; Wong, Wing Shing The undirected optical indices of complete m-ary trees. *Discrete Appl. Math.* 285 (2020), 173–181. (Reviewer: Sandra L. Arlinghaus) 05C15 (05C09)
- August 27, 2020. **MR4052253 Reviewed** Eirinakis, Pavlos; Magos, Dimitrios; Mourtos, Ioannis The diameter of the stable marriage polytope: bounding from below. *Discrete Math.* 343 (2020), no. 5, 111804, 12 pp. (Reviewer: Sandra L. Arlinghaus) 05C70 (91B68)
- March 17, 2020. **MR4023159 Reviewed** Bermond, Jean-Claude; Chaintreau, Augustin; Ducoffe, Guillaume; Mazauric, Dorian How long does it take for all users in a social network to choose their communities? *Discrete Appl. Math.* 270 (2019), 37–57. (Reviewer: Sandra L. Arlinghaus) 05C82 (05C15 91D30)
- March 17, 2020. MR4017458 Reviewed Bonato, A.; Clarke, N. E.; Cox, D.; Finbow, S.; Mc Inerney, F.; Messinger, M. E. Hyperopic cops and robbers. Theoret. Comput. Sci. 794 (2019), 59–68. (Reviewer: Sandra L. Arlinghaus) 05C57 (05C10 91A24 91A43)

- **Continuing Board, Review, and Similar Work**
  - 2019 to present. Director of Outreach for the Meridian, MS, Bonus Use Group in association with the Ann Arbor Chapter of Les Dames d'Escoffier,
  - 2019 to present**.** Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing.
  - Reviewer: ***Mathematical Reviews*** (American Mathematical Society)**;** ***Computers, Environment and Urban Systems*** (Elsevier)***; Transactions in GIS*** (Wiley); ***Annals***, Association of American Geographers.
  - 2016-present. Continuing work as an officer and founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. 2019--: Director of Outreach. http://www.ldei.org
  - 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/

- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago to develop the Alma Lach Culinary special collection.
- 2014-present. Continuing work as a Co-chair of the Aileen Osofsky Goodwill Committee of the American Contract Bridge League. I represent the 'Midwest' (of the US).
- 2012-present. Continuing work on Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
- 2010-present. Continuing work as a Class Officer, Vassar College.

2019

- August, Referee, CRC Press, Environmental Engineering Division.
- Appointed Director of Outreach for the Meridian, MS, Bonus Use Group in association with the Ann Arbor Chapter of Les Dames d'Escoffier, August 8, 2019.
- ***Spatial Thinking in Environmental Contexts: Maps, Archives, and Timelines***. Published August 15, 2019. Boca Raton: CRC Press. Negotiated and signed (09/26/2016) the book contract. Invited (10/10/2016) three other principal co-editora and co-contributors to work equally with me: Sandra L. Arlinghaus, Joseph Kerski, Ann E. Larimore, Matthew Naud. Other chapter contributors: Kerry Ard, David E. Arlinghaus, Michael Batty, Thomas C. Crawford, Kim A. Eagle, Salma Haidar, Robert J. Haug, Marian Krzyzowski, Karen Majewska, John D. Nystuen, Roger Rayle, Diana Sammataro, Mark Wilson.
- Appointed July 16, 2019: Committee Member, Les Dames d'Escoffier International Collection at the John and Bonnie Boyd Hospitality and Culinary Library, 1609 Oretha Castle Haley Boulevard, New Orleans, LA 70113. The committee's goal is to assemble a repository at the Boyd Library of all the volumes about food and beverages authored by current and past members in good standing.
- Reviewer Certificate, April 13, 2019. ***Papers in Regional Science***. Wiley.
- April 10, 2019. Arlinghaus, S. L. (2019). Set Theory. ***The Geographic Information Science & Technology Body of Knowledge*** (2nd Quarter 2019 Edition), John P. Wilson (Ed.). DOI: 10.22224/gistbok/2019.2.1 (link is external) https://gistbok.ucgis.org/bok-topics/set-theory
- Reviewer: ***Mathematical Reviews*** (American Mathematical Society)**;** ***Computers, Environment and Urban Systems*** (Elsevier)***; Papers in Regional Science (***Wiley-Blackwell on behalf of the Regional Science Association International); ***Transactions in GIS*** (Wiley); ***Geographical Analysis*** (Wiley).
- 1990-present. ***Solstice: An Electronic Journal of Geography and Mathematics***. I continue to serve as Founding Editor and as frequent author or co-author, in addition to editorial work. *Solstice*, was born digital in 1990, and has been noted as the world's first online peer-reviewed journal. It has been written about in ***Science*** (AAAS), ***Science News***, ***American Mathematical Monthly***. One article in it finished high (semi-finalist) in the Pirelli INTERNETional Competition. The journal is

catalogued in perpetual online archives including DeepBlue of The University of Michigan Library. http://www.imagenet.org/

- 2019 Issues.
  - Volume XXX, No. 1. June, 2019.
    - Application Gaps: From Discovery to Use
    - Words Matter! with William E. Arlinghaus, Thomas C. Crawford, Kim A. Eagle, E. Michael Purvis, Matthew Ward, Derek Haynes, and Jay Crane.
  - Volume XXX, No. 2. December, 2019.
    - Introduction to the Special Issue on Bonus Use
    - Kudzu Cascades: Bonus Use Leads to Economic Opportunity? Co-authored with William E. Arlinghaus and Weston Lindemann.

- ***Mathematical Reviews:*** Invited reviews.

October 16, 2019	**MR3969323 Reviewed** Khoeilar, Rana; Karami, Hossein; Sheikholeslami, Seyed Mahmoud On two conjectures concerning total domination subdivision number in graphs. *J. Comb. Optim.* 38 (2019), no. 2, 333–340. (Reviewer: Sandra L. Arlinghaus) 05C69 (90C35)
October 03, 2019	**MR3958238 Reviewed** Figueiredo, Rosa; Frota, Yuri; Labbé, Martine A branch-and-cut algorithm for the maximum k-balanced subgraph of a signed graph. *Discrete Appl. Math.* 261 (2019), 164–185. (Reviewer: Sandra L. Arlinghaus) 05C22 (05C70 05C82 91D30)
September 13, 2019	**MR3964160 Reviewed** Dunkum, Molly; Lanphier, Dominic Edge integrity of nearest neighbor graphs and separator theorems. *Discrete Math.* 342 (2019), no. 9, 2664–2679. (Reviewer: Sandra L. Arlinghaus) 05C62 (05C40 05C70)
June 27, 2019	**MR3904337** Abdou, Joseph M.; Keiding, Hans A qualitative theory of conflict resolution and political compromise. *Math. Social Sci.* 98 (2019), 15--25. 91F10
May 10, 2019	**MR3892418** Florescu, Laura; Peres, Yuval; Rácz, Miklós Z. Optimal control for diffusions on graphs.*SIAM J. Discrete Math.* **32** (2018), no. 4, 2941--2972. 05C81 (49Q20 60J45 90C27)
April 11, 2019	**MR3880529** Chiarelli, Nina; Dibek, Cemil; Ekim, Tınaz; Gözüpek, Didem; Miklavič, Štefko On matching extendability of lexicographic products. *RAIRO Oper. Res.* **51** (2017), no. 3, 857--873. 05C70 (05C76)

- 2012-present. Continuing work on Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
- 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
- 2014-present. Continuing work as a Co-chair of the Aileen Osofsky Goodwill Committee of the American Contract Bridge League. I represent the 'Midwest' (of the US).

- 2016-present. Continuing work as an officer and founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. 2019--: Director of Outreach. http://www.ldei.org
- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago to develop the Alma Lach Culinary special collection.
- 2010-present. Continuing work as a Class Officer, Vassar College.
- Reference Entry. Arlinghaus, Sandra Judith Lach Arlinghaus. ***American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences***, 2019, Vol. 1, p. 362.

2018

- 2018, March 12. Invited to participate (but was not able to do so), as part of the team of Project My Heart Your Heart, Frankel Cardiovascular Center (U of M), in a video conference for the BBC Focus on Africa in regard to the implementation of elements of My Heart, Your Heart in Kenya. Focus on Africa is a BBC news programme broadcast on BBC World News globally and on local partner channels of the BBC in African countries. This was a mission of the "collective" - Project My Heart, Your Heart (University of Michigan), Pace4Life, NEScientific, World Medical Relief and Relief for Africa. Project My Heart, Your Heart recycles used pacemakers from developed nations to those in clear need in developing nations. YouTube: https://youtu.be/cys3XFUmFJQ Swahili YouTube: https://www.youtube.com/watch?v=7NlZA0fRopU&authuser=0

- Reviewer: ***Mathematical Reviews*** (American Mathematical Society)**;** ***Computers, Environment and Urban Systems*** (Elsevier)***; Papers in Regional Science (***Wiley-Blackwell on behalf of the Regional Science Association International); ***Transactions in GIS*** (Wiley); ***Geographical Analysis*** (Wiley).
- 1990-present. ***Solstice: An Electronic Journal of Geography and Mathematics***. I continue to serve as Founding Editor and as frequent author or co-author, in addition to editorial work. *Solstice*, was born digital in 1990, and has been noted as the world's first online peer-reviewed journal. It has been written about in ***Science*** (AAAS), ***Science News***, ***American Mathematical Monthly***. One article in it finished high (semi-finalist) in the Pirelli INTERNETional Competition. The journal is catalogued in perpetual online archives including DeepBlue of The University of Michigan Library. http://www.imagenet.org/
    - 2018 Issues.
        - Volume XXIX, No. 1. June, 2018.
            - Introduction to the Special Issue: Meridian Renaissance, Part 2.

- Front Street Renaissance: A Visual Essay. Co-author with William E. Arlinghaus and with input from Billie Hall, Douglas Hall, and Joshua Maeda.
- Mississippi Brew by County. Co-author with William E. Arlinghaus.
- Project My Heart / Your Heart: Announcing the Mississippi Connection. Co-author with K. A. Eagle, T. C. Crawford, E. M. Purvis, M. Ward, D. Haynes, J. Crane.

▪ Volume XXIX, No. 2. December, 2018.

- Cascade: Observation and Challenge

- ***Mathematical Reviews:*** Invited reviews.

Aug 30 **MR3801805** Drezner, Tammy; Drezner, Zvi; Zerom, Dawit Competitive facility location with random attractiveness. *Oper. Res. Lett.* **46** (2018), no. 3, 312--317. 90B80 (91B72)

Aug 29 **MR3804045** Knueven, Ben; Ostrowski, Jim; Pokutta, Sebastian Detecting almost symmetries of graphs.*Math. Program. Comput.* **10** (2018), no. 2, 143--185. 05C60 (05C85 90C27 90C35)

Feb 14 **MR3709072** Manuel, Paul; Klavžar, Sandi; Xavier, Antony; Arokiaraj, Andrew; Thomas, Elizabeth Strong edge geodetic problem in networks. *Open Math.* **15** (2017), no. 1, 1225--1235. 05C12 (05C82 05C85 05C90 90B06 90B10)

Feb 12 **MR3713393** Benevides, Fabrício S.; Gerbner, Dániel; Palmer, Cory T.; Vu, Dominik K. Identifying defective sets using queries of small size. *Discrete Math.* **341** (2018), no. 1, 143--150. 05C85 (05C65 90B40)

Jan 05 **MR3695273** Bonsma, Paul Rerouting shortest paths in planar graphs. *Discrete Appl. Math.* 231 (2017), 95--112. 05C85 (05C38 90C35 90C39)

- 2012-present. Continuing work on Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
- 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
- 2014-present. Continuing work as a Co-chair of the Aileen Osofsky Goodwill Committee of the American Contract Bridge League. I represent the 'Midwest' (of the US).
- 2016-present. Continuing work as an officer and founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. http://www.ldei.org
- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago to develop the Alma Lach Culinary special collection.
- Reference Entry. Arlinghaus, Sandra Judith Lach Arlinghaus. ***American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences***, 2018, Vol. 1, p. 331.

2017

- 2017, March. Cleaning and Sterilization of Used Cardiac Implantable Electronic Devices with Process Validation. ***JACC Clinical Electrophysiology***. Co-authors: Thomas C. Crawford, Craig Allmendinger, Jay Snell, Kevin Weatherwax, Balasundaram Lavan, Timir S. Baman, Pat Sovitch, Danile Alyeshmemi, Thomas Carrigan, Noah Klugman, Denis Kune, Andrew B. Hughey, Daniel Lautenbach, Nathan Sovitch, Karman Tandon, George Samson, Charles Newman, Sheldon Davis, Archie Brown, Brad Wasserman, Ed Goldman, Sandra L. Arlinghaus, Hakan Oral, Kim A. Eagle.
- 2017. Referee. **Publons**.com participant.
    - ***Transactions in GIS--Wiley***
    - ***Computers, Environment and Urban Systems (CEUS)--Elsevier, Outstanding Reviewer Certificate, Awarded August 2017.***
    - ***Quaestiones Geographicae.***
- 1990-present. ***Solstice: An Electronic Journal of Geography and Mathematics***. I continue to serve as Founding Editor and as frequent author or co-author, in addition to editorial work. *Solstice*, was born digital in 1990, and has been noted as the world's first online peer-reviewed journal. It has been written about in ***Science*** (AAAS), ***Science News***, ***American Mathematical Monthly***. One article in it finished high (semi-finalist) in the Pirelli INTERNETional Competition. The journal is catalogued in perpetual online archives including DeepBlue of The University of Michigan Library. http://www.imagenet.org/
    - 2017 Issues.
        - Volume XXVIII, No. 1. June, 2017.
            - Introduction to the Special Issue on the Meridian MS Renaissance
            - Sidewalk Carousel Horses. S. L. Arlinghaus, William E. Arlinghaus, Adrienne Coley Dison, Richard 'Clay' Hamilton
            - Mathematics Workout: Arithmetic, Addition and Multiplication through Fractions. Sandra L. Arlinghaus and William C. Arlinghaus with input from Danny Rushing.
        - Volume XXVIII, No. 2. December, 2017. This issue of Solstice is devoted entirely to displaying, in pdf format, the current state of the persistent IMaGe archive housed in Deep Blue at The University of Michigan.
- ***Mathematical Reviews***. Invited to review the following works.

Oct 24 **MR3669040** Yezerska, Oleksandra; Mahdavi Pajouh, Foad; Butenko, Sergiy On biconnected and fragile subgraphs of low diameter. *European J. Oper. Res.* **263** (2017), no. 2, 390--400. 05C75 (90B10)

Sep 20 **MR3659164** Lu, Xiaojun; Tang, Qingsong; Zhang, Xiangde; Zhao, Cheng Homogeneous multilinear functions on hypergraph cliques. *Bull. Korean Math. Soc.* **54** (2017), no. 3, 1037--1067. 05C69 (05C65 90C27)

Jul 25 **MR3617636** Fernandez, Oscar E. The calculus of happiness. How a mathematical approach to life adds up to health, wealth, and love. *Princeton University Press, Princeton, NJ,* 2017. xii+159 pp. ISBN: 978-0-691-16863-0 00A09

Jun 16 **MR3550627** Milovanović, Miloš; Tomić, Bojan M. Fractality and self-organization in the orthodox iconography. *Complexity* **21** (2016), no. S1, 55--68. 00A66 (28A80)

May 16 **MR3604099** Santos, Rafael F.; Andrioni, Alessandro; Drummond, Andre C.; Xavier, Eduardo C. Multicolour paths in graphs: NP-hardness, algorithms, and applications on routing in WDM networks. *J. Comb. Optim.* **33** (2017), no. 2, 742--778. 05C85 (05C15 90C35)

May 10 **MR3482381** Beveridge, Andrew; Shan, Jie Network of thrones. *Math Horiz.* **23** (2016), no. 4, 18--22. 91D30

Mar 31 **MR3534728** Cseh, Ágnes; Kavitha, Telikepalli Popular edges and dominant matchings. *Integer programming and combinatorial optimization,* 138--151, Lecture Notes in Comput. Sci., 9682, *Springer, [Cham],* 2016. 05C85 (05C70 91B68)

- 2012-present. Continuing work on Advisory Board, Project MyHeart / YourHeart, Frankel Cardiovascular Center, University of Michigan. http://www.myheartyourheart.org/about.html
- 2015-present. Continuing association with the Chene Street History Project. https://sites.lsa.umich.edu/detroitchenestreet/about/project-staff/
- 2014-present. Continuing work as a Co-chair of the Aileen Osofsky Goodwill Committee of the American Contract Bridge League. I represent the 'Midwest' (of the US).
- 2016-present. Continuing work as an officer and founding member of the Ann Arbor Chapter of Les Dames d'Escoffier International, a leading haute cuisine organization. Some of that work involves attempting to develop connections between the academic and culinary worlds. Also a member of the Chicago Chapter of LDEI. http://www.ldei.org
- 2015-present. Continuing association with the Special Collections Research Center of the Joseph Regenstein Library of the University of Chicago to develop the Alma Lach Culinary special collection.
- Reference Entry. Arlinghaus, Sandra Judith Lach Arlinghaus. ***American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences***, 2017, Vol. 1, p. 293.

PUBLISHED WORK, 2016 and EARLIER

(If no author is listed, then that means that SA is the sole author; with co-authors, assume SA as one)

2016:

- 2016. ***Solstice: An Electronic Journal of Geography and Mathematics***. Volume XXVII, Number 2. http://www.imagenet.org/
    - Maps, Archives, and Timelines: Revisiting the GEOMAT Project. Sandra l. Arlinghaus, Ann E. Larimore, and Robert Haug.
    - Tangled Realities. Sandra L. Arlinghaus and William E. Arlinghaus.
- 2016. ***Solstice: An Electronic Journal of Geography and Mathematics***. Volume XXVII, Number 1. http://www.imagenet.org/
    - Diana Sammataro and Sandra L. Arlinghaus. 2016. Small Hive Beetle, Animaps: Focus on Hawaii.
    - Sandra L. Arlinghaus. 2016. Animated Steiner Trees.
    - Sandra L. Arlinghaus. 2016. Global Singularity.
- 2016. ***McKnight's Physical Geography: A Landscape Appreciation***, 12th Edition, Darrel Hess. Pearson Publishing. Arlinghaus, Sandra L. and Sammataro, Diana. Section in Chapter 10: Cycles and Patterns in the Biosphere--"Honey Bees at Risk", invited material, page 294.
- 2016. Created a Special Edition of "Alma's Almanac" to benefit the perpetual maintenance of the Alma Lach Special Collection of the Joseph Regenstein Library, University of Chicago. Helped with event planning surrounding a special event at that Library on November 2, 2016, hosted by the University Library Society.
- 2016. Responded to an invitation to submit to the R. Buckminster Fuller Challenge Award, March 1. Did so as an independent person. "The Perimeter Project: Expanding the Global Edge of Pacemaker Availability." Not funded.
- 2016. ***Mathematical Reviews***. Invited to review the following works.

Nov 16 **MR3469735** Ludu, Andrei Boundaries of a complex world. Springer Series in Synergetics. *Springer, Heidelberg,* 2016. xiii+361 pp. ISBN: 978-3-662-49076-1; 978-3-662-49078-5 00A69 (03A10 05-01 53-01)

Oct 14 **MR3497980** McMorris, F. R.; Mulder, Henry Martyn; Novick, Beth; Powers, Robert C. An ABC-problem for location and consensus functions on graphs. *Discrete Appl. Math.* 207 (2016), 15--28. 05C12 (90B80 91B12)

Aug 24 **MR3483916** Yamaguchi, Kazuo Borda winner in facility location problems on sphere. *Soc. Choice Welf.***46** (2016), no. 4, 893--898. 90B85 (91B12)

Aug 11 **MR3478924** Ben-Moshe, Boaz; Elkin, Michael; Gottlieb, Lee-Ad; Omri, Eran Optimizing budget allocation for center and median points. *Theoret. Comput. Sci.* 627 (2016), 13--25. 05C85 (05C22 90B80)

Jun 07 **MR3457444** Pong, Ting Kei; Sun, Hao; Wang, Ningchuan; Wolkowicz, Henry Eigenvalue, quadratic programming, and semidefinite programming relaxations for a cut minimization problem. *Comput. Optim. Appl.* **63** (2016), no. 2, 333--364. 05C35 (05C70 90C22 90C27 90C59)

May 25 **MR3445193** Gamwell, Lynn Mathematics + art. A cultural history. With a foreword by Neil deGrasse Tyson. *Princeton University Press, Princeton, NJ,* 2016. xvii+556 pp. ISBN: 978-0-691-16528-8 00A66

May 11 **MR3449133** Andres, Stephan Dominique; Theuser, Andrea Note on the game colouring number of powers of graphs. *Discuss. Math. Graph Theory* **36** (2016), no. 1, 31--42. 05C15 (05C05 91A43 91A46)

2015:

- ***Quaestiones Geographicae***, 34(4), Special Issue on Spatial Mathematics and Its Geographical Context. Publisher: Faculty of Geographical and Geological Sciences of Adam Mickiewicz University in Poznań. Published, December, 2015.
    - Guest Editor
    - Co-author with Joseph Kerski, Category Theory in Geography? Pp. 61-68.
    - Author of Introduction, pp. 5-6.
- ***Solstice: An Electronic Journal of Geography and Mathematics*****,** Volume XXVI, No. 2. http://www.imagenet.org
    - Topics in Spatial Mathematics: Area, with William C. Arlinghaus and Joseph Kerski.
- ***Solstice: An Electronic Journal of Geography and Mathematics*****,** Volume XXVI, No. 1. http://www.imagenet.org/
    - Spatial Transformations and Visualization: Selected Common Threads and Root Concepts Linking Old to New. With Joseph Kerski.
    - Spatial Mathematics: Selected Examples. With Joseph Kerski.
- Reference Entry. Arlinghaus, Sandra Judith Lach Arlinghaus. ***American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences***, 2015, Vol. 1, p. 268.
- ***Mathematical Reviews***, 2015.

    Nov 04 **MR3356112** Chamberland, Marc; Herman, Eugene A. Rock-paper-scissors meets Borromean rings. *Math. Intelligencer* **37** (2015), no. 2, 20--25. 05C20 (05C90)

    Sep 10 **MR3307307** Vandendriessche, Eric String figures as mathematics? An anthropological approach to string figure-making in oral tradition societies. With a preface by Karine Chemla. Studies in History and Philosophy of Science, 36. *Springer, Cham,* 2015. xx+392 pp. ISBN: 978-3-319-11993-9; 978-3-319-11994-6 00A66 (01A12 01A13)

    May 06 **MR3302132** Puppe, Clemens; Tasnádi, Attila Axiomatic districting. *Soc. Choice Welf.* **44** (2015), no. 1, 31--50. 91F10 (91B32)

    Apr 27 **MR3287626** Benedetto, Dario; Caglioti, Emanuele; Degli Esposti, Mirko The unreasonable effectiveness of mathematics in human sciences: the attribution of texts to Antonio Gramsci. *Imagine math,* 143--154, *Springer, Milan,* 2012. 00A69

    Mar 20 **MR3195974** Celant, Simone From affiliation matrices to adjacency matrices: methods and techniques for the analysis of centrality. *J. Math. Sociol.* **38** (2014), no. 2, 115--132. 91D30

    Feb 17 **MR3235481** Artstein, Zvi Mathematics and the real world. The remarkable role of evolution in the making of mathematics. Translated from the Hebrew by Alan

Hercberg. *Prometheus Books, Amherst, NY,*2014. 426 pp. ISBN: 978-1-61614-091-5; 978-1-61614-546-0 00A09 (00A35 01A05)

Jan 23 **MR3261036** May, D. P. Complete graphs in the Rubáiyát. *J. Math. Arts* **8** (2014), no. 1-2, 59--67. 00A99 (05C90)

2014:

- ***Solstice: An Electronic Journal of Geography and Mathematics****,* Volume XXV, No. 2. http://www.imagenet.org/
  - Continuing as Editor in Chief.
  - The Diffusion of a Medical innovation: Part 2, with Thomas C. Crawford and Kim A. Eagle, Volume XXV, Number 2, December 2014.
  - Beth Olem Animations: Foreshadowing the Perimeter Project? Volume XXV, Number 2, December 2014.
- ***Solstice: An Electronic Journal of Geography and Mathematics****,* Volume XXV, No. 1. http://www.imagenet.org/
  - Eigenvalue Fractal Geometry: An Alternative Approach to Fractal Generation: with Daniel A. Griffith
  - The Diffusion of a Medical Innovation: Visualization Using Google Earth: with Thomas C. Crawford and Kim A. Eagle.
- Reference Entry. Arlinghaus, Sandra Judith Lach Arlinghaus. ***American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences***, 2014, Vol. 1, p. 264.
- ***Mathematical Reviews***, 2014.

  Sep 29 **MR3188893** Gaujal, Bruno; Gulyas, Laszlo; Mansury, Yuri; Thierry, Eric Validating an agent-based model of the Zipf's law: a discrete Markov-chain approach. *J. Econom. Dynam. Control* 41 (2014), 38--49. 91D20

  Jun 20 **MR3137670** The New York Times book of mathematics. More than 100 years of writing by the numbers. Edited and with an introduction by Gina Kolata. With a foreword by Paul Hoffman. *Sterling, New York,*2013. xvi+480 pp. ISBN: 978-1-4027-9322-6 00B60 (01A05)

  Apr 04 **MR3120931** Carlsson, John Gunnar; Devulapalli, Raghuveer Dividing a territory among several facilities.*INFORMS J. Comput.* **25** (2013), no. 4, 730--742. 90B85 (90C48)

  Feb 03 **MR3073815** Drezner, Tammy; Drezner, Zvi Voronoi diagrams with overlapping regions. *OR Spectrum* **35**(2013), no. 3, 543--561. 90B85 (05C62 68U05)

2013:

- 2013. With Joseph Kerski, ***Spatial Mathematics: Theory and Practice through Mapping***. CRC Press (a division of Taylor & Francis). Review samples:
  - **Waldo Tobler**, Ph.D., Professor of Geography and Professor of Statistics Emeritus, University of California Santa Barbara: "Two ancient texts had a profound and lasting impact on the literate world. The first of these was Euclid's Elements, whose importance lasted until about 1800. Then it was

overtaken by advances in mathematics, including calculus, Gauss's differential geometry, and the writings of Riemann, and eventually the influence of Einstein. This phase of 'continuous' mathematics is slowly being replaced by 'discrete' analysis, heavily impacted by digital computers. Finite mathematics was never completely ignored but it is now ascendant, as is amply illustrated in this book by Arlinghaus and Kerski.

The second text with profound impact was the rediscovery in the 1400's of Ptolemy's Geography from 150 AD. Combined with "the net of Meridians and Parallels cast over the world", to paraphrase J. Donne, the impact of Ptolemy's work lasted rather beyond the discoveries of Columbus. These coordinates, first proposed by Hipparchus in about 150 BC, were not often used in medieval Europe nor anywhere else. But this grid provides the basis for the use of geographic maps as a form of graph paper to be used to solve terrestrial problems. Foremost amongst these was Mercator's warping to assist ocean navigation. A contemporary distortion, the London Underground map, preserves the topology to assist with a modern navigation problem. Now, in this book, additional insight for the mathematical solution of geographical tasks is provided. The pedagogical orientation is especially worthy of comment."

- **Michael Batty**, Ph.D., Bartlett Professor of Planning at University College London and Director, Centre for Advanced Spatial Analysis at University College London. Comments provided in a set of four parts presumably to suit different publishing marketing outlets.
  - "Teaching mathematics can be tough but here is a book that is a gentle introduction to the mathematics of the spatial world through the medium of mapping. The use of QR codes to access additional map-based material is clever and innovative, and provides a nice link to the very technologies that this mathematics supports."
  - "This innovative book not only develops mathematics for spatial analysts through ideas about mapping but does so by assuming the reader is able to draw more practical material from the web using a smart phone with a QR code application. A fascinating way to teach a tough subject and something of a first in this field."
  - "To read this book, you need a smart phone with a QR code application from which you can access the maps that support the underlying mathematics of spatial analysis. Most of those reading this book are likely to have such a phone and thus this is triumph of innovative teaching for all those wishing to explore new methods of mapping in the 21st century. "
  - "This is the first time a book in the field of geographic information science requests the reader to use a smart phone to download supplementary material using QR codes that can be read from a smart phone. This approach to spatial analysis is full of innovative techniques that enable readers to grasp the underlying mathematics of the spatial world."

- **Michael Goodchild**, Ph.D., Jack and Laura Dangermond Professor of Geography and Director of UCSB's Center for Spatial Studies. Now, Research Professor of Geography Emeritus, University of California Santa Barbara: "Mathematics underpins geography in many ways, especially in this new era of computerized mapping and geographic information systems. Geography can also be an exciting and relevant way of teaching many of the basic concepts of mathematics, from geometry and topology to statistics. So this book on spatial mathematics as applied to mapping is both timely and welcome. The wealth of practical examples and the enthusiasm of its authors will fill an important niche in a mapping literature that often underplays the importance and relevance of mathematics.

  > It is particularly refreshing to see the book begin with the mathematics of the Earth's curved surface, and deal only later with the complexities of flattening the Earth through the use of map projections. We have grown so used to the distortions inherent in map projections – the enormity of Greenland when viewed on a Mercator projection, for example – that it is easy to forget that the Earth is actually round. Google Earth did much to restructure our view of the Earth when it was released in 2005; this book will without doubt make another step in that direction."

  - **Marc Schlossberg**, Ph.D., Associate Professor of Planning, Public Policy and Management, and Co-Director Sustainable Cities Initiative, University of Oregon: ""If a picture is worth a thousand words, then a map is worth exponentially more. Underneath the colors of a modern electronic map is an enormous amount of math and science, from how to represent a three dimensional globe on a two dimensional surface to how to produce and represent color itself in a way to communicate meaning and make sense of complex data. This book is both all about the map and all about the math behind the map, using what has become ubiquitous on our smart phones and in our vehicles as a vehicle itself to teach complex math concepts in accessible ways. The book's use of modern, socially pressing issues as the basis of understanding spatial math further augments its goal to make complex concepts accessible, meaningful, and useful for students."
  - **Karl Donert**, Ph.D., University of Salzburg, Z-GIS, Director European Centre (EUROGEO): "An excellent textbook mainstreaming geoinformation perspectives through mathematical education, ***Spatial Mathematics*** has a clearly developed theoretical approach with great exercises and practical hands-on activities."
  - **Mark Hogrebe**, Ph.D., Institutional Research, Washington University in St. Louis:

    > "*Spatial Mathematics: Theory and Practice Through Mapping* sets the standard for explaining the relationship between mathematics, geography, and GIS technologies. Innovative practical applications

use smartphones and web resources, with concepts presented in a clear, common-sense approach. Teachers will discover a gold mine of opportunities and numerous examples for inquiry-based activities in mathematics and geography as well as in the life and social sciences. A benchmark book for interdisciplinary teaching and learning."

- **Bob Coulter**, Ph.D., Director, Litzsinger Road Ecology Center, Missouri Botanical Garden: "In this important work, Drs. Arlinghaus and Kerski fill an important need in the geospatial literature with their accessible introduction to spatial mathematics. While there are many more advanced books illustrating complex techniques, this offering frames concepts in a way that is accessible to new learners who may not have an advanced math background. This accessibility should not be confused with simplicity, however. In successive chapters, the authors build an intellectually challenging description of the math underlying geospatial analysis. Throughout, easy to follow activities help make the concepts clear and relevant. If we are to build a generation of spatial thinkers (and not just people trained in GIS and GPS), we need foundational understanding like this book supports. Highly recommended!"

- ***Solstice: An Electronic Journal of Geography and Mathematics***, Vol. XXIV, No. 2. http://www.imagenet.org/
  - Klein 4 Group: Beth Olem Cemetery Application
  - GeoMusic: Linked Selections
- ***Solstice: An Electronic Journal of Geography and Mathematics***, Vol. XXIV, No. 1. http://www.imagenet.org/
  - MatheMaPics, Part 2: with Joseph Kerski
- Reference Entry. Arlinghaus, Sandra Judith Lach Arlinghaus. *American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences*, 2013, Vol. 1, p. 256.
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  - Part 2. Geosocial Networking: A Case from Ann Arbor, Michigan: with David E. Arlinghaus.
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  - From Tissot to Google Earth: Sampling the Earth's Graticule: with Joseph Kerski.
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  - Notes: creation of .kmz files in support of
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    - Transcontinental Railway Odyssey of Richard Koenig
    - Varroa Mite Project of Diana Sammataro
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Jan 10 **MR1846926** Harbane, Rabah; Heydemann, Marie-Claude Efficient reconfiguration algorithms of de Bruijn and Kautz networks into linear arrays. Combinatorics and computer science (Palaiseau, 1997). *Theoret. Comput. Sci.* **263** (2001), no. 1-2, 173--189. 90B10 (05C20 90C35)

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  Apr 20 **MR1791201** Bandelt, Hans-Jürgen; Chepoi, Victor; Karzanov, Alexander A characterization of minimizable metrics in the multifacility location problem.

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- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume XI, No. 1, June 2000. http://www.imagenet.org/
    - Animaps IV: Of time and place.
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  Apr 24 **MR1712814** Wilson, Robin J. Graph connections. *Graph connections (Cochin, 1998),* 3--9, *Allied Publ., New Delhi,* 1999. 05C90

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  Jan 06 **MR1608337** The impact of chaos on science and society. Proceedings of the symposium held at the University of Tokyo, Tokyo, April 15–17, 1991. Edited by Celso Grebogi and James A. Yorke. *United Nations University Press, Tokyo,* 1997. {\rm xiv}+401 pp. ISBN: 92-808-0882-6 00A69 (00B25 58F15)

1998:

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- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume VI, No. 1, June 1995. http://www.imagenet.org/
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- ***Practical Handbook of Spatial Statistics.*** Arlinghaus, Sandra L., Editor-in-Chief. Specialist Associate Editor: Daniel A. Griffith. Associate Editors: William C. Arlinghaus, William D. Drake, John D. Nystuen. 300 pages. 1995: CRC Press. Third in a three-part series of handbooks. Griffith is the primary author of this work with substantial chapter contributions from others.
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- CSF Pakistan Missions—Reports. Co-author of a set of reports concerning Community Systems Foundation's (CSF) Pakistan missions, World Bank; Arlinghaus contributed hundreds of GIS maps and PowerPoint displays to these CSF team-authored reports, 1995-1997.
- CSF Syria Missions—Reports. Co-author of a set of reports concerning CSF Syria missions, UNFPA; Arlinghaus contributed hundreds of GIS maps and PowerPoint displays to these CSF team-authored reports, 1995-1997.
- William D. Drake and Sandra L. Arlinghaus, Editors and authors of preliminary material; main chapters by students in NRE545. ***Population-Environment Dynamics. Volume IV, Transitions in Global Change***.
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Mar 01 **MR1228153** Haddad, Labib; Sureau, Yves Les groupes, les hypergroupes et l'énigme des Murngin—the Murngin case. (French) [[Groups, hypergroups and the enigma of the Murngins—the Murngin case]] *J. Pure Appl. Algebra* **87** (1993), no. 3, 221--235. 92H10 (92H30)

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- Arlinghaus, Sandra L., Editor-in-Chief. Associate Editors: William C. Arlinghaus, William D. Drake, John D. Nystuen. ***Practical Handbook of Curve Fitting***. 250 pages. 1994: CRC Press. First in a three-part series of handbooks. Arlinghaus, Sandra L. is sole author of this work.
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Jun 30 **MR1244291** Everett, Martin G.; Borgatti, Stephen P. An extension of regular colouring of graphs to digraphs, networks and hypergraphs. *Social Networks* **15** (1993), no. 3, 237--254. 05C90 (05C15 05C20 05C65)

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- *Fractals in Geography*, a book edited by Nina Lam and Lee DeCola, published May, 1993, Prentice-Hall. Arlinghaus, Sandra L., Chapter 10, **Central Place Fractals.**
- Pneumatic postal maps: The French connections, ***The Carto-Philatelist***, affiliated with the American Topical Association and the American Philatelic Society, 1993. Vol. 38, No. 3, 71-75.
- Electronic Geometry, ***The Geographical Review***, April 1993, Vol. 83, No. 2, pp. 160-169. American Geographical Society of New York
- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume IV, No. 1, June 1993. http://www.imagenet.org/
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- William D. Drake and Sandra L. Arlinghaus, Editors and authors of preliminary material; main chapters by students in NRE545. ***Population-Environment Dynamics. Volume II, Population-Environment Interaction***.

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- Arlinghaus, Sandra L., Nystuen, John D., Woldenberg, Michael J. An application of graphical analysis to semidesert soils. ***Geographical Review***, July 1992, pp. 244-252. American Geographical Society of New York
- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume III, No. 2, December 1992. http://www.imagenet.org/
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- Solstice: an Electronic Journal of Geography and Mathematics, Abstract #871-99-73, p. 145, ***Abstracts of Papers Presented to The American Mathematical Society***, January 1992, Issue 79, Volume 13, Number 1.
- William D. Drake and Sandra L. Arlinghaus, Editors and authors of preliminary material; main chapters by students in NRE545. ***Population-Environment Dynamics. Volume I, Sectors in Transition.***
- ***Mathematical Reviews***, 1992.

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Oct 01 **MR1150051** McGuire, Michael An eye for fractals. A graphic and photographic essay. *Addison-Wesley Publishing Company, Advanced Book Program, Redwood City, CA,* 1991. {\rm x}+165 pp. ISBN: 0-201-55440-2 00A69 (28A80 58F13 58F23)

Sep 09 **MR1152111** McCanna, J. Fractal dimensions of graphs. Proceedings of the Twenty-second Southeastern Conference on Combinatorics, Graph Theory, and Computing (Baton Rouge, LA, 1991). *Congr. Numer.* 84 (1991), 193--210. 05C12 (03C99 90C35 92H30)

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- ***Essays on Mathematical Geography--III***. Institute of Mathematical Geography, Monograph Series, #14. 52 pages. http://www.imagenet.org/
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- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume II, No. 1, June 1991. http://www.imagenet.org/
  - Arlinghaus, Sandra L., Barr, David, Nystuen, John D. The spatial shadow: Light and dark, whole and part.
- Invited reviewer of Edward Tufte's *Envisioning Information*, ***The Geographical Review***, April, 1991, pages 234-236.

1990:

- Arlinghaus, Sandra L., Arlinghaus, William C., Nystuen, John D. A shortest distance algorithm: The Hedetniemi matrix sum, ***Geographical Analysis***, October 1990, Vol. 22, No. 4, pp. 351-360. The Ohio State University Press.
- Arlinghaus, Sandra L. and Nystuen, John D. Geometry of boundary exchanges: Compression patterns for boundary dwellers. ***The Geographical Review***, Vol. 80, No. 1, January, 1990, pp. 21-31. American Geographical Society of New York.
- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume I, No. 2, December 1990. http://www.imagenet.org/
  - Arlinghaus, Sandra L., Arlinghaus, William C., Nystuen, John D. The Hedetniemi matrix sum: A real-world application..
  - Fractal geometry of infinite pixel sequences: 'Super-definition' resolution?.
  - Parallels between parallels.
  - Scale and dimension: Their logical harmony.
  - Solstice: author of regular features: "Construction Zone;" "Games and other Educational Features;" "Theorem Museum;" "Reference Corner," 1990+

- ***Solstice*: *An Electronic Journal of Geography and Mathematics*** Volume I, No. 1, December 1990. http://www.imagenet.org/
    - Beyond the fractal.
- Geographic location theory: Selected topics, ***Abstracts*** of the American Mathematical Society, August, 1990.
- Satellite configurations and the Petersen graph, ***Abstracts*** of the American Mathematical Society, January 1990.

1989:

- ***An Atlas of Steiner Networks***. Institute of Mathematical Geography, Monograph Series, #9. 84 pages. http://www.imagenet.org/
- Arlinghaus, Sandra L. and Nystuen, John D. ***Environmental Effects on Bus Durability.*** Institute of Mathematical Geography, Monograph Series, #11. 104 pages. http://www.imagenet.org/
- Arlinghaus, Sandra L. and Arlinghaus, William C. The fractal theory of central place hierarchies: a Diophantine analysis of fractal generators for arbitrary Loschian numbers, ***Geographical Analysis: an International Journal of Theoretical Geography***. Ohio State University Press. Vol. 21, No. 2, April, 1989, pp. 103-121.
- Central place fractals: Theoretical geography in an urban setting, ***Abstracts*** of the American Mathematical Society, 1989.

1988:

- Arlinghaus, Sandra L. and Nystuen, John D. A cartographic perspective on the security of an urban water supply network, ***Perspectives in Biology and Medicine***, University of Chicago Press, Vol. 32, No. 1, Autumn, 1988; pp. 91-102.

1987:

- ***Essays on Mathematical Geography, II***. Institute of Mathematical Geography, Monograph Series, #5.
- Arlinghaus, Sandra L. and Nystuen, John D. Geography of city terrain based on bus routes, ***The Geographical Review***, Vol. 77, No. 2, April, 1987, pp. 183-195. American Geographical Society of New York.
- Arlinghaus, Sandra L. and Nystuen, John D. Terrain effects on bus maintenance performance in Transit Bus Maintenance, ***Transportation Research Record,*** #1140**,** Transit Bus Maintenance, pp. 45-51, Transportation Research Board, National Research Council, Washington, D. C. 1987. National Academy Press.

1986:

- ***Down the Mail Tubes: The Pressured Postal Era, 1853-1984***. Institute of Mathematical Geography, Monograph Series: #2. 79 pages.

- ***Essays on Mathematical Geography.*** Institute of Mathematical Geography, Monograph Series, #3. 167 pages.
- Arlinghaus, Sandra L. and Nystuen, John D. ***Mathematical Geography nad Global Art: The Mathematics of David Barr's Four Corners Project***, Institute of Mathematical Geography, Monograph Series, #1. 78 pages http://www.imagenet.org
- Arlinghaus, Sandra L. and Nystuen, John D. Climatic effects on bus durability, Transit Bus Maintenance Management, ***Transportation Research Record***, #1066, National Research Council, pp. 29-39, 1986. National Academy Press.
- Security of the Water System, Final Report Tasks 1, 2, 3. Snyder, James C. and Sandra Arlinghaus, Michael Brabec, Rolf Deininger, Lynda Duke, Allan Feldt, Ronald Inglehart, Thomas Lyons, Peter Meier, John Nystuen, James Segedy, Mitchell Rycus. Security of the Water System, Final Report Tasks 1, 2, 3. Ann Arbor, Michigan. Studies in Urban Security Group, College of Architecture and Urban Planning, University of Michigan 1986.

1985:

- Eye-contact graphs, ***Behavioral Science***, Volume 30, #2, April, 1985, pp. 108-117.
- Fractals take a central place, ***Geografiska Annaler***, 67B (1985), pp. 83-88, Journal of the Stockholm School of Economics.
- Antipodal graphs, Abstract #3792-92-404, ***Abstracts*** of the American Mathematical Society, Vol. 3, No. 1, 1985.
- Detroit Water and Sewerage Department Pollution and Detection Abatement Preliminary Report. Snyder, James C. and Sandra Arlinghaus, Michael Brabec, Rolf Deininger, Allan Feldt, Ronald Inglehart, Peter Meier, John Nystuen, Mitchell Rycus. Detroit Water and Sewerage Department Pollution and Detection Abatement Preliminary Report. With appendices. Ann Arbor, Michigan. Studies in Urban Security Group, College of Architecture and Urban Planning, University of Michigan, 1985.

1984:

- Analogue clocks, Abstract #809-51-468, ***Abstracts*** of the American Mathematical Society, Vol. 5, No. 1, 1984.
- Invited book review of Arthur H. Robinson's *Early Thematic Mapping*. ***Technology and Culture***. October, 1984, pp. 850-852.

Pre-1984:

- 1977. Doctoral Dissertation. Department of Geography, The University of Michigan, Ann Arbor: "On Geographical Network Location Theory". Waldo R. Tobler, Advisor. Thesis Committee: Waldo R. Tobler and John D. Nystuen (Co-chairs), Donald R. Deskins. Ph.D.: Location Theory, or more broadly, Theoretical Geography.

- 1974. Master's Thesis, Department of Geography, Wayne State University, "Graph Theory and Geography." Jack A. Licate, Advisor. Thesis Committee: Jack A. Licate, Chair, Bryan Thompson, Robert Sinclair.
- 1967. Map in ***Asia on the Eve of Europe's Expansion***, by Donald F. Lach and Carol Flaumenhaft. Frontispiece. Prentice-Hall, Englewood Cliffs
- 1964. Name listed (as "Sandy Lach") as solver of two " Elementary Problems," in the *American Mathematical Monthly*

BOOK CONTRACTS (listing only of contract signatories, not of guest editors, associate editors, or other contributor or editorial capacities).

- **Teaching Mathematics Using Interactive Mapping**. Contract awarded to S. Arlinghaus and J. Kerski. CRC Press (Taylor & Francis; Routledge). 2021.
- ***Spatial Thinking in Environmental Contexts: Maps, Archives, and Timelines***. Awarded initially to S. Arlinghaus who subsequently included J. Kerski, A. E. Larimore, and M. Naud as added contract signatories. CRC Press, 2016.
- ***Spatial Mathematics: Theory and Practice through Mapping***. Contract awarded to S. Arlinghaus and J. Kerski. CRC Press, 2011.
- ***Handbook of Spatial Statistics***. Awarded to S. Arlinghaus. CRC Press 1993, as part of a series with the two below.
- ***Handbook of Digital Mapping***. Awarded to S. Arlinghaus. CRCPress, January 1992.
- ***Handbook of Curve Fitting***. Awarded to S. Arlinghaus, CRCPress, December 1991.

AWARDS, CITATIONS, AND HONORS

- **Academics**:
  - August, 2017. Outstanding Reviewer, *Computers, Environment and Urban Systems* (top 10th percentile). Elsevier.
  - May, 2015. Outstanding Reviewer, *Computers, Environment and Urban Systems* (top 10th percentile). Elsevier.
  - University of Michigan Library. Science covers selected over seven years by UM Library committee for inclusion in the permanent display in the Science Reading Room. Seven covers are included in this display. Invited talk given at event April 2, 2014.
  - ***American Men and Women of Science***, 1989 and various volumes later.

- Named a 'best teacher', Loyola of Chicago. 1982 (Mathematics).
- University Fellowship, non-traditional, University of Michigan, 1976-77. Won it the first year it was offered.
- Graduate Teaching Fellow in Geography, University of Michigan, 1975-77.
- Graduate Teaching Assistant in Geography, Wayne State University, 1974.
- Graduate Teaching Assistant in Mathematics, University of Toronto, 1966-67.

- **Google**:
  - Over 50 blue ribbons awarded by Google for 3D buildings in Ann Arbor, almost all of which are now part of the default loadset in Google Earth; new set for new Google strategy in 2014.
  - Continuing honor as a "Featured Modeler" in the Google 3D Warehouse.
  - Invited (April, 2008) by Google educational division head to serve as the representative of higher education at the Google SketchUp "Basecamp" at the GooglePlex in Mountain View, CA. Unable to accept invitation.
  - Participation in Google "Build Your Own Campus" competition as leader of the only University of Michigan team to enter; May, 2007.
- **Pirelli INTERNETional Award Competition**
  - Invited participation, Pirelli INTERNETional Award Competition, 2007.
  - Invited participation, Pirelli INTERNETional Award Competition, 2006. Current issue of Solstice, An Electronic Journal of Geography and Mathematics submitted (includes much virtual reality, movies, sound…)
  - Invited submission to Pirelli INTERNETional Award; SemiFinalist, 2003 competition (in top 80, worldwide, of over 1000 entries): for a section from a book entitled *Spatial Synthesis*. May, 2004. Entire Ebook published, June, 2005: Institute of Mathematical Geography.
  - Invited submission to Pirelli INTERNETional Award; Finalist, 2002 competition (in top 20, worldwide of over 1200 entries): for ***Graph Theory and Geography: an Interactive View E-Book***, equal co-authors with William C. Arlinghaus, Frank Harary. John Wiley and Sons, New York, April, 2002.
  - Invited submission to Pirelli INTERNETional Award; SemiFinalist, 2001 competition (in top 80, worldwide, of over 1000 entries): for *Solstice: An Electronic Journal of Geography and Mathematics*.
- **Community Service.**
  - National Award, "***The President's [Bush] Volunteer Service Award***," March 11, 2004, distributed through and presented by the Ann Arbor Police Department.
  - ***Community Service Award****, 1999.* Awarded by the City of Ann Arbor; I was the only "citizen" to receive such an award, as noted by the Mayor in her presentation at City Hall.
  - Plaque presented for nine years of service to the City of Ann Arbor Planning Commission including service as its Chair, Vice-Chair, and Secretary of the Executive Committee.

- Huron Chase Condominium Association. Certificates of Appreciation over 15 years.
- Bromley Homeowners' Association. Certificates of Appreciation over 5 years.
- Ann Arbor Police Department, Volunteers in Police Service, certificates for service on the City-wide Neighborhood Watch Advisory Panel. Took two-part training course in Community Policing.

- Miscellaneous citations and awards arranged by publisher or grantor:
  - **American Contract Bridge League**. Lifetime Charity Foundation Award; Goodwill Award, Michigan Bridge Association, 2011 (Annual award given to one individual each year). Honored at ACBL Goodwill Banquet in Detroit as one of three special honorees, March 10, 2008, Aileen Osofsky, host. Presentation at the Detroit Marriott, Renaissance Center, Detroit. Lifetime Goodwill Award, American Contract Bridge League.
  - ***American Men and Women of Science***. 17th and 18th editions, 1989-1990.
  - **Marquis**: *Who's Who in America*, 1995-present. *Who's Who in the World*, 1993-present. *Who's Who of American Women, 1991*; *Who's Who in the Midwest; Who's Who in American Education*, 1992-1993. *Who's Who in the Media and Communications*, 1997.
  - **International Biographical Centre** (Cambridge, England): *The World Who's Who of Women*, *International Who's Who of Intellectuals, Most Admired Men and Women of the Year, 1992/93*, Twentieth Century Award for Achievement (Literature, 1993), International Cultural Diploma of Honor (March, 1993), World Intellectual of 1993, International Woman of the Year, 1991-92, Honorary Member, Advisory Council, 1992. *Dictionary of International Biography*, 22nd Edition, 23rd Edition, 28th Edition (1999-2000). *2000 Outstanding Scholars of the Twentieth Century, 1999-2000. Outstanding People of the 20th Century*, (1999-2000). *International Woman of the Millennium*, 1999.
  - **American Biographical Institute** (Raleigh, North Carolina) *International Directory of Distinguished Leadership*, *5000 Personalities of the World*, *International Who's Who of Contemporary Achievement*, *Personalities of America*, *Two Thousand Notable American Women*, *Five Hundred Leaders of Influence*, *International Who's Who of Professional and Business Women*, Certificate of Recognition for Outstanding Professional Accomplishments, Distinguished Leadership Award for Outstanding Service to Mathematical Geography (1992), Key Award for Success in Research (1992-93), Silver Shield of Valor, 1991-92; Research Board of Advisors, 1992. *500 Leaders of Influence*, 1999-2000. *Strathmore Who's Who*. 1999.

EMPLOYMENT/ACTIVITIES

- Adjunct (Full) Professor of Mathematical Geography and Population-Environment Dynamics, The University of Michigan, School of Natural Resources and

Environment, Ann Arbor, MI 48109, 1994-present. Dry appointment from 2008 forward. Paid appointment prior to that. Also: Institute for Labor on Research, Employment, and the Economy, Chene Street History Project, 2013--?. Dry appointment.

- 1992-1998: co-developed and co-taught, with William D. Drake, NRE545, Population-Environment Dynamics. Co-developed associated written materials. These materials were used subsequently to form the basis of a handbook of curve fitting, the first in a three-part series on a book series contract I held with CRC Press.
- 1996-1997: Experimental Course, Spatial Analysis, Theory and Practice, NRE501/043. Created and taught this first SNRE GIS-based course. Student files: Fall, 1996; Fall, 1997.
- 1998-1999: Previous course awarded full course status as NRE530, Spatial Analysis: Theory and Practice. Created and taught course. Student files: Fall, 1998; Fall, 1999.
- 1998-1999: Spatial Analysis, Advanced Projects (prerequisite NRE 530). NRE501/043. Created and taught course. Student files: Winter, 1998; Winter, 1999.
- June, 2000: University of Chicago, Cartography/GIS workshop. Invited.
- June 2001: University of Chicago, Cartography/GIS workshop. Invited.
- 2003-2005: SNRE faculty advisor in Peter Beier's Virtual Reality course, ENG477. Created projects, and directed students, within this existing course. Student files: Fall, 2003; Fall, 2004; Fall, 2005.
- 2005, 2007, 2008: Co-taught course with Ann Larimore and Rob Haug, AAPTIS491, MENAS591, RCSS461: "Maps and Timelines in Play to Resolve Conflicts in the Eastern Mediterranean: Italy to Israel." Co-created and co-taught this course. Helped to develop associated teaching materials. Student files: Winter, 2005; Fall, 2007; Fall, 2008. Co-author (with Ann Larimore and Rob Haug) of resultant: GEOMAT Guide.
- 2008: NRE600, Section 043, Spring half-term directed study leading to the submission of a contest entry to the Google Build Your Own Campus competition. Most of the buildings, including those created by SNRE students, have won Google Blue Ribbon award status and thus appeared as part of the default loadset of Google Earth during the time when Google used work created by others than their own staff.

- Adjunct Professor, College of Architecture and Urban Planning, University of Michigan, Spring, 1997; 2000-2005; Affiliated faculty, 1999-2005.
  - 2001, 2002, 2003: Maps and Decisions, UP402-696. Created and taught course. Student files: Fall, 2001; Fall, 2002; Fall, 2003.
  - 2001, 2002, 2003: Geographic Information Systems (prerequisite UP 406). UP507. Created and taught course. Student files: Winter, 2001; Winter, 2002; Winter, 2003.
- Work in service of Students, University of Michigan (links are to documents archived in Deep Blue). SNRE=School of Natural Resources and Environment; CAUP=College of Architecture and Urban Planning.
  - Ph.D. Dissertations

        - Doctoral Committees:
            - 2003. Member, doctoral committee of Seung-Hoon Han, Architecture, CAUP.
            - 2001. Member, doctoral committee of Robin Saha, SNRE.
            - 2000. Member, doctoral committee of Andrea Frank. Urban Planning, CAUP.
            - 1998. Member, doctoral committee of Rhonda Ryznar. CAUP.
            - 1998. Member, doctoral committee of Ruben De la Sierra. SNRE.
        - Thanked in:
            - 2010. Robert J. Haug, Near Eastern Studies.
            - 2003. Seema Desai Iyer, CAUP.
            - 2000. Stephanie Ann Farquar, Public Health.
            - 1999. Craig Fee, SNRE.
            - 1997. Deepak Khatry, SNRE.
            - 1993. Cathy Antonakos, CAUP.
        - Cited in:
            - 2003. Clive David Lipchin, SNRE.
            - 2001. Yu-shin Tsai, CAUP.
            - 2000. Daniel Rodriguez, CAUP.
    - Master's Practicum or Thesis
        - Committees:
            - 2012. Member, master's committee of Jen Horton, SNRE
            - 2012. Member, master's committee of Emily Chi, SNRE
            - 2002. Member, master's committee of Dean Leslie Hay, David Pollock, Karl Koto, SNRE
            - 2000. Member, master's committee of Hui-Chun Huang, SNRE and CAUP.
            - 1998. Member, master's committee of, Astrid Hillers, SNRE
        - Thanked in:
            - 1999, Elizabeth Worzalla, et al., SNRE and School of Public Policy.
            - 1997. Tamana Nishiguchi, Asian Studies.
- Miscellaneous work in support of students:
    - 2023- . Outside Activity (resulting from association with Les Dames d'Escoffier International), Samantha Maldonado, 2023/24.
    - 2015. Outside Reader with Ph.D. student (E Scott Morris) on fractals in geography, topic of his dissertation, at University of Texas, Dallas. Daniel A. Griffith, Committee Chair.
    - 2013, 2014: Summer, helped to supervise students involved in creating 3D models associated with the Chene Street History Project.
    - 1995-2013. Director of Honorary Interns Program, Community Systems Foundation. I appointed and supervised this group. All were U of M students in SNRE, CAUP, or Education. Arranged in order from 1995 forward: Daniel A. Jacobs, Astrid Hillers, Richard Aishton, Rosalyn Scaff, Tamana Nishiguchi,

Seema Desai Iyer, Robin Saha, Marc Schlossberg, Richard Wallace, Ming-Hui Hsieh, Eun-Young Kim, Hyeyun Lee, Makoto Noguchi, Seung-Hoon Han, Peter Vincent, Kerry Ard, Luci Y. Kim, Allain Rasolofoson, Jennifer Horton, Emily Chi.

- 2003 (and beyond). Member, Doctoral committee of Lucy Y. Kim, School of Natural Resources and Environment, University of Michigan, 2003. Incomplete.
- (2003?) Member, first dissertation committee of Kerry Joy Ard, SNRE, Paul Mohai, Chair. Work completed with a different Committee.
- 2002-2003. Mentored Ming-Hui Hseih; Frederick L. Goodman (Education) hired her to serve as a Teaching Assistant for my courses.
- 2002. Outside Mentor (resulting from work at Community Systems Foundation), Salma Haidar. Public Health.
- 2001. Member, CAUP Area Exam committee of Moira Zellner.
- 1998. Directed Rosalyn Scaff, in custom course for credit to capture her experience in working for the City of Ann Arbor, Planning Department. Resulted in an award for this work.
- BS Honors Thesis, SNRE, Mark Axelrod, 1998. Cited.

- Project MyHeart/YourHeart Board, 2012 to 2023. Frankel Cardiovascular Center, University of Michigan.
- Founding Director, Institute of Mathematical Geography (IMaGe). IMaGe is an independent research institute, 1983-present. Holdings archived in Deep Blue, under "Mathematical Geography, Institute of (IMaGe): http://www.imagenet.org/ points to this direct Deep Blue URL at the University of Michigan Library perpetual archive: https://deepblue.lib.umich.edu/handle/2027.42/58219
  - Founder and Editor, *Solstice: An Electronic Journal of Geography and Mathematics*. Noted in a "Briefing" in *Science*, published by the AAAS, 29 November, 1991, p. 1291 (by Joe Palca) and in *Science News*, January 25, 1992, p. 61 in a report by Ivars Peterson. 1990-present. See: http://www.imagenet.org/ for Solstice and for IMaGe archives.
  - Founder and Editor, IMaGe Monograph series, 1985-.
- Member, Board of Trustees, Community Systems Foundation, 1994-2013; member Executive Committee, 2003-2013.
- President, Arlinghaus Enterprises, L.L.C., 1996-present.
- Electronic typesetting of mathematical notation (using Plain TeX). Typesetter of *Useful Optics* (Walter Welford) for the University of Chicago Press.
- Adjunct Lecturer in Mathematics, Department of Mathematics, University of Michigan, Dearborn; and, in Geography, Program in Geography, University of Michigan, Ann Arbor, 1982-83.
- From Lecturer to Assistant Professor of Mathematics, Department of Mathematical Sciences, Loyola University of Chicago, 1979-82.
- Lecturer in Mathematics, Department of Mathematics, Ohio State University, Columbus, 1978-79.
- Visiting Assistant Professor of Geography, Department of Geography, Ohio State University, Columbus, 1977-78.
- Free-lance cartography.

- Crossword puzzle creator.

SELECTED EXTRA PROFESSIONAL SERVICE (SOME MIGHT BE NOTED ELSEWHERE IN A DIFFERENT CONTEXT)

- Member, Board of Directors, My Heart / Your Heart, University of Michigan Cardiovascular Center.
- Referee for Elsevier publications
- ***Geographical Analysis***: Editorial Board member, 2013 and earlier.
- Referee, ***Geographical Analysis: an International Journal of Theoretical Geography***, 1988-2013, intermittently.
- Library poster of 'permanent' display UM Shapiro Science Library:
    - Spatial Mathematics: Theory and Practice through Mapping
    - Geographical Analysis: Special Issue on Graph Theory and the New Network Science.
    - Graph Theory and Geography book
    - Spatial Synthesis Book
    - 3D Atlas of Ann Arbor
    - Solstice cover with article co-authored with Michael Batty.
- Technology Committee Chair, American Contract Bridge League
- National Science Foundation: invited to serve on a panel.
- ***Geographical Analysis***: invited to create a special issue
- Referee, ***Canadian Geographer***.
- December 2008. Grant proposals submitted through CSF to Google Earth.
- December 2008. Contest entrant: Google Earth Contest.
- Advisor for intern, Mike Carlin, School of Education, Fall 2006.
- Referee for SIAM Journal of Optimization. 2002.
- Co-Organizer of Festschrift for John D. Nystuen, 1999.
- Ph.D. (and similar) Committee service:

- Creator and director of a colloquium that served as a research-level forum for the interchange of ideas in mathematics and geography.
- Invited member, Search Committee for a Curator for the Library of the American Geographical Society. This collection, housed at the University of Wisconsin at Milwaukee is the largest collection of geographical materials in the western hemisphere. 1993.
- Referee, ***International Journal of Geographic Information Systems***. 1993.
- Invited Honorary Member, Advisory Council, International Biographical Centre, Cambridge, England. 1992.
- Grader (and "re-grader") of top 100, ***Michigan Mathematics Prize Competition of the Mathematical Association of America,*** 1991-92; 1992-93.
- Collaborative effort with Robert F. Austin (1991-1994) to generate a donation of mapping software, composed of all major GISs, to The University of Michigan; ESRI donated one of each of their products; negotiations are underway with other vendors; the value of the gift was about $28,000. It is housed in the Prechter Laboratory in the UM School of Education.
- Referee, ***Cartography & Geographic Information Systems***, 1990.

- Referee, ***Professional Geographer: Forum and Journal of the Association of American Geographers***, 1989, 1990.
- Referee, ***Geographical Analysis***, 1988, 1989.
- Referee**, *Environment and Planning, B***, 1980.
- Served as session Chair, Co-chair, Organizer, or Discussant for a variety of professional organizations, including the American Mathematical Society, the Association of American Geographers, and the Regional Science Association (enumerated list with dates available on request).
- Referee, publications of **Institute of Mathematical Geography**. 1986 to present.
- ***Institute of Mathematical Geography***, projects involving work of others (http://www.imagenet.org/) :

  Monograph Series (there are currently 23 published, 1985-present). In the listing below, I served as Editor for all monographs, as Editor of the Monograph Series (although there may be roles for others as a guest Editor). The ones I wrote (some or all of) are the ones showing only monograph number, year, short title, and ISBNs; full titles and author or co-authors are listed under appropriate year in the research section of this CV.
  - #**1**: 1986. ***Four Corners Project***. ISBNs 1-877751-02-2; 1-877751-03-0.
  - #**2**: 1986. ***Pneumatic Mail Tubes***. ISBNs 1-877751-04-9; 1-877751-05-7.
  - #**3**: 1986. ***Essays-I***. ISBNs 1-877751-06-5; 1-877751-07-3.
  - **#4:** Robert F. Austin, ***A Historical Gazetteer of Southeast Asia***, Library of Congress Card Number, 86-229956, 1986. ISBNs 1-877751-08-1; 1-877751-09-X.
  - **#5:** 1987. ***Essays-II***. ISBNs 1-877751-10-3; 1-877751-11-1.
  - **#6:** P. Hanjoul, H. Beguin, and J.-C. Thill, ***Theoretical Market Areas under Euclidean Distance***, 1988. ISBNs 1-877751-12-X; 1-877751-13-8.
  - **#7:** Keith Tinkler, ***Nystuen/Dacey Nodal Analysis***, 1989. Library of Congress Card Number, 023472993. ISBNs 1-877751-14-6; 1-877751-15-4.
  - **#8:** James W. Fonseca, ***Urban Rank-Size Hierarchy: A Mathematical Interpretation***, 1989. ISBNs 1-877751-16-2; 1-877751-17-0.
  - **#9:** 1988. ***Steiner Networks***. ISBNs 1-877751-18-9; 1-877751-19-7
  - **#10:** Daniel A. Griffith, ***Simulating K=3 Christaller Central Place Structures: An Algorithm Using A Constant Elasticity Of Substitution Consumption Function***, 1989. ISBNs 1-877751-20-0; 1-877751-21-9.
  - **#11:** 1990. **Bus Durability**. ISBNs 1-877751-40-5; 1-877751-41-3.
  - #**12**: Daniel A. Griffith, editor. ***Spatial Statistics: Past, Present, and Future***. 1990. ISBNs 1-877751-42-1; 1-877751-43-X.
  - #**13**: 1990. **Solstice, Vol. I**. ISBN 1-877751-44-8; 1-877751-44-8; ISSN: 1059-5325
  - #**14**: 1991. **Essays—III**. ISBN 1-877751-50-2.
  - #**15**: 1991, **Solstice, Vol. II**. ISBNs 1-877751-52-9; 1-877751-53-7; ISSN: 1059-5325
  - #**16**: 1992, **Solstice, Vol. III**. ISBN 1-877751-54-5; ISSN: 1059-5325
  - #**17**: 1993, **Solstice, Vol. IV**. ISBN 1-877751-55-3; ISSN: 1059-5325

- **#18**: J. Gordon. ***The Cause of Location of Roads in Maryland: A Study in Cartographic Logic***, 1995. ISBN: 1-877751-57-X.
- **#19**: 1994. **Solstice, Vol. V**. ISBN: 1-877751-56-1; ISSN: 1059-5325
- **#20**: 1995: **Solstice, Vol. VI**. ISBN: 1-877751-58-8; ISSN: 1059-5325
- **#21**: 1996: **Solstice, Vol. VII**. ISBN: 1-877751-59-6; ISSN: 1059-5325
- **#22**: 1997: **Solstice, Vol. VIII**. ISBN: 1-877751-60-X; ISSN: 1059-5325
- **#23**: 1998: **Solstice, Vol. IX**. ISBN: 1-877751-61-8; ISSN: 1059-5325

All volumes of Solstice were originally digital; early ones were also made available as printout. Subsequent volumes of Solstice available only in digital format with the same ISSN.

Textbook reprints:

- Allen K. Philbrick---***This Human World***; extensive updating involving work with author. ISBN: 1-877751-39-1
- John F. Kolars and John D. Nystuen---***Human Geography*** extensive updating involving work with authors**.** ISBN: 1-877751-38-3.

Classic Reprint Series: John D. Nystuen, Editor.

Michigan Interuniversity Community of Mathematical Geographers; reprints of originals, requiring retyping, and redrawing of some materials, as well as extensive reworking of original documents to produce a document close in appearance to the original (including yellow covers). Editor of original and of revived series: John D. Nystuen. ISBNs: #2 1-877751-27-8; #5 1-877751-30-8; #9 1-877751-33-2; #10 1-877751-34-0; #12 1-877751-36-7.

Discussion Papers Series (new material)

Establishment of "Discussion Papers in Mathematical Geography," Daniel A. Griffith invited to serve as Editor; Discussion Paper #1: Daniel A. Griffith, "Spatial Regression Analysis on the PC: Spatial Statistics Using MINITAB," 1989. ISBN: 1-877751-24-3.

Game Series

Game---Genus Four. With William Arlinghaus, David Barr, John Nystuen, and Helen Santiz.

- Miscellaneous Outreach
  - Original designs for "Fractal SeaParQue," a proposed marina development on Lake St. Clair presented, on request, to Frank Piku, head of Piku Management Company, Roseville, MI---October, 1988 (with John D. Nystuen)
  - Peer reviewer, National Science Foundation, 1984.
  - Creator and organizer of, and participant in, a symposium, "Geography: The Heart of the Matter," The University of Michigan, Ann Arbor, February 14, 1983. Other participants: George Kish (University of Michigan), Donald F. Lach (University of Chicago), John D. Nystuen (University of Michigan).
  - Editorial assistance provided to Ann Larimore for "Hypsometric Curve Variance and Drainage Basin Planforms," by Everette N. Bannister (deceased), Department of Geography, University of Michigan, 1983.

- Service on university-wide committee, Health Professions Advisory Committee. Interviewer of pre-medical students, Loyola, 1981-82.
- Attempt to establish a geography department at Loyola, 1980-82, resulting in approval for a course, "Geometry and Geography," in the Department of Mathematics, 1981-83.
- Service on University-wide Committee, Loyola of Chicago: Health Professions Advisory Committee. Reports from interviewers on HPAC served as required recommendations to medical school for juniors and seniors.
- Museum Exhibit designs: "The garden of solids: an outdoor display in geometry using shadows." Submitted 1981 to ***The Mathematical Intelligencer*** as an exhibit design for the Musee de Science et de l'Industrie, La Villette, France. "A journey in the world of algebra: Rubik's Ride." Co-author, William E. Arlinghaus. Entries remain property of the ***Intelligencer*.**

INVITED LECTURES, PAPERS PRESENTED, AND RELATED ITEMS

- Invited talk, Spatial Mathematics: Selected Examples, with Joseph Kerski. Association of American Geographers, April 23, 2015. Chicago.
- Invited Special Session Co-Chair, Spatial Mathematics. Association of American Geographers, April 23, 2015. Chicago.
- 2015. Participation in Annual Conference, Les Dames d'Escoffier International. Charleston SC. Noted in their Winter 2016 Conference Issue of LDEI Quarterly, online and in hard copy. Photo on pages 12 and 27. http://www.LDEI.org
- 2014, continuing over a period of years. Display of published materials at The University of Michigan Library: Shapiro Science Library. To date, a total of seven covers appear in this 'permanent' display.
- Chene Street History Project. 2012, 2013.
- American Contract Bridge League, Board of Directors, 2009-2011. Chair, Technology Committee. Involved numerous presentations over two years.
- October 2011: Conference co-organizer and participant, Community Systems Foundation, Ninth Annual Conference held in the Drake Memorial Room, Dana Building, The University of Michigan.
- April 2011: Conference organizer and participant, Third Annual GooglEarth Day, held in SNRE.
- August 5-6, 2010. participation with Dan Griffith in a conference in Poznan, Poland: "Growth of cities: fractality and sustainability." Joint paper with Griffith on fractal growth and non-Euclidean geometry.
- Contributed work with Ann Larimore and Robert Haug; numerous talks.
- October 2010: Conference co-organizer and participant, Community Systems Foundation, Eighth Annual Conference held in the Drake Memorial Room, Dana Building, The University of Michigan.

- April 2010: Conference Organizer and participant, Second Annual GooglEarth Day, held in SNRE.
- October, 2009: Conference co-organizer and participant, Community Systems Foundation, Seventh Annual Conference held in the Drake Memorial Room, Dana Building, The University of Michigan.
- April 2009: Conference Organizer and participant, First Annual GooglEarth Day, held in SNRE.
- October, 2008: Conference co-organizer and participant, Community Systems Foundation, Sixth Annual Conference held in the Drake Memorial Room, Dana Building, The University of Michigan.
- December, 2008. Invited talk. Michigan State University, Department of Geography. http://deepblue.lib.umich.edu/handle/2027.42/61423
- November, 2008. Contributed work with Ann Larimore and Robert Haug presented to a middle eastern conference in Washington, D. C.
- November, 2008. Contributed participation for development of community projects, American Contract Bridge League, Boston, MA.
- October, 2008. Conference participant and poster presenter: Google Conference, 1st Google conference in Scientific Applications. Ann Arbor: The University of Michigan.
- October, 2007: Conference co-organizer and participant, Community Systems Foundation, Fifth Annual Conference held in the Drake Memorial Room, Dana Building, The University of Michigan.
- Contributed talk with Ann Larimore and Rob Haug, Annual meeting of Association of American Geographers, Boston, April 2008.
- Presentation of Google projects to Susan Pollay, Executive Director, Downtown Development Authority, City of Ann Arbor and to Matthew Naud, Environmental Coordinator, City of Ann Arbor, 3D Laboratory, Duderstadt Center.
- 3D Atlas of Ann Arbor: "Archimedes in Ann Arbor?" demonstration at the Duderstadt Center to Tracy Davis, Ann Arbor News, and Vivienne Armentrout, Ann Arbor Observer
- 3D Atlas of Ann Arbor: "Archimedes in Ann Arbor?" demonstration at the Duderstadt Center to the Board of the League of Women Voters, including Shirley Axon and Judith Mich.
- October, 2006: Conference Organizer, Community Systems Foundation, Fourth Annual Conference, held in the Drake Memorial Room, Dana Building, The University of Michigan.
- October, 2006: 3D Atlas of Ann Arbor.
- October, 2006: Larimore, Ann E.; Haug, Robert; and Arlinghaus, Sandra L. GEOMAT: presentation and report on trial course before East Lakes Division of the Association of American Geographers. Toledo, Ohio.
- March, 2006: Unleashing the Power of GIS/GPS. Arlinghaus, Sandra L. (Invited Program Chair), John Corbett, Joseph J. Kerski, Teri Landrum, and Carol Miller. Workshop co-sponsored by Taylor and Francis and AAG, March 6 and 7, Palmer House, Chicago, IL.
- March, 2006: Sessions on 3D mapping in the conference above.

- March, 2006: GEOMAT Larimore, Ann E.; Arlinghaus, Sandra L.; and Haug, Robert. GEOMAT: presentation and report on trial course before Association of American Geographers. Chicago, Illinois
- "Solstice: An Electronic Journal of Geography and Mathematics". Presented January 10, 1992 before national meetings of the American Mathematical Society.
- Member of the Program Committee for the 1991 north American Meetings of the Regional Science Association. New Orleans, LA, November 7-10, 1991.
- Organizer of Session on "Mathematical Geography". 1991 North American Meetings of the Regional Science Association.
- "Scale transformation, fractal and fractal-like approaches" paper presented November 8, 1991 to the North American Meetings of the Regional Science Association.
- Co-author with William C. Arlinghaus and Frank Harary of paper entitled "Sum graphs and Geographic Information," November 8, 1991 North American Meetings of the Regional Science Association.
- Discussant for a paper by Arthur Getis and Keith Ord, entitled "The Analysis of Spatial Association by the Use of Distance Statistics," presented in the session on "numerical and Computational Aspects of Spatial Data Analysis," November 8, at the 1991 North American Meetings of the Regional Science Association.
- Discussant for a paper by David Wong, entitled "A Spatial Approach to the Index of Segregation," presented November 10 in the session on "new Aspects and Approaches to Regional Analysis," at the 1991 North American Meetings of the Regional Science Association.
- "Scale Problems and Dimension: An Impressionistic View" Syracuse University, Department of Geography, Invited Colloquium Speaker, April 5, 1991.
- "Central Place Fractals: Urban and Electronic", Department of Geography, University of Northern Iowa,Cedar Falls, March 27, 1991.
- Visiting Writer, English Composition Workshop. Department of English, The University of Michigan, Ann Arbor, MI February 20, 1991.
- "Vertices of attachment in the Detroit water supply network," Midwest Graph Theory Conference (MiGhTy),XVII. March 23, 1991. Grand Valley State University, Grand Rapids, MI
- "Spatial Theory". Six hours of lectures on this topic. University of Michigan, Ann Arbor, College of Architecture and Urban planning. In course on Geographic Information Systems, UP 507 (graduate course) 1990.
- "Central Place Fractals" in the Special Session on "morphogenetic Theories" at the 1990 North American meetings of the Association of American Geographers, Toronto, April, 1990.
- "Geographic location theory: selected topics," American Mathematical Society National Meetings, Columbus OH, August 11, 1990. Invited to serve as Co-chair of Session on Numerical Analysis and Mathematical Modelling.
- "Sum graphs and geographic information," National AAG meetings, co-author with William C. Arlinghaus (presenter) and Frank Harary, Toronto, 1990.
- "Elements of Geometric Routing Theory—II" co-author with William C. Arlinghaus and John D. Nystuen (presenter), Toronto, AAG meetings, 1990.

- "Sum Graphs and Geographic Information," Midwest Graph Theory (MiGhTy—XIV) Meeting, Western Michigan University, Kalamazoo MI, September, 1989. Based on a paper of the same title with co-authors William C. Arlinghaus and Frank Harary.
- "Central Place Fractals: Theoretical Geography in an Urban Setting," Meeting 849, American Mathematical Society, Chicago, May, 1989.
- "Typesetting Using TeX," a poster, Association of American Geographers national meetings, Baltimore MD, March 20, 1989.
- "Elements of Geometric Routing Theory," poster with Nystuen, Association of American Geographers national meetings, Baltimore MD, March 22, 1989.
- "The Tabling of Eye-contact Graphs," Social Psychology Laboratory, The University of Chicago, February, 1987.
- With Nystuen (presenter), "Terrain Effects on Bus Maintenance Performance," to the Transportation Research Board of the National Research Council, under the jurisdiction of the National Academies of the Sciences and of Engineering. (National TRB meeting, January, 1987, Washington, DC).
- With Nystuen (presenter), "Climatic Effects on Bus Durability," to the Transportation Research Board (National meetings, January, 1986, Washington, DC).
- "Fractals in Geography," 20 minute talk, East Lakes Division, Association of American Geographers, Michigan State University, October, 1986.
- "Fractal Constructions" poster with Nystuen, Association of American Geographers national meetings, Minneapolis, May, 1986.
- "The Four Corners Project," with David Barr and Nystuen, Association of American Geographers national meetings, Minneapolis MN, May 1986.
- "Analogue clocks," 90th Annual Meeting, American Mathematical Society, Louisville KY, Wed. January 25, 1984. Invited and served as Co-chair of Session.
- "Pressured Postal Networks" in a symposium "Geography: the Heart of the Matter," University of Michigan, February,, 14, 1983. Also, creator and organizer of that symposium. Other presenters: Donald F. Lach, George Kish, John Nystuen.
- "Antipodal graphs," 88th Annual Meeting, American Mathematical Society, Cincinnati OH, Wed. January 13, 1982.
- "The Pressured Postal System," Department of Geography, University of California (Berkeley). 1979.

ADDITIONAL MATERIAL RELATING TO (direct or indirect) PARTICIPATION (as author or co-author) IN MEETINGS

- Locations: University of Chicago; University of California (Berkeley); Ohio State University; Adam Mickiewicz University in Poznań, University of Michigan; Syracuse University; University of Northern Iowa; Michigan State University; American Mathematical Society; Association of American Geographers; Regional Science Association; Transportation Research Board of the National Research Council (National Academies of the Sciences and of Engineering); Midwest Graph Theory Conference, North American Simulation and Gaming Association, The Ohio State University.

- Notices of meeting talks (selected):

    - 1982: American Mathematical Society, https://www.ams.org/journals/notices/198201/198201FullIssue.pdf
    - 1989: American Mathematical Society, http://www.ams.org/meetings/sectional/1849_presenters.html
    - 1990: American Mathematical Society, https://www.ams.org/journals/notices/199007/199007FullIssue.pdf
    - 1990: American Mathematical Society, https://www.ams.org/journals/notices/199011/199011FullIssue.pdf
    - 1991: American Mathematical Society, https://www.ams.org/journals/notices/199112/199112FullIssue.pdf

SELECTED REVIEWS OF PUBLISHED WORK and MEDIA EXPOSURE OF VARIOUS SORTS

Science (AAAS) (29 November, 1991, p. 1291, report by Joseph Palca)*; Science News* (January 25, 1992, p. 61, report by Ivars Peterson)*; Mathematical Reviews (AMS); Newsline: Current Research in Public Transportation Development (TRB/NRC/NAS), National Academy Press; The American Mathematical Monthly (MAA); Journal of Regional Science; Papers in Regional Science; Graduating Engineering Magazine; Harvard Technology Window; Zentralblatt fur Mathematik*, Springer-Verlag (Berlin); *Professional Geographer; EarthSurface Processes and Landforms,* 18(9), 1993, p. 874*; Newsletter* of the Transportation Specialty Group of the Association of American Geographers; *Books in Print* (R. R. Bowker); *Literary Market Place* (R. R. Bowker); Michigan Council of the Arts; Archives of American Art (Smithsonian Institution); Nova; Ann Arbor Community Access TV; *Ann Arbor News; Columbus Dispatch,* name inscribed on sculpture involving the Bering Strait; *Mathematics Magazine, Journal of Classification, Newsletter* of the Urban Geography Specialty Group of the AAG*)*; *Journal of the American Statistical Association*.

- Reviews of my published works (selected):
    - Review of "Eye contact graphs" by K. B. Reid, Professor of Mathematics, Louisiana State University, Appeared in *Mathematical Reviews*, December, 1986.
    - Review of "Climatic Effects on Bus Durability." *Newsline: Current Research in Public Transportation Development*, Transportation Research Board, national Research Council, Vol. 12, Number 7, 1986.
    - Review of Terrain Effects onBus Durability. *Newsline: Current Research in Public Transportation Development*. Transportation Research Board, National Research Council, Washington DC, Vol. 14, Number 2, January, 1988.
    - Review of IMaGe Monograph 1, a Telegraphic Review in *The American Mathematical Monthly*, December, 1989.
    - Review of IMaGe Monograph 2, Sylvia L. Thrupp, Alice Freeman Palmer Professor of History Emeritus, The University of Michigan.

  - Review of IMaGe Monograph 3, *Mathematical Reviews*, 1990. Review by Dwight Read, Professor of Anthropology, UCLA.
  - Review of IMaGe Monograph 3, "Telegraphic Review," *The American Mathematical Monthly*, May/June, 1989, reviewed by Lynn Arthur Steen.
  - Review of IMaGe Monograph 5, *Mathematical Reviews*, 1990. Review by Dwight Read, Professor of Anthropology, UCLA.
  - Review of IMaGe Monograph5. "Telegraphic Review," *The American Mathematical Monthly*, May/June, 1989, reviewed by Lynn Arthur Steen.
  - Review of IMaGe Monograph 9, "Telegraphic Review," *The American Mathematical Monthly*, December 1989.
  - Review of IMaGe Monograph 9, *Mathematical Reviews*, reviewed by Michael B. Richey, January, 1991.
  - Review of IMaGe Monograph 11, "Telegraphic Review," *The American Mathematical Monthly*, December, 1990.
- Reviews of IMaGe monographs authored by others and edited by me:
  - Hanjoul's monograph (#6), review in *The American Mathematical Monthly*, March 1990.
  - Hanjoul's monograph (#6) review in *Mathematical Reviews*, Issue 90j, 1990.
  - Tinkler's monograph (#7), review in *The American Mathematical Monthly*, April, 1990.
  - Fonseca's monograph (#8), review in *The American Mathematical Monthly*, January, 1990.
  - Fonseca's monograph (#8), review in *Mathematics Magazine* 1989.
  - Fonseca's monograph (#8) review in *Newsletter of the Urban Geography Specialty Group of the AAG*. 1990.
  - Fonseca's monograph (#8), review in *Zentralblatt fur Mathematik*, 1990.
  - Griffith's monograph (#12), review in *The Journal of Classification*, 1993.
  - Griffith's monograph (#12), review in *The Journal of Regional Science*, 1993.
  - Griffith's discussion paper, *Professional Geographer*, 1990.
  - Griffith's discussion paper, *The American Mathematical Monthly*, 1990.
- Media Exposure
  - "Math for all seasons" by Ivars Peterson in Science News, January 25, 1992, p. 61, vol. 141, no. 4. Based on a person-to-person interview with me.
  - "Briefing" of Solstice by Joseph Palca in Science, published by the AAAS, Nov. 29, 1991. Based on a telephone interview with me.
  - January 15, 1989. Featured guest on No Point in Time," a video tape (from an original filming session in 1986) chronicling David Barr's sculpture "SunSweep." Shown on the first telecast of "Spectrum" sponsored by the Michigan Council of the Arts, on Public Television's Channel 56 in Detroit. Also shown on other Public Telelvision stations across Michigan, including those in Flint and East Lansing.
  - With Nystuen—our paper on "Terrain effects on bus maintenance performance" was selected as one of several features reported on in *Newsline: Current Research on Public Transportation Development*,

Volume 14, Number 2, May, 1988; published by the Transportation Research Board, national Research Council, Washington DC. The "Newsline" report was prepared for the Office of Technical Assistance under the University Research and Training Program of the Urban Mass Transportation Administration.

- With Nystuen—our paper on "Climatic Effects on Bus Durability" was selected as one of twelve features reported on in *Newsline: Current Research in Public Transportation Development*, published by the National Research Council in December, 1986. The Newsline" report was prepared as above.
- Made calculations for sculptor David Barr's "ArcticArc," a symbolic bridge spanning the Bering Strait. These calculations are to permit the observer to use laser-drilled holes in the uprights to sight the sun on the solstices and equinoxes. 1987.
- Featured in a film about "SnnSweep," sculptor David Barr's monument to the friendly relations across the Canadian/US border. Film describes my role in calculating earth-sun relations required to use the sculpture as a device for sighting the sun at equinoxes and solstices, October 1986.
- Cited in credits of "In Celebration: David Barr's Four Corners Project," Film, Archives of American Art, The Smithsonian Institution, 1986.
- *Ann Arbor News*, U-M News Notes, describing Nystuen's and my association with artist David Barr, Sept., 22, 1983.
- *Columbus Dispatch*, fill, Thursday, Jan. 25, 1979. Describes humorous element of a project assigned in one of my mathematics classes.
- *Columbus Dispatch*, feature story, Sunday, Jan. 21, 1979. Describes strategy I employed successfully in elementary mathematics classrooms at the Ohio State University.

- Museum Exhibits
  - "The garden of solids: an outdoor display in geometry using shadows." Submitted 1981 to The Mathematical Intelligencer as an exhibit design for the Musee de Science et de l'Industrie, La Villette, France. Not chosen a winner by the Intelligencer; decision by museum officials regarding selection of exhibit designs to be constructed was pending.
  - "A journey in the world of algebra: Rubik's Ride." Co-author, William E. Arlinghaus. Results same as directly above.

CONSULTING/ EXPERIENCE: NATIONAL AND INTERNATIONAL; ROLE VARIES BY ITEM.

- 2016: grant application submitted to the Buckminster Fuller Foundation. Not funded.
- 2011: grant application submitted to Gates Foundation. Not funded.
- 2010-2011: grant application with Ann Larimore and others on a project in Detroit. Not funded.
- NSF grant applicant with John Nystuen and others, Taubman College of Architecture and Urban Planning (UM), 2004. Not funded.

- with Paul Richards, School of Natural Resources (UM). Not funded.
- with Bob Beckley, 2002. Not funded.
- NSF grant; participant in a small part (in an advisory capacity only) with Paul Mohai, PI, and Robin Saha.
- NASA grant submitted with a team from SNRE, CAUP, and ERIM--not funded.
- NSF grant submitted with a team from SNRE and CAUP--not funded.
- Team-head, for Community Systems Foundation, of project with Environmental Research Institute of Michigan (ERIM) to develop a GIS to manage the infrastructure for the city of Istanbul and the country of Turkey. 1998, Not funded.
- Listed on cover sheet as a major participant in a project linking GIS to a database developed at the Institute for Social Research (University of Michigan submission to National Science Foundation). 1998. Not funded.
- Participant in a grant proposal to NASA from ERIM (joint with University of Michigan) to establish a center at The University of Michigan covering urban watershed mapping. 1998.
- CSF, Drake PI. United Nations Family Planning Agency (UNFPA), Syrian Maternal and Child Health Care/Family Planning, five-year project including GIS and training components, through Community Systems Foundation; 1991-1997. Completed 1997.
- CSF, Drake PI. World Bank, Punjab Middle Schooling Project, including GIS and training components, through Community Systems Foundation; 1995-1997. Completed 1997.
- Studies in Urban Security Group, College of Architecture and Urban Planning, University of Michigan; Detroit Water and Sewerage Department Pollution and Detection Abatement. 1980s.
- Nystuen, P.I., development of a graph theoretic description of the Detroit water supply network; part of a contract to develop a water contingency plan, funded through Architecture and Planning Research Laboratories, University of Michigan, June, 1985.
- Nystuen, P.I. "Terrain effects on bus durability" funded through UMTA, via University of Michigan Transportation Research Institute, December, 1985. Technical Report, 1985.
- Nystuen, P.I. "Climatic effects on bus durability," funded through Urban Mass Transportation Administration, via University of Michigan Transportation Research Institute, December, 1984.
- National Science Foundation summer award for talented and gifted high school students to a nation-wide summer program in mathematics and the natural sciences at the University of Chicago, Summer 1959. Tested first in class; President of class.

COMMUNITY SERVICE (REFERENCE MAY ALSO BE MADE TO SOME IN THE SECTION ON 'AWARDS')

- 2015: Director of Trivia, call-in appearance on WMOX radio as BinkerThinker.
- 2013-present. Creator of detective fiction as B. K. Barry. Ten online short stories.
- Huron Valley Neighborhood Alliance; founder and chair, 2011.
- Co-chair, Women's and Senior trials, United States Bridge Federation, to be held in Detroit at the Detroit Marriott, Renaissance Center, June 2011.
- City of Ann Arbor, Neighborhood Watch, Block Captain.

- Continuing work with Matthew Naud, Environmental Coordinator, City of Ann Arbor. Some of the work involves SNRE students.
- Served as co-chair of North American Bridge Championship, Detroit, March 2008. This project generated an estimated 8 million for the Detroit economy.
- Continuing service to the City of Ann Arbor Police Department, especially involving computing resources of various kinds.
- Neighborhood Watch Advisory Panel, City of Ann Arbor Police Department
- Created over 500 3D models (several thousand files) in response to concerns of the Downtown Residential Task Force, City of Ann Arbor/DDA, 2004-2005. Worked particularly closely with Doug Kelbaugh and Fred Beal.
- Continuing work donated to City of Ann Arbor involving creation of 3D models of the downtown available on the world wide web (noted on front page of Ann Arbor News, April, 2004) and to Matt Naud, Environmental Coordinator, City of Ann Arbor.
- July, 2003: work on tornado siren location noted in ***Ann Arbor News***.
- Chair, Huron Chase Condominiums, Social Committee, 1995-2015.
- Chair, Huron Chase Condominiums, Neighborhood Watch, 1995-present.
- Editor and author, Huron Chase Newsletter and website archive, 1995-present.
- City Official, City of Ann Arbor, 1995-2003; service on City Planning Commission (televised) as member, Secretary, Vice-Chair, and Chair
- Environmental Commission (televised)
- Ordinance Revisions Committee
- Master Planning Committee
- Water Committee
- Northeast Area Master Plan Citizens Advisory Committee
- Application of lessons learned in Syria to Detroit. Creator of computer give-away to Alternatives for Girls (with Amy Good, Brenda Bryant, and Adele Akouri) with an indirect application to the curbing of gang violence, 1995-99.
- Friends of Huron Parkway, founder, 1995; see website using general URL above.
- President, Bromley Homeowners Association (neighborhood of 231 homes in northeast Ann Arbor), 1995-96, 1990-91; 1991-92; 1992-93. Elected position. Feature article in the *Ann Arbor News*, in April, 1993. Editor and principal author, Bromley Homeowners' Association Newsletter, 1990-93; 1995-1997. Thirty-six issues, plus extras, ranging in length from 2 to 8 pages (often 6). Created electronic archives of these newsletters, as "Bromley Online."
- Head of Neighborhood Watch, Bromley--in charge of about 20 block captains. Program run by the Ann Arbor Police Department. Effective August 1, 1994. Created Citizens Neighborhood Watch homepage, attached to general URL above. 1994-1996.
- Time, artistic, and culinary effort donated to the Michigan Bridge Association, 1994.
- Liaison, between Ivy Club and Vassar Club of Southeastern Michigan, 1993-1994.
- Elected Board Member, Dolfins Swimming Pool, Inc. Ann Arbor, MI. 1993-96.
- Invited talk to Ann Arbor City Planning Commission, January 24, 1991.
- Editor and principal author, Bromley Homeowners' Association Newsletter, 1991-1995.

- Member of five-person local arrangements committee for the 1991 World Junior Bridge Championships of the World Bridge Federation.
- Detailed study of a proposed Detroit-area mass transit network donated to Coleman A. Young, Mayor of the City of Detroit. With John D. Nystuen, 150 pages. May, 1988.
- Artistic services (posters) donated to Mathematics Awareness Week, Lawrence Technological University. Letter of commendation for these efforts received by W. Arlinghaus, in charge of that Week, from the Joint Policy Board, American Mathematical Society, 1988.
- Editorial, *Ann Arbor News,* Thursday, September 8, 1988, concerning the location of a shopping mall in Ann Arbor.
- Cartographic services donated to Bromley Homeowners Association, Ann Arbor, 1988. Map of "Ann Arbor: Shopping and Population Patterns" presented to Ann Arbor City Planning Commission and directly to the Mayor of Ann Arbor.
- Map of Ann Arbor township "islands" made for Gwen Nystuen, Ann Arbor City Planning Commissioner, 1987.
- Artistic and culinary services donated to the Michigan Bridge Association, 1987.
- Cartographic analysis of the impact of the I-696 extension on the pool of potential students for Lawrence Technological University and for rival institutions, donated to President Marburger of L.T.U.
- Work with David Barr to develop a proposal for a Michigan Sesquicentennial Project, song for Project written W. C. and W. E. Arlinghaus.
- With Beverly Riordan, M.S., Master Teacher of High School Science, Ypsilanti, Michigan. *IMaGe Interactive Atlases*. Classroom-tested at Ypsilanti High School, 1987. This work led to "Sharma and the Atlas," television show produced for Ann Arbor Community Access Television. Producer, Sandra Arlinghaus; Educational Consultant, Beverly Riordan. Fourteen short episodes produced to promote Geography Awareness.
- Complete set of IMaGe productions donated to Senator (D-NJ) Bill Bradley: 1986-1989; selected IMaGe publications donated to the New York State prison system; selected IMaGe publications donated to the Library of Congress (at their request) for their displays at the International Geographical Union.
- Work with sculptor David Barr on a continuing basis on international outdoor art projects, 1981-present.

TEACHING NOTES

- Extensive experience in course development in SNRE and TCAUP, University of Michigan.
- Consistently high teaching evaluations at various universities (samples available on request).
- Named a "best teacher" at Loyola's downtown campus of 5000 students. I was the only full-time, regular member (in the "professorial" ranks) of the Mathematics Department, on any campus, so-named.
- Featured in newspaper articles, in Ohio, for innovative teaching.

- Experience teaching geography and mapping at undergraduate and graduate levels. Experience in both small and large lecture sections. Primary responsibility for all phases of course development, including teaching assistants. Have taught: Urban Geography, Spatial Analysis (at various levels), GIS, Virtual Reality, Population Environment Dynamics, General Geography, Economic Geography, Seminar, Location Theory.
- Experience teaching mathematics at all undergraduate levels, from remedial to advanced courses for majors, to advanced courses for engineers. Experience in both small and lecture sections. Primary responsibility for lectures, for test design, and for the supervision of three teaching assistants, per course, in large lecture sections (240 students) in mathematics.
- Experience teaching as a 'faculty team head' in a large course on virtual reality, UM College of Engineering.

OTHER ACTIVITIES

- 2015. Co-founder, Ann Arbor Chapter, Les Dames d'Escoffier International. Author of Charter document. Past President. Charter approved, September 10, 2015.
- Webmaster, Vassar College for my graduating class, 2005-present.
- United States Bridge Federation, Co-chair, USBC Appeals Committee, 2013-2015.
- Co-Chair, American Contract Bridge League National Goodwill Committee. I represent the "East" on this committee of seven individuals representing various broad regions of North America.
- Co-Chair with William C. Arlinghaus and Ronald Horwitz, Women's and Seniors' Team Trials, United States Bridge Federation, Detroit Renaissance Center, June 2011.
- Co-Chair, with William C. Arlinghaus and Ronald Horwitz, Compuware 2008 Sprint North American Bridge Championship, Detroit Renaissance Center, March 6-16, 2008. American Contract Bridge League. This tournament brought together competitors from 30 different nations. It brought over 8 million dollars in business to the Detroit area and was universally heralded as one of the best run tournaments by both staff of the parent American Contract Bridge League and by its Board of Directors.
- City of Ann Arbor Planning Commission, 1995-2003 served as member, Secretary, Vice-Chair, and Chair of City Planning Commission. Also, member Ordinance Revisions Committee, 1995-2003; Co-vice-chair, Northeast Area Master Plan Citizens Advisory Committee, 2000-2001; member Master Planning Committee, 2002-2003.
- Member, Neighborhood Watch Advisory Board, City of Ann Arbor Police Department (also registered block captain), 2001-2006.
- Member, City of Ann Arbor Environmental Commission, 2000-2003; member Water Committee.
- Director, Spatial Analysis Division, and Director of Fellowship Training Division, Community Systems Foundation (non-profit, tax-exempt, 501(c)3), Ann Arbor, MI. 1996-2002.
- Founder, International Society of Spatial Sciences, non-profit, a division of Community Systems Foundation, 1995-2002.

FAMILY

- Married, September 3, 1966 to William Charles Arlinghaus, Professor Emeritus, Department of Mathematics and Computer Science, Lawrence Technological University, Southfield, Michigan. One son, William Edward. One grandson, David Edward. Great grandchildren, Edwin and Adeline.
- Parents: Donald F. Lach, 1917-2000, Late Bernadotte Schmitt Professor Emeritus of History, University of Chicago; Alma S. Lach, 1914-2013, (Grand Diplome de Cordon Bleu de Paris); Dame of Distinction, Les Dames d'Escoffier; Chevalier du Tastevin; Anysettiers du Roi; author, etc.
- Donated gift to create the Alma Lach Special Collection, Joseph Regenstein Library, University of Chicago, 2014/2015 (to co-exist in those archives alongside the existing Donald F. Lach Special Collection). Research and rare book collection, unpublished manuscripts, and thousands of digital files, appraised and valued in excess of 125,000 USD. Additional materials added to the Donald F. Lach Special Collection, Joseph Regenstein Library, University of Chicago, at that time, as well.
- Donor, with William C. Arlinghaus, of a Mathematics Prize Fund to the University of Detroit High School, named for Francis A. Arlinghaus (Ph.D.) and Blanche S. Arlinghaus (M.A.). 2016.

PROFESSIONAL MEMBERSHIPS, PAST AND PRESENT

- Present
  - American Geographical Society, Fellow
  - Association of American Geographers/American Association of Geographers
  - American Mathematical Society
- Past
  - Regional Science Association
  - Mathematical Association of America
  - American Association for the Advancement of Science (AAAS)
  - New York Academy of Sciences
  - Engineering Society of Detroit
  - Michigan Society of Planning Officials
  - American Society for Photogrammetry and Remote Sensing

OTHER MEMBERSHIPS

- Les Dames d'Escoffier, International
- Les Dames d'Escoffier, Ann Arbor Chapter and Chicago Chapter
- Quadrangle Club, University of Chicago
- Northwood Country Club, Meridian MS