David C. Clark Curriculum Vitae

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ACADEMIC

Assistant Professor

August 2014 – present

Positions Department of Mathematics

Grand Valley State University, Allendale, Michigan

Assistant Professor (MathCEP Postdoc)

August 2012 – June 2014

School of Mathematics Center for Educational Programs (MathCEP)

University of Minnesota, Minneapolis, Minnesota

Taught and developed curriculum for the University of Minnesota Talented Youth Mathematics Program (UMTYMP), an accelerated Calculus sequence for talented high school students. Additionally, advised undergraduate research and organized enrichment programs.

EDUCATION

Ph.D., Mathematics

December 2011

Michigan Technological University, Houghton, Michigan

Dissertation: Applications of finite geometries to designs and codes

Advisor: Dr. Vladimir D. Tonchev

M. Mathematics April 2006

University of Waterloo, Waterloo, Ontario

Thesis: Algebraic analysis of vertex-distinguishing edge-colorings

Advisors: Dr. Ian P. Goulden and Dr. R. Bruce Richter

B.S., Mathematics, Summa cum Laude

May 2004

TEACHING EXPERIENCE

Grand Valley State University, Allendale, Michigan

Michigan Technological University, Houghton, Michigan

• MTH 123: Trigonometry	1 semester
• MTH 201: Calculus I	4 semesters
• MTH 202: Calculus II	3 semesters
• MTH 210: Communicating in Mathematics	4 semesters
• MTH 315 (prev. MTH 345): Discrete Mathematics	1 semester
• MTH 331 (prev. MTH 341): Euclidean Geometry	4 semesters

University of Minnesota, Minnesota, Minnesota

Autonomous instructor for 3 department classes as well as 8 UMTYMP classes.

Michigan Technological University, Houghton, Michigan

Autonomous Graduate Teaching Instructor for 17 sections in various upper- and lower-division courses.

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Honors and Awards

• Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member. This award recognizes faculty "whose teaching has been extra ordinarily successful and whose effectiveness in teaching undergraduate mathematics is shown to have influence beyond their own classrooms." Mathematical Association of America, 2018.

• SAFE: Student Award for Faculty Excellence. This award "recognizes professors who go above and beyond for their students both in the classroom and individually." GVSU Student Senate, December 2017.

UNDER-GRADUATE RESEARCH SUPERVISED

Research projects

- S. Mancini, J. Van Hook: Anti-Games on Projective Steiner Triple Systems. GVSU REU (Summer 2017). Presented at Mathfest 2017 (award winner for best undergraduate presentation).
- L. Czap*: Guessing Games with Cost Functions. Student Summer Scholars project funded by internal grant (Summer 2015). Continued as Honors Senior Thesis (Winter 2016), JMM Undergraduate Poster presentation (Winter 2016), Student Scholars Day Poster (Winter 2016), Michigan MAA sectional presentation (Spring 2016, award winner for best undergraduate presentation).

* Indicates a GVSU student

Independent studies and readings

- Polyomino Number Theory. Independent Study (5 students). Winter 2018.
- Transformational Geometry Unit Plan. Honors Senior Thesis (1 student). Fall 2017.
- Guessing Games and Sage. Independent Study (1 student). Winter 2017.
- Guessing Games with two secret numbers. Independent Study (4 students) co-taught with Lauren Keough. Fall 2016.
- Guess a Number With Lying. Independent paper-reading group (3 students). Winter 2016.
- Guessing Games. Independent Study (5 students) co-taught with Feryal Alayont and Brian Drake. Fall 2014.

Refereed Publications

Peer-reviewed publications

- D. Clark, S. Mancini*, J. Van Hook*: Anti-Games on Steiner Triple Systems. Submitted.
- D. Clark, L. Czap*: Minimizing the Cost of Guessing Games. To appear in American Journal of Undergraduate Research (Submitted May 2016, accepted August 2018).
- D. Clark, G. Fisk*, and N. Goren*: A variation on the game SET. Involve 9 (2) (2016), 249–264. DOI: 10.2140/involve.2016.9.249

* Indicates an undergraduate co-author.

Books

J. Butterfield, D. Clark, J. Rogness, D. Schultheis: *The Mathematical Playground*. Sample chapters containing enrichment activities for K-12 students *submitted to AMS/MSRI Mathematical Circles Library book series*. Full text is *submitted*.

GRANTS AND FUNDING

Grants - Funded

• GVSU: "Developing Teacher Capacity: A study of a collaborative tutoring model for advanced courses in Grand Rapids Public Schools." S. Schaertel, E. Billings, S. Blackman, D. Clark (Supporting), S. Clark, H. Gerson, K. Gipson, M. Karpen, M. Staves, P. Thorpe. \$2117. (2015–2016).

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Grants - Travel

- GVSU FTLC: "Faculty Conference Travel Grant". \$700, for travel to Mathfest 2017.
- Educational Advancement Foundation: "Active Learning in Mathematics Instruction travel grant". \$500. (August 2016)
- Academy of Inquiry Based Learning: "IBL Workshop travel scholarship". \$ 500. (June 2016)
- GVSU FTLC: "Faculty Conference Travel Grant". \$600, for travel to JMM 2015. (January 2015)

Enrichment & Outreach

- Activity co-organizer, Fall in Love With STEM event. Co-organized math enrichment activities for about 20 female high-school students with Feryal Alayont. (February 2016 and 2017)
- Instructor, MathPath. Summer enrichment program for 105 mathematically talented middle school students. I teach break-out sessions on combinatorial topics for 2 weeks each summer, as well as giving plenary talks. (2013 – 2016)
- Organizer, Graph Theory Games classroom visit. Organized classroom visit of MTH 315 students to a Middle School math classroom. MTH 315 students independently learned about and developed graph theory-based games. They then taught and played graph the games with MS students. (November 2016)
- Co-organizer, Family Math Night at Godwin Heights Middle School. Co-organized math enrichment event for 100 students and families with Feryal Alayont. (January & November 2015)
- Instructor, Hispanic Students Outreach Event. Ran enrichment activity on "Taxi-Cab Geometry" for about 30 students from Burton Middle School. (June 2015)

Presentations Sessions organized

- & Conferences Co-organizer, Contributed Paper Session: "Mastery Grading". (Mathfest 2018)
 - Co-organizer, MAA Mini-course: "Beyond Traditional Grading: Mastery-Based Grading". Organized a 4-hour mini-course with the goal of helping participants learn about and plan to use mastery grading in their own classrooms. (Mathfest 2017)
 - Co-organizer, Contributed Paper Session: "Assessing Student Learning: Alternative Approaches". Organized and moderated sessions on alternative assessment methods. (JMM 2014, 2016).

Invited presentations & Panels

- Way to fail! Alder award presentation, Mathfest, August 2018.
- Error correction in space communications. (joint with Feryal Alayont) "Roger That" conference, February 2018.
- Planning and teaching upper-level courses. Panel presentation for Project:NExT panel at Mathfest, July 2017.
- How to Chat With Spacecraft. (joint with Feryal Alayont) "Roger That" conference, February 2017.
- I'm thinking of a number... GVSU Mathematics Student Colloquium, September 2016.
- n Ways I've failed at Standards-Based Grading, where $n \gg 0$. Panel presentation for "Specifications Grading" Project:NExT panel at MathFest, August 2016.
- Anti-games on affine geometries. Central Michigan University Combinatorics colloquium, April 2016.

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- Anti-SET. Hope College, April 2015.
- The joy of scheduling chores, Invited keynote at Youngstown State University MathFest 2014. Spoke about the connections between geometry, scheduling, and games to 411 high school students from 39 area schools. October 2014.
- Anti-SET. GVSU REU, July 2014.

Contributed presentations

- Supporting unconfident proof writers in IBL Euclidean geometry, Mathfest, Denver, August 2018.
- Service learning for pre-service teachers in mathematics content courses (joint with Feryal Alayont), Michigan MAA, Hillsdale, April 2016.
- "You want to take more exams?" Standards-based grading in Calc 1, JMM, Seattle, January 2016.
- I need some focus!, Mathfest, Washington DC, August 2015.
- Minor errors but a joy to read: Assessing portfolio problems in Calculus, JMM, San Antonio, January 2015.

Conferences, Workshops, and Symposia attended

- MAA Mathfest (2015 2017).
- MAA Michigan Section meeting (2015 2017).
- Math in Action (2015 2017).
- MIGHTY (MIdwestern GrapH TheorY conference) (2017).
- 19th Annual Legacy of R. L. Moore Conference (3-hour meeting on Inquiry Based Learning held concurrently with MathFest 2016, sponsored by the Educational Advancement Foundation, Columbus, OH, August 2016).
- Active Learning in Mathematics Instruction (2-day workshop held prior to MathFest 2016, sponsored by the Educational Advancement Foundation, Columbus, OH, August 2016).
- Inquiry-Based Learning Workshop (Week long workshop on Inquiry Based Learning, California Polytechnic State University, San Luis Obispo, June 2016).
- Joint Mathematics Meetings (2014 2016).

Professional Activities & Service

Service: Department

- Volunteer & Technology chair, Math in Action (Summer 2016 present). Also member of Math In Action Steering Committee (Fall 2015 present).
- Student Affairs Committee. Member (Fall 2016 present), chair (Fall 2017 present).
- MAA Liason (2016 present).
- Member, Search Committee (2015–2016, 2017–2018).
- Member, Student Success and Advising Task Force (2014–2015). *Includes MTH 210 Shared Goals and MTH 202 Survey groups*.
- Table presenter for one-time activities: Undergraduate Research Fair (October 2015, 2016, 2017), Laker Experience Day (October 2014).

Service: College

- Professional Exam Review Course: Presented 3 hour math review session for students preparing to take the MCAT, PCAT, DAT, and other professional exams (January 2016, 2017, 2018).
- Awards of Distinction interviewer (December 2015, January 2017, January 2018).

Service: Profession

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• Founding Managing Editor, Minnesota Journal of Undergraduate Mathematics Current duties include soliciting original papers written by undergraduates, finding referees, editing, and publishing editions electronically. (2014–present)

- Referee for: PRIMUS (2015–present); Designs, Codes, and Cryptography (2012–present)
- Judge, Undergraduate Poster Session (JMM 2013–2016).
- Judge, Undergraduate Paper Session (MathFest 2012–2013, 2015).

Service: Community

• Tutor, Grand Rapids Public Schools. Tutored math students at City Middle High School. (November 2014–May 2015)

Professional Development

- Math department book study: "Make It Stick" (Brown, Roediger, and McDaniel). (Fall 2017)
- FTLC Portfolio workshop. (June 2016)
- Math department book study: "Mathematical Mindsets" (Boaler). (Winter 2016)
- Math department book study: "Whistling Vivaldi" (Steele, on stereotype threat). (Fall 2015)
- Completed "Introduction to Geometry" MOOC (Massive Open Online Course), EdX. (Summer 2015)
- CLAS Fall teaching roundtables (November 2014, 2015)
- MAA Mini-course on Process-Oriented Guided Inquiry Learning (POGIL) (JMM 2015)
- FTLC F2F mentoring group (2015–2016)
- FTLC New faculty mentoring community (2014–2015)

Memberships

- American Mathematical Society
- Mathematical Association of America
- MAA SIGMAA on Inquiry Based Learning
- MAA SIGMAA on Undergraduate Research

Additional Information

• Programming and software experience: Mathematica, Magma, Sage, C.