

## DR. DAVID J. GRYNKIEWICZ

University of Memphis  
Department of Mathematical Sciences  
Memphis, TN 38152, USA

email: diambri@hotmail.com  
webpage: www.diambri.org

Citizenship: USA                      Languages (Native): English  
Date of Birth: 16.10.1978            Languages (Acquired): German and Spanish

### Education

- Habilitation                      University of Graz    Nov. 2008
- Ph.D. in Mathematics          Caltech                      Jun. 2006
- B.A. summa cum laude        Bates College              May 2001

### Academic Positions

- *Associate Chair* for Dept. Mathematical Sciences  
University of Memphis                      Aug. 2022 – Present.
- *Associate Professor (tenured)*  
University of Memphis                      Sep. 2016 – Present.
- *Assistant Professor*  
University of Memphis                      Sep. 2013 – Aug. 2016.
- *Visiting Professor and Researcher*  
University of Graz                              Oct. 2009 – Aug. 2013.
- *FWF Lise Meitner Scientist*  
University of Graz                              Oct. 2007 – Sep. 2009.
- *NSF Distinguished International Postdoctoral Fellow*  
Technical University of Catalunya (UPC)    Nov. 2005 – Sep. 2007.
- *Assistant Director*  
Research Experiences for Undergraduates Program  
University of Idaho                              Summer 2001 and 2003.

### Awards

- Paul Erdős Professor (University of Memphis)    Sep. 2016 – Aug. 2019  
\$5,000 per year

### Research Interests

- Additive Combinatorics, Additive Number Theory, and Additive Group Theory
- Combinatorial Number Theory and Zero-Sum Problems
- Generalized Ramsey Theory and Extremal Combinatorics
- Applications to Factorization, Krull Domains/Monoids, Convex Geometry, Projective Geometry, Invariant Theory, Graph Theory, ...

**Grants:**

- FWF Grant M1014–N13 (Austria)  
*Additive Group Theory and Non-Unique Factorizations*  
co-PI: A. Geroldinger, D. Grynkiewicz      \$464,594    Oct. 2007 – Sep. 2009
- NSF MPS-DRF Grant DMS–0502193 (USA)  
*New and Classical Ideas in Zero-Sum and Additive Theory*  
PI: Grynkiewicz      \$149,482    Oct. 2005 – Sep. 2007

**Postdoctoral Scholars****Year of Graduation**

- Chao Liu (Faudree Assistant Professor)    Jan. 2020 – August 2022

**Ph.D Students**

- John Ebert      Feb. 2020 – May 2024 (Anticipated)
- Runze Wang      May 2023 – Current

**Masters Students**

- Thomas Fleming      May 2022

**Publications:** Available at [www.diambri.org/GrynkPublications](http://www.diambri.org/GrynkPublications)

- (1) On some Rado numbers for generalized arithmetic progressions.  
*Discrete Math.*, 280 (2004), no. 1-3, 39–50.
- (2) On four color monochromatic sets with nondecreasing diameter.  
*Discrete Math.*, 290 (2005), no. 2-3, 165–171.
- (3) On a partition analog of the Cauchy-Davenport Theorem.  
*Acta Math. Hungar.*, 107 (2005), no. 1-2, 161–174.
- (4) On four colored sets with nondecreasing diameter and the Erdős-Ginzburg-Ziv Theorem.  
*J. Combin. Theory Ser. A*, 100 (2002), no. 1, 44–60.
- (5) with A. Bialostocki, P. Dierker and M. Lotspeich. On some developments of the Erdős-Ginzburg-Ziv Theorem II.  
*Acta Arith.*, 110 (2003), no. 2, 173–184.
- (6) with R. Sabar. Monochromatic and zero-sum sets of nondecreasing modified diameter.  
*Electron. J. Combin.*, 13 (2006), no. 1, Research Paper 28, 19 pp.
- (7) with A. Schultz. A five color zero-sum generalization.  
*Graphs and Combinatorics*, 22 (2006), no. 3, 351–360.
- (8) with A. Bialostocki. On the intersection of two  $m$ -sets and the Erdős-Ginzburg-Ziv Theorem.  
*Ars Combin.* 83 (2007), 335–339.
- (9) An extension of the Erdős-Ginzburg-Ziv Theorem to hypergraphs.  
*European J. Combin.*, 26 (2005), no. 8, 1154–1176.
- (10) Quasi-periodic decompositions and the Kemperman Structure Theorem.  
*European J. Combin.*, 26 (2005), no. 5, 559–575.
- (11) A weighted Erdős-Ginzburg-Ziv Theorem.  
*Combinatorica*, 26 (2006), no. 4, 445–453.
- (12) On a conjecture of Hamidoune for subsequence sums.  
*Integers*, 5 (2005), no. 2, A7, 11 pp.
- (13) On the number of  $m$ -term zero-sum subsequences.  
*Acta Arith.*, 121 (2006), no. 3, 275–298.
- (14) A step beyond the Kemperman Structure Theorem.  
*Mathematika* 55 (2009), 67–114.

- (15) with O. Ordaz, M. T. Varela, and F. Villarroel. On Erdős-Ginzburg-Ziv inverse theorems.  
*Acta Arith.*, 129 (2007), no. 4, 307–318.
- (16) with V. Lev, and O. Serra. Connectivity of addition Cayley graphs.  
*J. Combin. Theory, Ser. B*, 99 (2009), 202–217.
- (17) with J. Zhuang. Weighted sequences in finite cyclic groups.  
*Applied Mathematics E-Notes*, 9 (2009), 40–46.
- (18) with E. Marchan, and O. Ordaz. Representation of finite abelian group elements by subsequence sums.  
*J. Théor. Nombres Bordeaux* 21 (2009), no. 3, 559–587.
- (19) with O. Serra. Properties of two dimensional sets with small sumset.  
*J. Combin. Theory, Ser. A*, (2010), no. 2, 164–188.
- (20) with W. D. Gao and A. Geroldinger. Inverse zero-sum problems III.  
*Acta Arithmetica*, 141 (2010), 103–152.
- (21) On extending Pollard’s Theorem for  $t$ -representable sums.  
*Israel J. Math.*, 177 (2010), no. 1, 413–439,
- (22) with A. Geroldinger. On the arithmetic of Krull monoids with finite Davenport constant.  
*J. Algebra*, 321 (2009), 1256–1284.
- (23) with A. Geroldinger. On the structure of minimal zero-sum sequences with maximal cross number.  
*Journal of Combinatorics and Number Theory* 1 (2009), no. 2, 109–126.
- (24) with V. Lev. 1-saturating sets, caps, and doubling-critical sets in binary spaces.  
*SIAM J. Discrete Math.*, 24 (2010), no. 1, 169–190.
- (25) with I. Bardajı. Long arithmetic progressions in sets with small sumset.  
*Integers*, 10 (2010), 335–350, (electronic) A28.
- (26) with A. Geroldinger, G. J. Schaeffer and W. A. Schmid. On the arithmetic of Krull monoids with infinite cyclic class group.  
*Journal of Pure and Applied Algebra*, 214 (2010), no. 12, 2219–2250.
- (27) with A. Geroldinger and W. A. Schmid. Zero-sum problems with congruence conditions.  
*Acta Math. Hungar.*, 131 (2011), no. 4, 323–345.
- (28) with A. Geroldinger and W. A. Schmid. The catenary degree of Krull monoids I.  
*J. Théor. Nombres Bordeaux*, 23 (2011), no. 1, 137–169.
- (29) with E. Marchan and O. Ordaz. A weighted generalization of two theorems of Gao.  
*Ramanujan J.*, 28 (2012), no. 3, 323–340.
- (30) Note on a conjecture of Graham.  
*European J. Combin.*, 32 (2011), no. 8, 1336–1344.
- (31) with G. A. Freiman, O. Serra and Y. Stanchescu. Inverse additive problems for Minkowski sumsets I.  
*Collectanea Mathematica*, 63 (2012), no. 3, 261–286.
- (32) with G. A. Freiman, O. Serra and Y. Stanchescu. Inverse additive problems for Minkowski sumsets II.  
*J. Geometric Analysis*, 23 (2013), no. 1, 395–414.
- (33) with S. D. Adhikari and Z. H. Sun. On weighted zero-sum sequences.  
*Advances in Applied Math.*, 48 (2012), no. 3, 506–527.
- (34) with A. Philipp and V. Ponomarenko. Arithmetic progression weighted subsequence sums.  
*Israel J. Math.*, 191 (2013), no. 1, 359–398.
- (35) with A. Geroldinger. The large Davenport constant I: groups with a cyclic, index 2 subgroup.  
*J. Pure and Applied Algebra*, 217 (2013), 863–885.

- (36) with P. Baginski, A. Geroldinger and A. Philipp. Products of two atoms in Krull monoids and arithmetical characterizations of class groups.  
*European J. Combin.*, 34 (2013), no. 8, 1244–1268.
- (37) The large Davenport constant II: General upper bounds,  
*J. Pure and Applied Algebra*, 217 (2013), no. 12, 2221–2246.
- (38) with N. R. Baeth, A. Geroldinger, and D. Smertnig. A semigroup-theoretical view of direct-sum decompositions and associated combinatorial problems.  
*Journal of Algebra and its Applications*, 14 (2015), no.2, 1550016, 60 pp.
- (39) with D. Bernstein and C. Yegerer. On three sets with nondecreasing diameter.  
*Discrete Math.*, 338 (2015), no. 8, 1328–1344.
- (40) with F. Hennecart. A Weighted zero-sum problem with quadratic residues,  
*Uniform Distribution Theory*, 10 (2015), no. 1, 69–105
- (41) with A. Geroldinger and Pingzhi Yuan. On Products of  $k$  Atoms II.  
*Mosc. J. Comb. Number Theory*, 5 (2015), no. 3, 3–59.
- (42) with Weidong Gao and Xingwu Xia. On  $n$ -Sums in an Abelian Group.  
*Combinatorics, Probability and Computing*, 25 (2016), no. 3, 419–435.
- (43) with A. Chapman, E. Matzri, L Rowen, and U. Vishne, Kummer spaces in symbol algebras of prime degree.,  
*J. Pure Appl. Algebra*, 220 (2016), no. 10, 3363–3371.
- (44) with V. Lev. Symmetric Kneser’s Theorem with Trios and 3-Transform.  
*J. Combinatorics and Number Theory*, 7 (2015), no. 3, 191–212
- (45) Planar Subsets with Small Doubling.  
*Quart. J. Math.* 68 (2017), no. 1, 161–192.
- (46) with S. D. Adhikari, R. Balasubramanian, and S. Eliahou, On the degree of regularity of a particular linear equation.  
*Acta Arith.* 184 (2018), no. 2, 187–191.
- (47) Iterated Sumsets and Subsequence Sums.  
*J. Combin. Theory, Ser. A*, 160 (2018). 136–167.
- (48) with S. Adhikari, R. Balasubramanian, and S. Eliahou, A Conjecture of Fox-Kleitman and Additive Combinatorics.  
*Proc. Indian Acad. Sci. Math. Sci* 129 (2019), no. 4, Art 43.
- (49) Iterated Sumsets and Setpartitions.  
*Ramanujan J.* 52 (2020), no. 3, 499–518.
- (50) with U. Vishne, The Index of Small Length Sequences.  
*International J. Algebra and Computation* 30 (2020), no. 5, 977–1014.
- (51) with Chunlin Wange and Kevin Zhao, The Structure of a Sequence with Prescribed Zero-Sum Subsequences.  
*Integers* 20 (2020) A3.
- (52) A Single Set Improvement to the  $3k - 4$  Theorem.  
*J. Number Theory* 214 (2020). 360–381.
- (53) Representing Sequence Subsums as Sumsets of Near Equal Sized Sets.  
in *Combinatorial and Additive Number Theory IV*, ed. M. Nathanson, Springer Proc. Math. Stat. 347, Springer (2021), ch. 11, 203–241.
- (54) with A. Geroldinger, Jun Seok Oh and Qinghai Zhong, On Product-One Sequences over Dihedral Groups.  
*J. Algebra Appl.* 21 (2022), no. 4, Paper No. 2250064, 58 pp.
- (55) with P. Candela and D. González-Sánchez, On sets with small sumset and  $m$ -sum-free sets in  $\mathbb{Z}/p\mathbb{Z}$ .  
*Bull. Soc. Math. France* 149 (2021), no. 1, 155–177.

- (56) with Chao Liu, A multiplicative property for zero-sums I.  
*Discrete Math.* 345 (2022), no. 10, Paper No. 112974, 21 pp.
- (57) with Chao Liu, A multiplicative property for zero-sums II.  
*Electron. J. Combin.* 29 (2022), no. 3, Paper No. 3.12, 16 pp.
- (58) A Generalization of the Chevalley-Waring and Ax-Katz Theorems with a View Towards Combinatorial Number Theory.  
to appear in *Combinatorica* (pending approval of minor revisions)
- (59) with J. Ebert, Structure of a Sequence with Prescribed Zero-Sum Subsequences: Rank Two  $p$ -Groups.  
Submitted

### Monographs

- (60) *Structural Additive Theory*  
Developments in Mathematics 30, Springer (2013), 426 pp.
- (61) *The Characterization of Finite Elasticities: Factorization Theory in Krull Monoids via Convex Geometry*  
Lecture Notes in Mathematics 2316, Springer (2022), 280 pp.
- (62) with Alfred Geroldinger and Qinghai Zhong. *Combinatorial Factorization Theory: Factorization Theory in Krull Monoids via Additive Combinatorics*  
In progress (700+ pp.)

**Teaching Activities**

<i>Courses Taught</i> [Hours/Week] (Book)	Location (Year)
Elementary Linear Algebra [3 hr.] (Larson)	U. Memphis (Fall 2023)
Probabilistic Combinatorics [3 hr.] (Alon and Spencer)	U Memphis (Fall 2023)
Introductory Topology [3 hr.] (Munkres)	U Memphis (Spring 2023)
Algebraic Theory I [3 hr.] (Dummit and Foote)	U Memphis (Fall 2022)
Combinatorial Number Theory [3 hr.] (Grynkiewicz)	U Memphis (Fall 2022)
Algebraic Theory II [3 hr.] (Lang/Hungerford/Dummit and Foote)	U Memphis (Spring 2022)
Trigonometry [3 hr.] (Sullivan)	U Memphis (Spring 2022)
Algebraic Theory I [3 hr.] (Dummit and Foote)	U Memphis (Fall 2021)
Trigonometry [3 hr.] (Sullivan)	U Memphis (Fall 2021)
Introduction to Graph Theory [3 hr.] (Diestel)	U. Memphis (Spring 2021)
Honors Math IV (Lin. Alg. + Diff. Eq.) [4 hr.] (Peterson and Stochacki)	U. Memphis (Spring 2021)
Algebraic Topology [3 hr.] (Hatcher)	U. Memphis (Fall 2020)
Precalculus [4 hr.] (Swokowski and Cole)	U. Memphis (Fall 2020)
Algebraic Theory II [3 hr.] (Lang/Hungerford/Dummit and Foote)	U. Memphis (Spring 2020)
Trigonometry [3 hr.] (Sullivan)	U. Memphis (Spring 2020)
Algebraic Theory I [3 hr.] (Dummit and Foote)	U. Memphis (Fall 2019)
Elementary Linear Algebra [3 hr.] (Larson)	U. Memphis (Fall 2019)
Elementary Linear Algebra [8.75 hr.] (Larson)	U. Memphis (Summer 2019)
Algebraic Number Theory [3 hr.] (Neukirch)	U. Memphis (Spring 2019)
Trigonometry [3 hr.] (Sullivan)	U. Memphis (Spring 2019)
Elementary Number Theory [3 hr.] (Montgomery, Niven and Zuckerman)	U. Memphis (Fall 2018)
Introduction to Graph Theory [3 hr.] (Bondy and Murty)	U. Memphis (Spring 2018)
Topics in Combinatorics [3 hr.] (Wilson and Van Lindt)	U. Memphis (Spring 2018)
Multivariate Calculus [4 hr.] (Briggs, Cochran, Gillett, and Schulz)	U. Memphis (Spring 2018)
Algebraic Graph Theory [3 hr.] (Godsil and Royle)	U. Memphis (Fall 2017)
Foundations of Mathematics [3 hr.] (Bennett and Briggs, Custom ed.)	U. Memphis (Fall 2017)

**Teaching Activities**

<i>Courses Taught</i> [Hours/Week] (Book)	Location (Year)
Linear Algebra [3 hr.] (Curtis)	U. Memphis (Spring 2017)
Trigonometry [3 hr.] (Sullivan)	U. Memphis (Spring 2017)
Abstract Algebra [3 hr.] (Dummit and Foote)	U. Memphis (Fall 2016)
Trigonometry [3 hr.] (Sullivan)	U. Memphis (Fall 2016)
Algebraic Theory II [3 hr.] (Lang/Hungerford/Dummit and Foote)	U. Memphis (Spring 2016)
Introduction to Graph Theory [3 hr.] (Bollobás/Bondy and Murty)	U. Memphis (Spring 2016)
Algebraic Theory I [3 hr.] (Dummit and Foote)	U. Memphis (Fall 2015)
Foundations of Mathematics [3 hr.] (Bennett and Briggs, Custom ed.)	U. Memphis (Fall 2015)
Algebraic Theory II [3 hr.] (Dummit and Foote/Lang/Hungerford)	U. Memphis (Spring 2015)
Foundations of Mathematics [3 hr.] (Bennett and Briggs, Custom ed.)	U. Memphis (Spring 2015)
Algebraic Theory I [3 hr.] (Dummit and Foote)	U. Memphis (Fall 2014)
Multivariate Calculus [4 hr.] (Briggs, Cochran, Gillett, and Schulz)	U. Memphis (Fall 2014)
Algebraic Theory II [3 hr.] (Lang)	U. Memphis (Spring 2014)
Trigonometry [3 hr.] (Sullivan)	U. Memphis (Spring 2014)
Introductory Topology [3 hr.] (Munkres)	U. Memphis (Fall 2013)
Additive Combinatorics (VO) [4 hr.] (Research Papers/Tao and Vu)	U. Graz (2012)
Additive Number Theory (VO) [3 hr.] (Grynkiewicz)	U. Graz (2011)
Algebraic Number Theory (VO+PS) [4 + 2 hr.] (Janusz)	U. Graz (2010)
Commutative Algebra (VO+UE) [3 + 1 hr.] (Sharp/Eisenbud)	U. Graz (2009)
Combinatorial Number Theory (SE) [2 hr.] (Grynkiewicz)	U. Graz (2009)
Additive Number Theory (V) [2 hr.] (Various/Self Designed Notes)	U. Graz (2008)

---

VO=Lecture, UE=Exercise Course, PS=Advanced Exercise Course, SE=Student Seminar

### Academic Service

- Referee for the *London Mathematical Society*, *Adv. Math.*, *Combinatorica*, *Israel J. Math*, *Forum of Mathematics*, *Fundamenta Mathematicae*, *American Mathematical Monthly*, *J. Combin. Theory*, *Discrete Anal.*, *SIAM J. Discrete Math.*, *Discrete Mathematics*, *Periodica Math. Hungar.*, *Integers*, *Graphs and Combinatorics*, *Electronic J. Combin.*, *Ars Combinatoria*, *Applied Mathematics E-Notes*, *Revista Matemática Iberoamericana*, *Uniform Distribution Theory*, *Acta Arithmetica*, *Combinatorics*, *Probability and Computing*, *J. Korean Math. Soc.*, ...
- Proposal Reviewer for NSERC (Canadian Natural Sciences and Engineering Research Council)
- Proposal Reviewer for the NKFIH (Hungarian National Research, Development and Innovation Office)
- Completed the manuscript “Hyper-atoms applied to the critical pair Theory” submitted by Yahya Hamidoune who unexpectedly passed away during the review process: *Combinatorica* 39 (2019), 1281–1315
- Reviewer for MathSciNet (2003 – Present)
- Faculty Advisor for the Putnam Exam (US university olympiad-style competition) University of Memphis (Fall 2014 – Present)
- Faculty Advisor for the Cantor Sect (Student Math Club) University of Memphis (Fall 2015 – 2021)
- Algebra Ph.D. Qualifying Exam University of Memphis (Summer 2014 – Jan. 2016, Jan. 2020–Present)
- Co-organizer for the annual event “Discover Math Day” designed to attract new math majors (2016–2019)

### Committee Work

- Search Committee for Tenure Track Position in Data Science/Statistics/Graph Theory (2022-2023)
- Search Committee for Postdoctoral Researcher in Ergodic Theory (2022-2023)
- Search Committee for Postdoctoral Researcher in PDE (2022-2023)
- (Chair) Search Committee for the Ralph Faudree Assistant Professorship (2022)
- Prize Committee awarding the Dr. Ralph Faudree Award (2022)
- Comprehensive Exam Committee for Conner Griffin (2022)
- Search Committee for Dept. Office Coordinator (2022)
- Search Committee for Tenure Track Position in Combinatorics (2021-2022)
- (Chair) Search Committee for the Ralph Faudree Assistant Professorship (2021-2022)
- Ph.D. Committee for David Lewis (2020)
- Ph.D. Committee for Rebekah Herman (2020)
- Prize Committee awarding Undergraduate Scholarships (2020–2023)
- Search Committee for the Ralph Faudree Assistant Professorship (2018-2019)
- Ph.D. Committee for Kamil Popielarz (2018)
- Ph.D. Committee for Julian Sahasrabudhe (2017)
- Ph.D. Committee for Scott Binski (2017)
- Prize Committee awarding the Dr. Ralph Faudree Award (2016)



- Search Committee for the Ralph Faudree Assistant Professorship (2016)
- Ph.D. Graduate Committee (curriculum, advising, exams, recruitment) (2018–Present)
- Recruitment and Outreach Committee (2017–Present)
- Committee for Web and Newsletter  
University of Memphis (2014 – Present)
- Undergraduate Committee  
University of Memphis (2013 – Present)

### Invited Talks and Workshops

- CANT 2021 (virtual), New York, May 2021  
*Main Session: Characterizing infinite subsets of lattice points having finite-like behavior.*
- Number Theory in Honor of R. Balasubramanian’s 70th Birthday (virtual), March 2021  
*Plenary Talk: The  $3k - 4$  Theorem modulo a prime for Large Density Sumsets.*
- Joint Meetings of the AMS and MAA (virtual), 2021  
*Special Session: Finite Elasticities in Krull Domains with Finitely Generated Class Group.*
- Workshop on Additive Combinatorics, International Center for Theoretical Sciences (ICTS-TIFR), Bangalore, Feb. 2020 – Mar. 2020  
*Plenary Talk Series (5 lectures): Set Addition*
- Zero-Sum Ramsey Theory: Graphs, Sequences and More (19w5132), CMO Banff International Research Station, Oaxaca, Nov. 2019  
*Plenary Talk: Sequence Subsums in Zero-Sum Theory*
- Joint International Meeting of the CMS and AMS, Shanghai, June. 2018  
*Special Session Organizer: Additive Combinatorics and its Interplay with Factorization Theory*
- Conference on Rings and Factorizations, Graz, Feb. 2018  
*Plenary Talk: Finiteness of the Elasticities  $\rho_k(G_0)$  Inside a Lattice*
- Combinatorial and Additive Number Theory, Graz, Jan. 2016  
*Plenary Talk: The Freiman  $3k - 4$  Theorem*
- Additive Combinatorics in Marseille, Sep. 2015.  
*Short Plenary Talk: Symmetric Kneser’s Theorem with Trios and 3-transform*
- Joint Meetings of the AMS and MAA, 2015  
*Special Session: On Sets of Lengths in Krull Monoids.*
- Joint Meeting of the Israel Mathematical Union and the AMS, 2014  
*Special Session: The Index of Minimal Zero-Sum Sequences and Kummer Subspaces*
- Joint Meetings of the AMS and MAA, 2013  
*Special Session: The large Davenport constant for Non-abelian groups*
- Additive Combinatorics in Paris, July 2012  
*Short Plenary Talk: Sidon sets and the isoperimetric method*
- Wilsonfest, Caltech, March 2012  
*Plenary Talk: Freiman homomorphisms*
- DocCourse in Additive Combinatorics, CRM, Barcelona, Feb. 2008.  
*Problem Session Course (jointly taught with W. Schmid): Additive group theory and the theory of non-unique factorizations.*

### Invited Seminars

- *Inverse Question for the Davenport Constant in Rank Two Groups* (2 parts).  
U. Graz, Guest Lecturer for Doctoral Student Course, June 2023.
- *Polynomial Methods in Combinatorial Number Theory*  
U. Linz Colloquium, June 2022.

- *An Extension of the Ax-Katz Theorem Modulo Differing Prime Powers*  
U. Mississippi, 2022.
- *The Characterization of Finite Elasticities in Krull Domains and Transfer Krull Monoids*  
U. Graz (virtual), Austria, 2021.
- *Subsequence Sums: Optimal Bounds in the Partition Theorem and the Gao-Olson Generalization of the EGZ Theorem.*  
Center for Combinatorics, Nankai U., China, 2018.
- *On the Degree of Regularity of  $(x_1 - y_1) + \dots + (x_1 - y_k) = c$ .*  
U. Graz, 2017.
- *A Zero-Sum Conjecture of Hamidoune.*  
U. Mississippi, 2016.
- *The  $\rho_k$  Invariants for Finite Abelian Groups.*  
University of Graz, Austria, 2015.
- *The Index of Zero-Sum Free Sequences and Kummer Subspaces.*  
University of Graz, Austria, 2014.
- *On a Weighted Generalization of Two Theorems of Gao (6 parts).*  
Harisch Chandra Research Institute, India, 2010.
- *Extremal examples for the Davenport constant in rank two groups.*  
Technical University of Catalunya (UPC), Barcelona, 2008.
- *Sumset bounds for two-dimensional sets.*  
U. Delaware, 2008.
- *On the multiplicity of zero-sum subsequences.*  
U. Paris VI, 2006.

## Other Conferences

- Conference on Rings and Factorizations 2023, University of Graz, Austria, July 2023  
Parallel Session: *Zero-Sums in  $p$ -groups via a Generalization of the Ax-Katz Theorem*
- CANT 2019, CUNY, New York, May 2019  
Main Session: *An inverse zero-sum problem for elementary abelian  $p$ -groups of rank two*
- 6th annual Mississippi Discrete Math Workshop, U. Mississippi, Nov. 2018  
Parallel Session: *Improving Olson's Generalization of the Erdős-Ginzburg-Ziv Theorem*
- Integers Conference, Augusta GA, Oct. 2018  
Parallel Session: *Exact Bounds in the Gao-Olson Complete Sequence Theorem*
- Discrete Mathematics Days, Sevilla, Jul. 2018  
Parallel Session: *Iterated Sumsets and Olson's Generalization of the Erdős-Ginzburg-Ziv Theorem.*
- Journées Arithmétiques, Debrecen, July 2015.  
Parallel Session: *Pairwise Balanced Designs and Weighted Davenport Constants.*
- Additive and Analytic Combinatorics  
Institute for Mathematics and its Applications, Sep. - Oct. 2014
- Erdős Centennial, Budapest, July 2013
- Integers Conference, U. West Georgia, October 2011  
Parallel Session: *Freiman homomorphisms*
- Journées Arithmétiques, Vilnius, June 2011  
Parallel Session: *On Freiman's  $3k - 4$  Theorem in groups of prime order*
- ÖMG + DMV Kongress, Graz 2009  
Parallel Session: *On Pollard's Theorem for general abelian groups*
- Journées Arithmétiques, St. Etienne, July 2009.  
Parallel Session: *The catenary degree of Krull monoids.*

- Clay-Fields Conference on Additive Combinatorics, Number Theory, and Harmonic Analysis, Toronto, Apr. 2008.
- Eurocomb 2007, Sevilla, Sep. 2007.  
Parallel Session: *The connectivity of addition Cayley graphs.*
- Joint Meeting of the AMS and MAA, New Orleans, Jan. 2007.  
Parallel Session: *Extending the Freiman  $3k - 3$  Theorem to distinct sets.*
- COMBSTRU, Barcelona, Sep. 2006.
- 2nd Meeting of the Czech and Catalan Mathematical Societies, Barcelona, Sep. 2006.  
Parallel Session: *On two zero-sum conjectures of Gao, Thangadurai and Zhuan.*
- Rencontres Arithmétique et Combinatoire, St. Etienne, France, 2006.  
Parallel Session: *The structure of subsets of an arbitrary abelian group with a small sumset  $|A + B| = |A| + |B|$ .*
- Workshop and School on Additive Combinatorics, Montreal, Apr. 2006.
- AMS Sectional Meeting, Santa Barbara, 2006.  
Parallel Session: *A weighted version of the Erdős-Ginzburg-Ziv Theorem.*
- CANT 2005, New York.  
Parallel Session: *The Erdős-Ginzburg-Ziv Theorem in hypergraphs.*
- Integers Conference, U. West Georgia, Oct./Nov. 2003.  
Contributed Paper: *On a conjecture of Hamidoune for subsequence sums*
- Mt. Baldy Conference on Applied Algebra and Combinatorics, Claremont, California, 2002.
- Joint Meeting of the AMS and MAA, New Orleans, Jan. 2001.  
Parallel Session: *On a conjecture of Bialostocki, Erdős, and Lefmann.*
- MAA Fall Northeastern Section Meeting, Providence, Rhode Island, 2000.  
Student Session: *On a conjecture of Bialostocki, Erdős, and Lefmann.*

## Departmental Seminars

- *A Chevalley Warning Theorem Modulo Differing Prime Powers* (2 parts).  
Institute of Combinatorics, U. Memphis, 2022.
- *The Freiman  $3k - 4$  Theorem*  
Institute of Combinatorics, U. Memphis, 2016.
- *Zero-Sums and Polynomials.*  
Institute of Combinatorics, U. Memphis, 2016.
- *Zero-Sums and Generalizations of the Erdős-Ginzburg-Ziv Theorem.*  
Institute of Combinatorics, U. Memphis, 2016.
- *Sumsets and  $t$ -Popular Sums.*  
Institute of Combinatorics, U. Memphis, 2016.
- *Sumsets and Homomorphisms.*  
Institute of Combinatorics, U. Memphis, 2013.
- *Finite Additive Theory* (3 parts).  
U. Graz, 2012.
- *Using arithmetic progressions to weight subsequence sums.*  
U. Graz, 2011.
- *Some recent developments in Additive Number Theory* (4 parts).  
U. Graz, 2010.
- *Finite sumset questions using infinite sets.*  
U. Graz, 2009.
- *Graphs in Additive Combinatorics: large minimal 1-saturating sets* (2 parts).  
U. Graz, 2009.

- *Weighted subsequence sums.*  
U. Graz, 2008.
- *Multidimensional sumsets (2 parts).*  
U. Graz, 2008.
- *Bounds for  $t$ -representable sums.*  
U. Graz, 2008.
- *Zero-sum combinatorics.*  
Technical University of Catalunya (UPC), Barcelona, 2005.
- *A vector space analog of Kneser's Theorem.*  
Caltech, 2004.
- *A weighted Erdős-Ginzburg-Ziv Theorem.*  
Caltech, 2003.
- *An Erdős-Ginzburg-Ziv Theorem for hypergraphs.*  
Caltech, 2003.
- *Zero-sums in sequences of sufficient length and a variation of the Erdős-Ginzburg-Ziv Theorem.*  
Caltech, 2002.
- *On sets with nondecreasing modified diameter.*  
Invited visitor for the 2002 REU at the U. Idaho.
- *Additive Number Theory.*  
Caltech, 2001.
- *Zero-sum Generalized Ramsey Theory: a problem of Bialostocki, Erdős, and Lefmann on sets with nondecreasing diameter.*  
Caltech, 2001.

#### **Society Membership**

- American Mathematical Society (AMS)

#### **Miscellaneous**

- Hand double for the CBS television series *Numb3rs*.