Curriculum Vitae

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EDUCATION:

B.A.	1965	Westmar College
M.A.	1967	University of Massachusetts
Ph.D.	1969	Wesleyan University

(Dissertation *On P-like spaces and their product with P-spaces* written under the direction of W. W. Comfort.)

PROFESSIONAL EXPERIENCE:

January 1980 – June 2017
Associate Professor and Professor, Howard University

September 1970 – December 1979
Assistant Professor, Associate Professor and Professor, California State University, Los Angeles (Except September 1975 – August 1976, Visiting Associate Professor, SUNY at Binghamton)

September 1969 – June 1970
Visiting Assistant Professor, Wesleyan University

RESEARCH PUBLICATIONS:

(With W. Comfort and S. Negrepontis) *F′-spaces and their product with P-spaces*, Pacific J. Math. **28** (1969), 489-502. (MR **39** #3440)

On the existence of $\mathfrak{c}$-points in $\beta\mathbb{N}\backslash\mathbb{N}$, Proc. Amer. Math. Soc. **21** (1969), 277-280. (MR **39** #922)

Minimal n-prime ideal spaces, Math. Ann. **199** (1972), 97-114. (MR **38** #291)

The existence of certain ultrafilters on $\mathbb{N}$ and a conjecture of Graham and Rothschild, Proc. Amer. Math. Soc. **36** (1972), 341-346. (MR **46** #7041)

Basically bounded sets and a generalized Heine–Borel Theorem, Amer. Math. Monthly **80** (1973), 549-552. (MR **48** #3000)

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(With M. Cates, P. Erdős, and B. Rothschild) *Partition theorems for subsets of vector spaces*, J. Comb. Theory (Series A) **20** (1976), 279-291. (MR **53** #10583)

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Sums equal to products in $\beta\mathbb{N}$, Semigroup Forum **21** (1980), 221-255. (MR 81m:54040)

On a conjecture of Erdős, Faber and Lovasz about n-colorings, Canadian J. Math. **33** (1981), 563-570. (MR 82j:05058)

Minimal ideals and cancellation in $\beta\mathbb{N}$, Semigroup Forum **25** (1982), 291-310. (MR 83m:22007)

On density, translates, and pairwise sums of integers, J. Comb. Theory (Series A) **33** (1982), 147-157. (MR 84b:10075)

(With P. Erdős) *Enumeration of intersecting families*, Discrete Math. **48** (1984), 61-65. (MR 84b:10075)

Partitions and pairwise sums and products, J. Comb. Theory (Series A) **37** (1984), 46-60. (MR 85g:05019)

(With J. Berglund) *Filters and the weak almost periodic compactification of a discrete semigroup*, Trans. Amer. Math. Soc. **284** (1984), 1-38. (MR 85e:22005)

(With P. Milnes) *The ideal structure of* X^X, Semigroup Forum **30** (1984), 41-51. (MR 85i:22004)

(With J. Pym) *Free groups and semigroups in* $\beta\mathbb{N}$, Semigroup Forum **30** (1984), 177-193. (MR 86c:22002)

Ramsey's Theorem for sums, products, and arithmetic progressions, J. Comb. Theory (Series A) **38** (1985), 82-83. (MR 86c:05024)

The minimal ideals of a multiplicative and additive subsemigroup of $\beta\mathbb{N}$, Semigroup Forum **32** (1985), 283-292. (MR 87g:20106)

The ideal structure of the space of κ-uniform ultrafilters on a discrete semigroup, Rocky Mountain J. Math. **16** (1986), 685-701. (MR 88d:54031)

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(With W. Deuber) *Partitions and sums of (m,p,c)-sets*, J. Comb. Theory (Series A) **45** (1987), 300-302. (MR 89a:05013)

(With A. Blass) *On strongly summable ultrafilters and union ultrafilters*, Trans. Amer. Math. Soc. **304** (1987), 83-99. (MR 88i:03080)

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(With C. Gordon) *Elementary set theory – proof techniques*, Hafner Press, New York, 1975.

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(With D. Strauss) *Algebra in the Stone-Čech compactification – theory and applications, second revised and extended edition*, Walter de Gruyter & Co., Berlin, 2012.

GRANTS ADMINISTERED:

Combinatorics: partition theory and refining families, National Science Foundation, MCS 7606995. June 1, 1976 – November 30, 1977.

Partition theory: sums, products, and ultrafilters, National Science Foundation, MCS 7802330. July 1, 1978 – December 31, 1980.

Ultrafilters and combinatorial partition theory, National Science Foundation, MCS 8100733. June 1, 1981 – November 30, 1984.

Ultrafilter combinatorics: Ramsey Theory and semigroups, National Science Foundation, DMS 8320383 and DMS 8520873. June 1, 1984 – November 30, 1988.

Combinatorics: ultrafilters, semigroups, and Ramsey Theory, National Science Foundation, DMS 8901058 and DMS 9025025. June 1, 1989 – May 31, 1995.

Ramsey Theory, the theory of compact left topological semigroups, and their interactions, National Science Foundation, DMS 9424421. June 1, 1995 – May 31, 1998.

Semigroup algebra at infinity and its combinatorial applications, National Science Foundation, DMS 0070593 and DMS 0243586. July 1, 2000 – June 30, 2006.

Algebra in Stone-Čech compactifications and its combinatorial applications, National Science Foundation, DMS-0554803 and DMS-0852512. July 1, 2006 – June 30, 2012.

Ramsey Theory: Central sets and related combinatorially rich sets, National Science Foundation, DMS-1160566 and DMS-1460023. July 1, 2012 – June 30, 2015 and September 1, 2015 – August 31, 2018.

DOCTORAL DISSERTATIONS DIRECTED:

Dennis E. Davenport, *The algebraic properties of closed semigroups of ultrafilters on a discrete semigroup*, Howard University, 1987.

Hanson M. Umoh, *The ideal of products in $\beta S \backslash S$*, Howard University, 1987.

Amha Tume Lisan, *The ideal structure of the space of ultrafilters on a discrete semigroup*, Howard University, 1988.

Patty J. Anthony, *Ideals in the Stone-Čech compactification of noncommutative semigroups*, Howard University, 1994.

Gregory L. Smith, *Partition regularity of sums of products of natural numbers*, Howard University, 1994.

Dan Tang, *Separating sums from products in $\mathbb{N}$*, Howard University, 1997.

Elaine Terry, *Finite sums and products in Ramsey Theory*, Howard University, 1997.

Shea D. Burns, *The existence of disjoint smallest ideals in the left continuous and right continuous structures in the Stone-Čech compactification of a semigroup*, Howard University, 2000.

Jillian E. McLeod, *Notions of size in adequate partial semigroups*, Howard University, 2001.

Iris Gugu Moche, *The sizes of preimages of points under the natural map from $K\big(\beta(\mathbb{N} \times \mathbb{N})\big)$ to $K(\beta\mathbb{N}) \times K(\beta\mathbb{N})$*, Howard University, 2002.

Irene S. Moshesh, *Image partition regularity of affine transformations*, Howard University, 2006.

Chase G. Adams, III, *Largeness of the set of finite sums of sequences in $\mathbb{N}$*, Howard University, 2006.

Lakeshia R. Legette, *Maximal groups in the Stone-Čech compactification of a discrete semigroup*, Howard University, 2008.

Kendall Williams, *Separating Milliken-Taylor systems and variations theoreof in the dyadics and the Stone-Čech compactification of* $\mathbb{N}$, Howard University, 2010.

John H. Johnson, *Some differences between an ideal in the Stone-Čech compactification of commutative and noncommutative semigroups*, Howard University, 2011.

Henry Jordan, *Minimal Hales-Jewett sets*, Howard University, 2011.

Kourtney Fulton Miller, *Continuous homomorphisms from βS to S^**, Howard University, 2013.

Monique A. Peters, *Characterizing differences between the left and right operations on βS*, Howard University, 2013.

Dev Phulara, *A generalization of the Central Sets Theorem with applications and some additive and multiplicative Ramsey numbers*, Howard University, 2014.

Kendra Pleasant, *Some new results in Ramsey Theory*, Howard University, 2017.