#### September 2006

## CURRICULUM VITA

## Lawrence W. Baggett

PERSONAL: Birthdate: March 3, 1939

Birthplace: Moorhead, Mississippi

#### EDUCATION:

B.S. with Honors Davidson College 1960
M.S. University of Washington 1962
Ph.D. University of Washington 1966

THESIS ADVISOR: J. M. G. Fell

THESIS TITLE: A Description of the Topology on the Dual Space of

Certain Locally Compact Groups

## PUBLICATIONS:

#### Books

- 1. with W. Fulks, Fourier Analysis, Anjou Press, Boulder, CO, 1979, pp. 192.
- 2. Functional Analysis, A Primer, Marcel-Dekker, New York,, 1991, pp. 266.
- 3. Co-edited with David R. Larson, Contemporary Mathematics, The functional and harmonic analysis of wavelets and frames,, American Mathematical Society,, Providence, 1999, pp. 307.
- 4. Analysis of Functions of a Single Variable, Available on-line..

# Articles

- A weak containment theorem for groups with a quotient R-group, Trans. AMS 128 (1967), 277–290.
- [2] A description of the topology on the dual space of certain locally compact groups, Trans. AMS 132 (1968), 175–215.
- [3] Hilbert-Schmidt representations of groups, Proc. AMS 21 (1969), 502–506.
- $[4] \ \ \textit{A note on groups with finite dual spaces}, \ \textit{Pacific J. Math. $\textbf{31}$ (3) (1969)}, \ 569-472.$
- [5] A separable group having a discrete dual space is compact, J. Func. Anal. 2 (1972), 131–148.
- $[6] \ \ (*) \textit{Multiplier Representations of Abelian Groups}, \ \textbf{J. Func. Anal. 3 (1973)}, \ 299-324.$
- [7] with D. Stroock, An Ergodic Theorem for Poisson Processes on a compact group with applications to random evolutions, J. Func. Anal. 26 (1974), 405–414.
- [8] Multiplier extensions other than the Mackey extension, Proc. AMS 56 (1976), 351–356.

- [9] Operators arising from unitary representations of nilpotent Lie groups, J. Func. Anal. 24 (1977), 379–396.
- [10] with K. Taylor, Riemann-Lebesgue subsets of R<sup>n</sup> and representations which vanish at infinity, J. Func. Anal. 28 (1978), 168-181.
- [11] Representations of the Mautner group I, Pacific J. Math. 77 (1978), 7–22.
- [12] A Characterization of Heisenberg groups: when is a particle free?, Mountain J. 8 (1978), 561–582.
- [13] with K. Taylor, Groups with completely reducible regular representations, Proc. AMS 72 (1978), 593–600.
- [14] with K. Taylor, A sufficient condition for the complete reducibility of the regular representation, J. Func. Anal. 14 (1979), 250–265.
- [15] with A. Ramsay, A functional analytic proof of a selection lemma, Canadian J. Math. 32 (1980), 441–448.
- [16] with A. Ramsay, Some pathology on Mackey's theory for non-separable groups, J. Func. Anal. 39 (1980), 375–380.
- [17] with T. Sund, (\*) The Hausdorff dual problem for Connected Groups, J. Func. Anal. 43 (1981), 60–68.
- [18] with K. Taylor, On asymptotic behavior of induced representation, Canadian J. Math. 34 (1) (1982), 220–232.
- [19] On the continuity of Mackey's extension process, J. Func. Anal. 56 (2) (1984), 233-250.
- [20] Unimodularity and atomic Plancherel measure, Math. Ann. 266 (1984), 513–518.
- [21] with A. Ramsay and W. Mitchell, Representations of the discrete Heisenberg group and cocycles of an irrational rotation, Mich. Math. J. 31 (1984), 263–273.
- [22] (\*) Measures invariant under a linear group, Proc. AMS 94 (1985), 179–186.
- [23] with K. Merrill, Representations of the Mautner group and cocycles of an irrational rotation, Mich. Math. J. 33 (1986), 221–229.
- [24] On Circle-Valued Cocycles of an Ergodic Measure-Preserving Transformation, Isr. J. Math. 60 (1) (1987).
- [25] A Note on Virtual Amenability for Groups, Colloquia Matematica LVI (1988), 129–136.
- [26] with K. Merrill, Equivalence of Cocycles under an Irrational Rotation, Proc. Amer. Soc. 104 (1988), 1049–1053.
- [27] On Functions that are Trivial Cocycles for a Set of Irrationals, Proc. Amer. Math. Soc. 104 (1988), 1211–1215.
- [28] (\*) A Functional Analytic Proof of a Borel Selection Theorem, Jour. Func. Anal. 94 (1990), 437–450.
- [29] (\*) Processing a Radar Signal and Representations of the Discrete Heisenberg Group, Colloquium Mathematicum LXI (1990), 195–203.
- [30] with K. Merrill, On the Cohomological Equivalence of a Class of Functions under a Rotation of Bounded Type, Proc. Amer. Math. Soc. 111 (1991), 787–793.
- [31] with A. Carey, W. Moran, and A. Ramsay, Non-Monomial Multiplier Representations of Abelian Groups, Jour. Func. Anal. 97 (1991), 361–372.
- [32] with J. Packer, C\*-algebras associated to two-step nilpotent groups, Contemporary Mathematics: (Selfadjoint and nonselfadjoint operator algebras and operator theory) 120 (1991), 1–6.
- [33] with K. Merrill, Smooth Cocycles for an Irrational Rotation, Isr. Jour. Math. 79 (1992), 281–288.

- [34] with J. Packer, The primitive ideal space of two-step nilpotent C\*-algebras, Jour. Func. Anal. 124 #2 (1994), 389-426.
- [35] with A. Carey, W. Moran and P. Ohring, General existence theorems for orthonormal wavelets, an abstract approach, Publ. Res. Inst. Math. Sci. Kyoto Univ. 31 # 1 (1995), 95-111.
- [36] On Functions that are Trivial Cocycles for a Set of Irrationals, II, Proc. Amer. Math. Soc. 124 (1996), 89-93.
- [37] with Herbert A. Medina and Kathy D. Merrill, Simultaneously Symmetric Functions, Amer. Math. Monthly 104 (1997), 520-528.
- [38] with Eberhard Kaniuth and William Moran, Primitive Ideal Spaces, Characters and Kirillov Theory for Discrete Nilpotent Groups, Journal of Functional Analysis and its Applications 150 (1997), 175-203.
- [39] with H. Medina and K. Merrill, Cohomology of polynomials under an irrational rotation, Proc. Amer. Math. Soc. 126 #10 (1998), 2909-2918.
- [40] with K. Merrill, Abstract harmonic analysis and wavelets in  $\mathbb{R}^n$ , Contemporary Mathematics, The functional and harmonic analysis of wavelets and frames (1999), 17-29.
- [41] with H. Medina and K. Merrill, Generalized Multiresolution analyses and a construction procedure for all wavelet sets in  $\mathbb{R}^n$ , Journal of Fourier Analysis and Applications 5 (1999), no. 6, 563-573.
- [42] An abstract interpretation of the wavelet dimension function using group representations, Jour. Func. Anal. 173 (2000), 1-20.
- [43] with Jennifer C. Courter and Kathy D. Merriull, The construction of wavelets from generalized conjugate mirror filters in  $L^2(\mathbb{R}^n)$ , ACHA 13 (2002), no. 3, 201-233.
- [44] with P. Jorgensen, K. Merrill, and J. Packer, Contemporary Mathematics, Wavelets, Frames, and Operator Theory, vol. 345, American Mathematical Society, Providence C. Heil, P.E.T. Jorgensen, and D.R. Larson, eds.,, 2004, pp. 11-25.
- [45] with P. Jorgensen, K. Merrill, and J. Packer, Construction of Parseval wavelets from redundant filter systems, J. Math. Phys. 46 (2005), 0-28.
- [46] with P. Jorgensen, K. Merrill, and J. Packer, A non-MRA C<sup>r</sup> frame wavelet with rapid decay, Acta Appl. Math. 89 (2006), 251-270.
- [47] Harmonic Analysis and Applications: in Honor of John J. Benedetto Christopher Heil, Ed.,, Birkhauser, Cambridge, 2006 series: Applied and Numerical Harmonic Analysis.

#### Ph.D. STUDENTS:

- 1. Kenneth Joy, 1977
- 2. Wesley Mitchell, 1979
- 3. Kathy Merrill, 1983
- 4. Peter Ohring, 1987
- 5. Mark Willis, 1993
- 6. Melissa Richey, 1999
- 7. Jennifer Courter, 1999
- 8. Eric Weber, 1999
- 9. Sharon Schaffer, 2000.
- 10. Curtis Caravone, 2001.
- 11. Keri Kornelson, 2001.
- 12. Veronika Furst, 2006.