

# James H. Olsen

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CONTACT INFORMATION	Department of Mathematics North Dakota State University 205 Drees Labs 2015 Neil Avenue Columbus, OH 43210 USA	<i>Voice:</i> (614) 292-2572 <i>Fax:</i> (614) 292-7596 <i>E-mail:</i> james.olsen@ndsu.edu <i>WWW:</i> math.ndsu.nodak.edu/faculty/olsen/
RESEARCH INTERESTS	Ergodic theory	
EDUCATION	<b>The University of Minnesota</b> , Minneapolis, Minnesota USA	
	Ph.D., Mathematics, 1968	
	<ul style="list-style-type: none"><li>• Dissertation Title: Dominated Estimates of <math>L_p</math> Contractions, <math>1 &lt; p &lt; \infty</math>.</li><li>• Advisor: Professor Rafael V. Chacon</li><li>• Area of Study: Ergodic Theory</li></ul>	
	M.S., Mathematics, 1967	
	<ul style="list-style-type: none"><li>• Advisor: Professor Rafael V. Chacon</li><li>• Area of Study: Ergodic Theory</li></ul>	
	<b>N.C. State College</b> , Raleigh, North Carolina USA	
	B.S., Electrical Engineering, 1963	
AWARDS AND HONORS	Eta Kappa Nu	
	<ul style="list-style-type: none"><li>• Member</li></ul>	
	Scabbard and Blade National Honor Society	
	<ul style="list-style-type: none"><li>• First Sergeant</li></ul>	
ACADEMIC AND PROFESSIONAL EXPERIENCE	<b>North Dakota State University</b> , Fargo, ND USA	
	<i>Professor of Mathematics</i>	<b>1984 to present</b>
	<i>Associate Professor of Mathematics</i>	<b>1974 to 1984</b>
	<i>Assistant Professor of Mathematics</i>	<b>1970 to 1974</b>
	<b>Mathematical Research Division, National Security Agency</b> , Fort George G. Meade, Maryland, USA	
	<i>Research Mathematician</i>	<b>1969 to 1970</b>
	<ul style="list-style-type: none"><li>• Active duty with the U.S. Army.</li><li>• Achieved the rank of captain.</li></ul>	
	<b>The University of Minnesota</b> , Minneapolis, Minnesota USA	
	<i>Instructor, School of Mathematics</i>	<b>Fall 1968</b>
	<b>Nuclear Effects Lab</b> , White Sands Missile Range, New Mexico USA	
	<i>Electronics Engineer</i>	<b>Summer 1964</b>

## PUBLICATIONS

- Dominated estimates of positive contractions, (with R.V. Chacon), Proceedings of the American Mathematical Society, 20, 226-271 (1969).
- Dominated estimates of convex combinations of commuting isometries, Israel Journal of Mathematics, 11, 1-13 (1972).
- Estimates of convex combinations of commuting isometries, Z. Wahrscheinlichkeitstheorie verw. Geb. 26, 317-324 (1973).
- The individual ergodic theorem for contractions with fixed points, Canadian Mathematical Bulletin, 23, 1980, 115-116.
- Akcoglu's ergodic theorem for uniform sequences, Canadian Journal of Mathematics, 32, 1980, pp. 880-884.
- The individual ergodic theorem for Lamperti contractions, C.R. Math. Rep. Acad. Sci. Canada - Vol. III (1981), No. 2, pp. 113-118.
- The individual weighted ergodic theorem for bounded Besicovitch sequences, Canadian Mathematics Bulletin, Vol. 25 (4), 1983, pp. 468-471.
- Weighted and subsequential ergodic theorems, (with J.R. Baxter), Canadian Journal of Mathematics, Vol. XXXV, No. 1, 1983, pp. 145-166.
- A Multiple Sequence Ergodic Theorem, Canadian Mathematics Bulletin, Vol. 26 (4), 1983, pp. 493-497.
- Multiparameter subsequence ergodic theorems from their single parameter counterparts, Proceedings of the International Conference on Almost Everywhere Convergence in Probability and Ergodic Theory, The Ohio State University, June 11-14, 1988. Edited by G.A. Edgar and L. Sucheston, Academic Press, Boston, 1988, pp. 297-303.
- Multiparameter moving averages, (with R.L. Jones), Proceedings of the International Conference on Almost Everywhere Convergence in Ergodic Theory and Probability II, Northwestern University, October 16-20, 1989, R.L. Jones and Alexandra Bellow, editors, Academic Press, Boston, 1991, pp. 127-150.
- Two consequences of Brunel's theorem, Canadian Mathematics Bulletin, 34 (1), 1991, pp. 105-8.
- Subsequence ergodic theorem for operators, (with R.L. Jones), Israel Journal of Mathematics, 77, 1992, pp. 33-54.
- Subsequence ergodic theorems for  $L_p$  contractions, (with Roger L. Jones and Mate Wierdl), Transactions of the American Mathematical Society, 31 (2), 1992, pp. 837-50.
- Multiparameter weighted ergodic theorems, (with R.L. Jones), Canadian Journal of Mathematics, 46, 1994, pp. 343-356.
- Calculation of the limit in the return times theorem for Dunford-Schwartz Operators, in the Proceedings of the Conference on Ergodic Theory and its Connection with harmonic Analysis, Alexandria, Egypt, May 1993. Cambridge University Press, New York, 1995, pp. 359-367.
- Besicovitch functions and weighted ergodic theorems for LCA group actions, (with Michael Lin), Convergence in Ergodic Theory and Probability (Bergelson, March and Rosenblatt, eds), de Gruyter, Berlin, New York, (1996), pp. 271-89.

Weighted ergodic theorems for mean ergodic  $L^1$  contractions, (with Dogan mez and Michael Lin), Transactions of the American Mathematical Society, 350 (1), 1998, pp. 101-17.

Weighted ergodic theorems along subsequences of density zero, (wit R.L. Jones and Michael Lin), New York Journal of Mathematics, 3A, (1998), 89-98. b

On Modulated Ergodic Theorems for Dunford-Schwartz Operators, (with Michael Lin and Arkady Tempelman), Illinois J. Math, 1999, pp. 542-567.

#### INVITED TALKS

“Approximation of commuting point transformations by periodic commuting point transformations.” Presented to Special Session on Topological Dynamics at the seven hundred eighth (708) meeting of the Amer. Math. Soc. at Minneapolis, MN, November 3, 1973.

“Some recent ergodic theorems for subsequences.” Presented to the NSF Regional Conference on Ergodic Theory. State University of New York at Albany, Albany, NY, June 1979.

“The use of maximal inequalities in proving ergodic theorem along subsequences,” International Conference on Almost Everywhere Convergence in Probability and Ergodic Theory, Northwestern University, October 16-20, 1989.

“Multiparameter moving averages.” Presented to Special Session on Ergodic Theory at the AMS meeting in Manhattan, Kansas, March 1990.

“Calderon transference and maximal inequalities for subsequences.” Presented the the NSF Regional Conference on Combinatorial Number Theory and Ergodic Theory, North Dakota State University, June 1990.

“Multiparameter and subsequence ergodic theorems for general operators.” Presented to Special Session on Ergodic Theory at the AMS meeting, Fargo, North Dakota, October 1991.

“Consistency of weighted estimators based on incomplete data,” Statistics Colloquium, Penn State University, April 9, 1992.

“Weighted averages of substochastic processes.” Probability Seminar, Ben-Gurion University, May 16, 1993.

“Besicovitch functions, as weights in the weighted pointwise ergodic theorem.” International Conference on Ergodic Theory and Its Connections with Harmonic Analysis, Alexandria, Egypt, May 24-28, 1993.

“Weighted ergodic averages of sub-stochastic and other processes,” probability seminar, University of Minnesota, November, 1993.

“Calculation of the limit in the return times theorem for Dunford-Schwartz operators,” Special Session on Convergence Problems in Ergodic Theory at AMS meeting #891, Manhattan, Kansas, May 25-26, 1994.

“Identification of the limit in the return times theorem for Dunford-Schwartz operators,” Ergodic Theory Seminar, University of Toronto, January 9, 1995.

“Lifting pointwise ergodic theorems for Dunford and Schwartz operators,” special Session on Ergodic Theory at AMS Meeting, Chicago, IL, March 24-25, 1995.

“The Returns Time Theorem for Markov Processes,” Probability Seminar, Ben-Gurion University, Beer-Sheva, Israel, May 27, 1995.

“On Deducing Convergence Properties of Stochastic Processes From Convergence Properties for Stationary Processes,” Statistics Colloquium, Penn State University, January 29, 1997.

“Recent Progress and Some Questions in the Theory of Almost Everywhere Convergence of Weighted ergodic Averages,” presented to the Special Session on Convergence Problems in Probability and Ergodic Theory, Regional Meeting, University of Memphis, Memphis, TN, March 18, 1997.

“Generalizations of Bourgain’s Return Times Theorem,” presented to the New York Journal of Mathematics Conference, SUNY at Albany, Albany, New York, June 8-14, 1997.

“Uniform sequences and the pointwise ergodic theorems of Bourgain and Wierdl,” Penn State-Maryland Dynamics Conference, Univeristy of Maryland, March 20-24, 1998.

“Modulated ergodic theorems along sequences of density zero,” AMS Meeting, Winston-Salem, North Carolina, October 9-10, 1998.

“Applications of Besicovitch almost peridicity to weighted pointwise ergodic theorems and the return times theorem of Bourgain, Furstenburg, Katznelson and Orstein,” Real Analysis Seminar, University of Minnesota, February 9, 1999.

“Almost sure convergencce of ergodic averages along sequences of density zero,” Probability Seminar, University of Minnesota, February 12, 1999.

”Ergodic theorems for operators along subsequences,“ Real Analysis Seminar, University of Minnesota, February 15, 1999.

“Modulated Ergodic theorems for Dunford-Schwartz operators,” Ergodic Theory Meeting, University of Memphis, January 28-29, 2000.

OTHER  
APPOINTMENTS

**University of Minnesota**, Minneapolis, Minnesota USA

*Visiting Professor* **1999**

**Northwestern University**, Evanston, Illinois USA

*Visiting Scholar* **May 1995**

*Visiting Professor* **1991-1992**

**North Dakota State University**, Fargo, North Dakota USA

*Mathematics Department Chair* **1988-1991**

*Mathematics Department Director* **1987-1988**

*Director, Mathematical Sciences Consulting Center* **1979**

**North Dakota Council of Teachers of Mathematics**, North Dakota USA

*Board Member* **1986-1987**

**University of Toronto, Toronto Canada**

*Research Associate*

**1980-1981**

**U.S. Army Reserve,**

*Mobilization Designee*

**1971-1974**

- Spent short tours as Research and Development Statistician with the rank of Captain.

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