



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2004ND50B

**Title:** Reliable and Continuous Measurement of Flow Rate in the Red River of The North by means of an Acoustic Doppler Velocity Meter

**Project Type:** Research

**Focus Categories:** Floods, Hydrology, Methods

**Keywords:** Stream Flow Measurement, Acoustic Doppler Velocity Meter, Rating Curves, Velocity Profile

**Start Date:** 03/01/2004

**End Date:** 02/28/2005

**Federal Funds:** \$9,690

**Non-Federal Matching Funds:** \$19,380

**Congressional District:** 1

**Principal Investigators:**

Wei Lin

North Dakota State Univeristy

G. Padmanabhan

**Abstract**

The purpose of this research is to study the hydraulic factors in the river that affect the velocity and its impact on the flow measurement using an acoustic doppler velocity meter. Using the index velocity given by ADVN and an understanding of the effects of the hydraulic factors, a velocity rating curve will be developed through numerous flow measurements when the river is at various stages. An improved rating curve can than be used to provide accurate discharge estimates for the Red River of the North at Fargo. This study will help install, calibrate, and operate an ADVN in the Red River at Fargo.