1015-42-153 **Jie Xiao*** (jxiao@math.mun.ca), Department of Mathematics and Statistics, Memorial University of Newfoundland, St. John's, NL A1C 5S7, Canada. *Towards Q-Extension of BMO by Quadratic Campanato-Morrey Space and Incompressible Navier-Stokes System.* Preliminary report.

In this talk, we will show: for $\alpha \in (0,1)$, $Q_\alpha(\mathbb{R}^n)$, not only as an intermediate space of $W^{1,n}(\mathbb{R}^n)$ and $BMO(\mathbb{R}^n)$ but also as a conformal variant of Sobolev space $\dot{L}^2_\alpha(\mathbb{R}^n)$ which is sharply imbedded in $L^{\frac{2n}{n-2\alpha}}(\mathbb{R}^n)$, is isomorphic to a quadratic Campanato-Morrey space under fractional differentiation; at the same time, the dot product $\nabla \cdot (Q_\alpha(\mathbb{R}^n))^n$ can be applied to derive the well-posedness of the scaling invariant mild solutions of the incompressible Navier-Stokes system in $\mathbb{R}^{1+n}_+ = (0,\infty) \times \mathbb{R}^n$. (Received February 02, 2006)