1077-35-2013 **Jerry L. Bona**, **Jonathan Cohen*** (jcohen@depaul.edu) and **Gang Wang**. *Global Well Posedness for a system of KdV-type Equations with Coupled Quadratic nonlinearities.*

In this talk, coupled systems

$$u_t + u_{xxx} + P(u,v)_x = 0,$$
$$v_t + v_{xxx} + Q(u,v)_x = 0,$$

of KdV-type are considered, where $u = u(x,t), v = v(x,t)$ and $x, t \in \mathbb{R}$. Here, subscripts connote partial differentiation and P and Q are quadratic polynomials in the variables u and v. Attention is given to the pure initial-value problem in which $u(x,t)$ and $v(x,t)$ are both specified at $t = 0$, *viz.*

$$u(x,0) = u_0(x) \text{ and } v(x,0) = v_0(x)$$

for $x \in R$. Under suitable conditions on P and Q, global well posedness of this problem is established for initial data in the L^2-based Sobolev spaces $H^s(\mathbb{R}) \times H^s(\mathbb{R})$ for any $s > -\frac{3}{4}$. (Received September 21, 2011)