1046-47-660 **Robert F. Allen** and **Flavia Colonna*** (fcolonna@gmu.edu), Dept. of Mathematical Sciences, George Mason University, 4400 University Drive, Fairfax, VA 22030. *Weighted composition operators on the Bloch space in $\mathbb{C}^n$.*

Let f be a complex-valued holomorphic function on a bounded homogeneous domain D in $\mathbb{C}^n$ containing the origin. For $z \in D$ define

$$Q_f(z) = \sup_{u \in \mathbb{C}^n \setminus \{0\}} \frac{|(\nabla f)(z)u|}{H_z(u, \overline{u})^{1/2}},$$

where ∇f is the gradient of f and H_z is the Bergman metric on D at z. The *Bloch space* of D is the Banach space $\mathcal{B}(D)$ of functions f such that $\beta_f = \sup_{z \in D} Q_f(z) < \infty$ with norm $\|f\|_{\mathcal{B}} = |f(0)| + \beta_f$. For $z \in D$, define

$$\omega(z) = \sup\{|f(z)| : f \in \mathcal{B}(D),\ \|f\|_{\mathcal{B}} \leq 1,\ f(0) = 0\}.$$

Let ψ be a holomorphic function on D and let φ be a holomorphic self-map of D. In this talk, we explore the role that the function ω plays in determining conditions that guarantee boundedness and compactness of the weighted composition operator $W_{\psi,\varphi} : f \mapsto \psi(f \circ \varphi)$ on $\mathcal{B}(D)$ and provide norm estimates. This is joint work with Robert F. Allen of George Mason University. (Received September 09, 2008)