1078-51-258 **Hiroaki Ishida*** (ishida@sci.osaka-cu.ac.jp). *Torus actions on complex manifolds.*

When a compact torus T acts effectively on a connected smooth manifold M having a fixed point, it follows from the isotropy representation at a fixed point that $\dim T \leq \frac{1}{2}\dim M$. The extreme case when $\dim T = \frac{1}{2}\dim M$ is most interesting. A. Hattori and M. Masuda introduced the notion of torus manifold. A *torus manifold* is a connected closed oriented manifold of even dimension, say $2n$, with an effective $(S^1)^n$-action having a fixed point. In this talk, we will focus on a torus manifold equipped with an invariant complex structure. We will see that such a torus manifold is equivariantly biholomorphic to a non-singular complete toric variety. This is a joint work with Yael Karshon. (Received December 11, 2011)