1107-03-371   **Matthew Harrison-Trainor*** (`matthew.h-t@berkeley.edu`), **Alexander Melnikov**, **Russell Miller** and **Antonio Montalbán**. *Computable functors and effective interpretability.*

It is well-known in model theory that an interpretation of $\mathcal{A}$ in $\mathcal{B}$ induces a functor from copies of $\mathcal{B}$ to copies of $\mathcal{A}$. If the interpretation is effective—that is, if the formulas involved are all computable Σ_1 formulas—then the functor is computable, i.e. it is given by a Turing functional. I will talk about some recent work where we show that the converse is also true: if there is a computable functor from $\mathcal{B}$ to $\mathcal{A}$ then we can construct an interpretation of $\mathcal{A}$ in $\mathcal{B}$. I will also talk about bi-interpretations and give some examples. (Received January 20, 2015)