1067-33-626 **Mourad E. H. Ismail*** (`mourad.eh.ismail@gmail.com`), Department of Mathematics, City U of Hong, Kong, Kowloon, Hong Kong. *Biorthogonal Rational Functions and R Fractions.*

We discuss some old and new biorthogonal rational functions related to the R_I and R_{II} fractions introduced by Ismail and Masson in Transactions Amer. Math. Soc. 346 (1994), pp. 63–116. These fractions extend the T- fractions. Some of the new functions come from the work by Ian Macdonald on Hecke algebras. We also indicate how the $_{10}\phi_9$ biorthogonal rational functions lead to an isochronous system of interacting particles. Some of the results presented are from joint papers in preparation with Dennis Stanton and with Mizan Rahman. (Received September 12, 2010)