

---

**TATIANA HOWARD**, University of Michigan, Ann Arbor, MI  
*Real Lie subalgebras of equal rank*

It is known that if  $\mathfrak{g}$  is a complex simple Lie algebra, then the maximal complex Lie subalgebras  $\mathfrak{h}$  of rank equal to the rank of  $\mathfrak{g}$  are obtained from the extended Dynkin diagram of  $\mathfrak{g}$  by removing either one node with a prime label or two nodes with labels both equal to one (the label is the multiplicity of a given root in the highest root). Jeffrey Adams and I are working on an algorithm that will answer whether a given real form  $\mathfrak{h}_0$  of  $\mathfrak{h}$  is a subalgebra of a real form  $\mathfrak{g}_0$  of  $\mathfrak{g}$ . This problem was solved by Berger for the special case when  $\mathfrak{h}$  is obtained by removing a node with label equal to two. I will discuss our algorithm in the case when  $\mathfrak{g}_0$  and  $\mathfrak{h}_0$  are in the compact inner class.