1024-11-187 **Ognian Trifonov*** (trifonov@math.sc.edu), Department of Mathematics, LeConte College, 1523 Greene Street, University of South Carolina, Columbia, SC 29208, **Michael Filaseta** (filaseta@math.sc.edu), Department of Mathematics, LeConte College, 1523 Greene Street, University of South Carolina, Columbia, SC 29208, and **Travis Kidd**. *On the irreducibility of the Laguerre polynomials* $L_m^{(m)}(x)$.

The generalized Laguerre polynomials are defined by

$$L_m^{(\alpha)}(x) = \sum_{j=0}^{m} \frac{(m+\alpha)\cdots(j+1+\alpha)(-x)^j}{(m-j)!j!}.$$

Back in the 1930's I. Schur showed that $L_m^{(1)}(x)$ for odd $m > 1$, and $L_m^{(-m-1)}(x)$ when m is divisible by 4, have associated Galois group the alternating group A_m. In the case $m \equiv 2 \pmod 4$, R. Gow proved that $L_m^{(m)}(x)$ has associated Galois group A_m too, provided $L_m^{(m)}(x)$ is irreducible and $m > 2$. We finish I. Schur's work by showing that $L_m^{(m)}(x)$ is irreducible when $m \equiv 2 \pmod 4$ and $m > 2$. (Received January 08, 2007)