

# Meeting on Computational and Analytic Problems in Spectral Theory

Cardiff School of Computer Science & Informatics, June 6<sup>th</sup>-9<sup>th</sup> 2016

## Abstract of Talk

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### THE ASSOCIATED LEGENDRE EQUATION AND GENERALIZED NEVANLINNA FUNCTIONS

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We consider the equation

$$-(1-x^2)y'(x)' + \left(\frac{1}{4} + \frac{\ell^2}{1-x^2}\right)y(x) = \lambda y(x), \quad x \in (-1, 1),$$

and study the Titchmarsh–Weyl function, which corresponds to the Frobenius solutions at one endpoint. It is a generalized Nevanlinna function which contains all the spectral information of the problem. Joint work with C. Fulton and A. Luger.