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**TATYANA FOTH**, University of Western Ontario  
*Riemann surfaces and quantization*

Let  $X$  be a hyperbolic Riemann surface. Let  $L$  be the holomorphic cotangent bundle on  $X$ . Let  $k$  be a positive integer and let  $V_k$  be the space of integrable holomorphic sections of  $L^{\otimes k}$ . The space  $V_k$  can be interpreted as the space of wave functions of a quantum-mechanical particle, with  $X$  being the classical phase space and  $k$  being  $1/\hbar$ . I will describe some recent results that provide information about  $V_k$ .