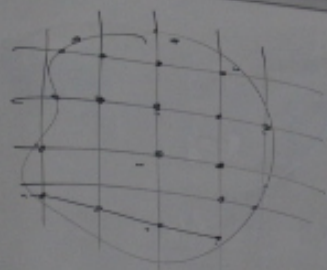


Mathematical Finance lies at the intersection of

- Partial Differential Equations
- Numerical Analysis
- Stochastic Differential Equations
- Applied Probability
- Economics
- Statistics



F.D.M.



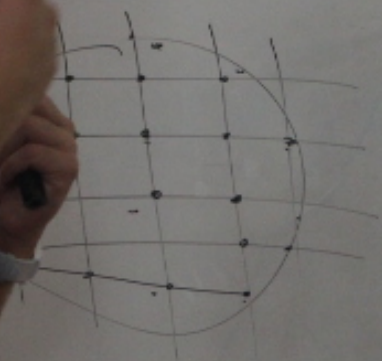
F.E.M.



R.B.F.

...ction:  $\phi(x) = \phi(x)$   
...tated around a center point.  
Example: Gaussians  $\phi(r) = e^{-r^2}$   
Approximation:  $s(x) = \sum_{i=1}^n \lambda_i \phi_i(x)$   
The coefficients,  $\lambda_i$ , are chosen such that the approximation has  $n$  entries

... entries  
...  $\phi(x)$



F.D.M.

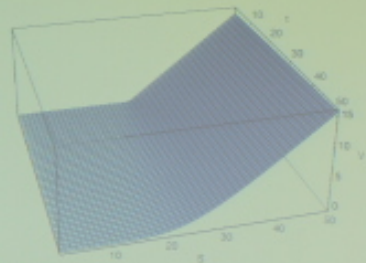


Figure 2: RBF approximation to European Call option price  $V(S, t)$ .



