

PD. Dr. Patricio Farrell

Research Group Leader / Applied Mathematician

Numerical Methods for Innovative Semiconductor Devices, Weierstrass Institute Berlin (WIAS)



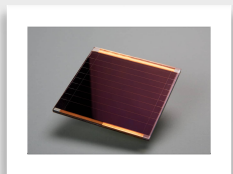
Vice Chair

Committee for Mathematical Modeling, Simulation and Optimization



Applications

Perovskites



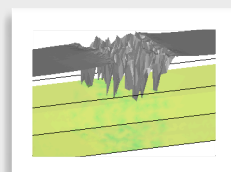
Nanowires



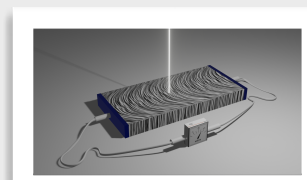
Lasers



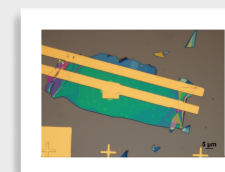
Quantum wells



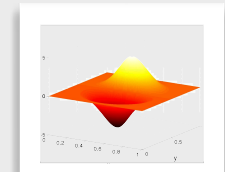
Imaging



Memristors



Meshfree methods



Mathematical Topics

drift-diffusion, finite strain, Helmholtz, inverse problems, data-driven techniques, mesh free methods, multiscale methods

Collaborations

8 universities

Uni Oxford, Uni Lille, Uni Florence, Uni Catania,
TU Vienna, Uni Pisa, TU Ilmenau, Uni Rosario

7 research institutes

Inria, Tyndall Institute, Helmholtz Zentrum Berlin (HZB),
Zuse Institute Berlin (ZIB), Institut für innovative Mikroelektronik (IHP),
Institut für Kristallzüchtung (IKZ), Ferdinand-Braun-Institut (FBH)

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Unleash mathematics. Transform the future.

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Our Mission



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We bring together experts to promote application-driven mathematics.

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We represent Germany within the European network EU-MATHS-IN.

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We identify future research agendas in our challenge workshops.

We solve real-world problems by matching experts in industry and academia.

We drive innovation in industry by developing cutting-edge research.

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We showcase industry-academia collaborations in our success stories.