

## סמינר - SEMINAR

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 5.03.2018 (יח' באדר, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 14:30.

מרצה:

**Prof. S.G. Chefranov**

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על הנושא:

### **The exact solution of the 3D vortex compressible Euler equation and Clay Millennium Prize Problem generalization**

The seminar will be given in English

להלן תקציר ההרצאה:

The exact common solution of the Cauchy problem to the compressible vortex 3D Euler equation (also known as vortex Helmholtz's equation) is obtained in the infinite space for the case of inertial motion of fluid particles, corresponding to 3D Hopf's equation for the velocity field in the ideal fluid. The exact closed description to the evolution of the enstrophy and for the all higher moments of the vortex field is given for this solution, i.e., the closeness problem to the turbulence theory is now solved exactly. On the base of this solution the smooth solution of the 3D compressible Navier-Stokes equation is obtained by using approximate description for the viscosity force (due to the introduction of either stochastic Gaussian velocity or the homogeneous friction). This gives positive answer on the Millennium Prize Problem generalization for the case of compressible Navier-Stokes equation.

מארח: פרופ' אולג גנדלמן

בברכה,

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מרכז הסמינרים