

# Sergei Avdonin

## Research interests:

Control theory for partial differential equations

Inverse problems

Nonharmonic Fourier series

## Two representative publications:

S.A. Avdonin and S.A. Ivanov, *Families of Exponentials. The Method of Moments in Controllability Problems for Distributed Parameter Systems*, Cambridge University Press, 1995, New York, London, Melbourne.

S. Avdonin and P. Kurasov, *Inverse problems for quantum trees*, *Inverse Problems and Imaging*, **2** (2008), no. 1, 1–21.

## Education:

Ph.D. in Mathematics, St. Petersburg (Leningrad) State University, 1977

## Honors and Awards:

### AWARDS

**2012** Usibelli Research Award, University of Alaska Fairbanks

**2011** Visiting Distinguished Professor, Mexican Academy of Sciences

**2009** Scholarship of the Italian Academy of Sciences

**2008** Miller Scholarship, University of Missouri Columbia

**1977** First Prize of St. Petersburg (Leningrad) State University for Young Scientists

### GRANTS

**2013–2016** Australian Research Council grant “Interrogation and Estimation of Differential Equation Networks”

**2007–2011** NSF grant “Boundary Inverse Problems in Glaciology”

**2004–2008** NSF grant “The Basal Velocity Field of a Glacier: An Inverse Approach”

**2003–2004** US National Academy of Sciences grant “Control and inverse problems for distributed parameter systems on graphs”

**2003–2004** DOD grant “Spintronics”,

**1998–2001** Grant of the Australian Research Council “Boundary control in sampling and interpolation of band-limited signals”

**1997–2000** Grant of the Russian Foundation of Basic Research “Controllability problems for hybrid systems”

**1995–98** NSF International Research Grant, USA, “Bases of exponentials in control of distributed parameter systems”

**1995–97** Grant of the Russian Foundation of Basic Research “Boundary control in inverse problems of mathematical physics”

**1994–96** ESPRIT grant of the Commission of the European Communities, “Control and inverse problems for partial differential equations”

**1994-95** Grant of the International Science Foundation “Nonharmonic Fourier series in control theory”

**1993** Grant of the International Science Foundation “Riesz bases of vector-valued exponentials”

**1992-93** Grant of the University Research Program, Russia “Inverse problem for multi-channel acoustic system”

**Activities:**

**Associate Editor** *International Journal of Applied Math. and Computer Science*

**Associate Editor** *Vestnik St. Petersburg University: Applied Mathematics*

**Organizer** Minisymposium “Differential Equations on Graphs and their Applications”, International Congress on Industrial and Applied Mathematics, Vancouver, July 18-22, 2011

**Organizer** Special Session “Theory and Applications of Differential Equations on Graphs”, Joint Mathematics Meeting, San Diego, January 9-12, 2013

**Organizer** International Conference “New Trends in Differential and Difference Equations,” Chattanooga, TN, March 15-16, 2013

**Organizer** Special Session “Theory and Applications of Differential Equations on Graphs”, AMS Sectional Meeting, Baltimore, MD, March 29-30, 2014

**Organizer** Special Session “Differential and Difference Equations on Graphs and their Applications”, 10 AIMS International Conference on Dynamical Systems and Differential Equations, Madrid, Spain, July 7-11, 2014

**Ph.D. advising**

Supervised seven Ph.D. theses. Six of my former Ph.D. students work as professors in academic institutes. My 2009 Ph.D. graduate, Anna Bulanova, is currently a postdoc in Yale University.