

## PERSONAL INFORMATION



### OLEKSIY KAPUSTYAN

📍 22, Lyatoshynskiy Str., app.53, Kyiv, 03191, Ukraine  
☎ (+38 044) 259-01-30 📠 (+38050) 361-99-77  
✉ alexkap@univ.kiev.ua  
kapustyanav@gmail.com

Sex Male | Date of birth 30/10/1975 | Nationality Ukraine

Languages Ukrainian, Russian (native), English (B2)

## AFFILIATION

Professor of Integral and Differential Equations Department,  
Mechanics and Mathematics Faculty,  
Taras Shevchenko National University of Kyiv

Leading Researcher, Institute for Applied System Analysis,  
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

## SCIENTIFIC INTERESTS

Nonlinear evolution equations, impulsive systems, set-valued dynamical systems, global attractors of infinite-dimensional dynamical systems, evolution inclusions, optimal control problems

## WORK EXPERIENCE

09/1998 – 08/1999

### Assistant Professor

Institute of Physics and Technology,  
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

09/1999 – 12/2003

### Assistant Professor

Integral and Differential Equations Department, Mechanics and Mathematics Faculty,  
Taras Shevchenko National University of Kyiv

12/2003 – 12/2008

### Associate Professor

Integral and Differential Equations Department, Mechanics and Mathematics Faculty,  
Taras Shevchenko National University of Kyiv

12/2008 – Present

### Professor

Integral and Differential Equations Department, Mechanics and Mathematics Faculty,  
Taras Shevchenko National University of Kyiv

09/2010 – 05/2015

### Professor

Faculty of Management and Marketing,  
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

09/2009 – Present

### Leading Researcher

Institute for Applied System Analysis,  
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

## EDUCATION AND DEGREES

1992 – 1997

### Student

Department of Mathematical Analysis, Mechanics and Mathematics Faculty,  
Taras Shevchenko National University of Kyiv

- diploma with honour

1997 – 2000

### Postgraduate Student

Integral and Differential Equations Department, Mechanics and Mathematics Faculty,  
Taras Shevchenko National University of Kyiv

## Candidate of Physical and Mathematical Sciences (PhD)

25/09/2000

Phd in Mathematics, Taras Shevchenko National University of Kyiv

- Thesis "Existence and approximations of global attractors for nonlinear evolution equations"

## Doctor of Science (Dr. Sci.)

15/01/2008

Habilitation in Mathematics at the Institute of Mathematics of National Academy of Sciences of Ukraine

- Thesis "Global attractors of nonautonomous multi-valued dynamical systems"

## AWARDS AND GRANTS

2001	Award of the Academy of Sciences of Ukraine for young scientists for the work "Existence and approximation of global attractors of nonlinear evolution equations"
2005	Award of the President of Ukraine for young researchers for the work "Analytical methods of investigations of nonlinear evolution systems"
2010	Award of the Academy of Sciences of Ukraine
2011	Grant of the President of Ukraine Project GP/F32/0029 "Qualitative behavior and control for evolution equations and inclusions"
2015	Grant of the President of Ukraine Project GP/F62/94 "Attractors of discontinuous dynamic systems"
2018	DAAD scholarship, Funding programme: Bilateral Exchange of Academics, 2018
2018	Grant of the President of Ukraine Project GP/F78/187 "Stability of attracting sets of impulsive dynamic systems"
2019-2021	Grant DFG-SFFRU, German-Ukrainian project "Stability and robustness of attractors of nonlinear infinite-dimensional systems with respect to disturbances" (jointly with S. Dashkovskiy)

## FELLOWSHIPS AND SHORT-TERM VISITS

09/2013	Short-term Visiting Professorship at Miguel Hernandez University, Elche, Spain
01/02/ 2015 – 31/05/2015	Research Fellowship at Institute of Mathematics of National Academy of Sciences of Ukraine, Department of Differential Equations and Oscillation Theory
10/2015	Short-term Visiting Professorship at Erfurt University of Applied Sciences, Germany
10/2016, 11/2018, 02/2019	Short-term Visiting Professorships at the University of Würzburg, Germany

## MEMBERSHIPS

2005 – Present	Kyiv Mathematical Society (member)
2010 – Present	Specialized Academic Councils for the defense of candidate and doctoral dissertations at Taras Shevchenko National University of Kyiv (member)
2017 – Present	Specialized Academic Councils for the defense of candidate and doctoral dissertations at the Institute of Mathematics of the National Academy of Sciences of Ukraine (member)
2017 – Present	«Bulletin of Dnipropetrovsk University. Series: Communications in Mathematical Modeling and Differential Equations Theory» (member of Editorial Board)
2017 – Present	«Researches in Mathematics and Mechanics» (member of Editorial Board)

## TEACHING COURSES

National Technical University  
of Ukraine "Igor Sikorsky Kyiv  
Polytechnic Institute"  
(1998-1999, 2010-2015)

- Mathematical Analysis
- Differential Equations
- Functional Analysis

Taras Shevchenko National  
University of Kyiv  
(1999-2019)

- Differential Equations
- Calculus of Variations
- Extremum Problems
- Control Theory
- Dynamic Systems
- Mathematical Economics
- Financial Mathematics

University of Würzburg  
(2019)

- Stability in PDE

## LIST OF SELECTED PUBLICATIONS

1. Kapustyan O.V. Attractor of semiflow, generated by phase-field system without uniqueness // Ukrainian Math. Journal, 1999, vol.51, №7.
2. Kapustyan O.V., Valero J. Attractors of multivalued semiflows, generated by differential inclusions and their approximations // Abstract and Applied Analysis, 2000, vol.5, №1
3. Kapustyan O.V. Global attractors of non-autonomous reaction-diffusion equation // Differential Equations, 2002, vol.38, №10.
4. Kapustyan O.V., Perestyuk M.O. Global attractors of evolution inclusion with impulsive perturbations at fixed moments of time // Ukrainian Math. Journal, 2003, vol.55, № 8.
5. Kapustyan O.V., Melnik V.S., Valero J. Attractors of multivalued dynamical processes generated by phase-field equations // International Journal of Bifurcation and Chaos, 2003, vol.13, №7
6. Kapustyan O.V. Random attractor for stochastically perturbed evolution inclusion // Differential Equations, 2004, vol.40, №10.
7. Iovane G., Kapustyan O.V., Global attractor for impulsive reaction-diffusion equation // Nonlinear oscillations, 2005, vol.8, №3
8. Kapustyan O.V., Valero J. On the connectedness and asymptotic behaviour of solutions of reaction-diffusion system // Journal of Mathematical Analysis and Applications, 2006, № 323
9. Kapustyan O.V., Melnik V.S., Valero J. A weak attractor and properties of solutions for the three-dimensional Benard problem // Discrete and Continuous Dynamical Systems, 2007, vol.18, № 2
10. Kapustyan O.V., Valero J. Weak and strong attractors for 3D Navier-Stokes system // Journal of Differential Equations, 2007, vol.240, № 2
11. Iovane G., Kapustyan O.V., Valero J. Asymptotic behaviour of reaction-diffusion equations with non-damped impulsive effects // Nonlinear Analysis: Theory, Methods & Applications, 2008, vol. 68.
12. Kapustyan O.V., Valero J. On the Kneser property for the complex Ginzburg-Landau equation and the Lotka-Volterra system with diffusion // Journal of Mathematical Analysis and Applications, 2009, vol. 357.
13. Kapustyan O.V., Valero J. Comparison between trajectory and global attractors for evolution systems without uniqueness of solutions // International Journal of Bifurcation and Chaos, 2010, vol.20, № 9.
14. Kapustyan O.V., Kasyanov P.O., Valero J. Pullback attractors for some class of extremal solutions of the 3D Navier-Stokes system // Journal of Mathematical Analysis and Applications, 2011, vol. 373.
15. Kapustyan O.V., Perestyuk M.O. Long-time behavior of evolution inclusion with non-damped

- impulsive effects // *Memoirs on Differential Equations and Mathematical Physics*, 2012, vol.56.
16. Kapustyan O.V., Pankov A.V., Valero J. On global attractors of multivalued semiflows generated by the 3D Benard system // *Set-valued and Variational Analysis*. – 2012, vol.20, №3.
  17. Gorban N.V., Kapustyan O.V., Kasyanov P.O. Uniform trajectory attractor for non-autonomous reaction diffusion equations with Caratheodory's nonlinearity // *Nonlinear Analysis*. – 2014, vol.98, P. 13-26
  18. Kapustyan O.V., Kasyanov P.O., Valero J. Structure and regularity of the global attractor of reaction-diffusion equation with non-smooth nonlinear term // *Discrete and Continuous Dynamical Systems*. – 2014, vol. 34, № 10, P. 4155-4182
  19. Kapustyan O.V., Kasyanov P.O., Valero J. Regular solutions and global attractors for reaction-diffusion systems without uniqueness // *Communications on Pure and Applied Analysis*. – 2014, vol.13, №5, P. 1891-1906
  20. Kapustyan O.V., Kasyanov P.O., Valero J. Structure of the global attractor for weak solutions of a reaction-diffusion equation // *Applied Mathematics and Information Sciences*. – 2015, vol.9, № 5, P. 2257-2264
  21. Amigo J.M., Gimenez A., Kapustyan O.V., Kasyanov P.O., Valero J. Convergence of numerical approximations for a non-Newtonian model of suspensions // *International Journal of Bifurcation and Chaos* – 2015, vol.25, № 14
  22. Amigo J.M., Gimenez A., Kapustyan O.V., Kasyanov P.O., Valero J. Convergence of equilibria for numerical approximations of a non-Newtonian model of suspensions // *Computers and Mathematics with Applications*. - 2016, vol.72. – P. 856-878
  23. Kapustyan O.V., Kasyanov P.O., Valero J. Regularity of global attractors for reaction-diffusion systems with no more than quadratic growth // *Discrete and Continuous Dynamical Systems*. – 2017, vol. 22, № 5, P. 1899-1908
  24. Dashkovskiy S., Kapustyan O., Romaniuk I. Global attractors of impulsive parabolic inclusions // *Discrete and Continuous Dynamical Systems*. – 2017, vol. 22, № 5, P. 1875-1886
  25. Dashkovskiy S., Feketa P., Kapustyan O., Romaniuk I. Invariance and stability of global attractors for multi-valued impulsive dynamical systems // *Journal of Mathematical Analysis and Applications*. – 2018, vol. 458, P. 193-218
  26. Kapustyan O.V., Kasyanov P.O., Valero J., Zgurvskiy M. Attractors of multivalued semi-flows generated by solutions of optimal control problems // *Discrete and Continuous Dynamical Systems*. – 2019, vol.24, №3, P.1229-1242
  27. Dashkovskiy S., Kapustyan O., Schmid J. Asymptotic gain results for global attractors of semilinear systems // *Mathematical Control and Related Fields* – 2019