

May 8, 2008

**Michail Zhitomirskii**

ID 310538079

Department of Mathematics

Technion-Israel Institute of Technology

Haifa 32000, Israel

Tel.: 04-8294026

Email: mzhi@techunix.technion.ac.il

## CURRICULUM VITAE

Date and place of birth: May 6, 1958; Kiev, USSR

Date of immigration to Israel: November 1992

Marital status: married, 2 children

### Academic Degrees

1979 M.Sc. in Mathematical Sciences Kharkov State University, USSR  
1983 Ph.D. in Mathematical Analysis Kharkov State University, USSR

### Academic Appointments

July 2006– Professor, Mathematics Department,  
Technion–Israel Institute of Technology, Haifa, Israel  
Nov. 1992– Associate Professor, Mathematics Department,  
Technion–Israel Institute of Technology, Haifa, Israel  
July 1998–June 1999 Visiting Associate Professor, Mathematics Department,  
University of California, Santa Cruz, USA  
Aug. 1991–Nov. 1992 Visiting Research Professor, Instituto de Matematica  
Pura e Aplicada, Rio de Janeiro, Brazil  
Jan. 1991–July 1991 Visiting Professor, Mathematics Department,  
Plymouth Polytechnic South West, UK  
Oct. 1979–Dec. 1990 Junior Researcher/Senior Researcher/Senior Lecturer,  
Kharkov Institute of Radio Electronics, USSR

### Invited Short-Term Visits (month and longer)

2006, 2004, 2003, 1997 Banach Center, Warsaw, Poland  
2004, 1999 Max Planck Institute, Bonn, Germany  
2003 SISSA, Trieste, Italy  
2001 Universite de Bourgogne, Dijon, France  
2000 Newton Institute, Cambridge, UK  
1998, 1995 University Montpellier–2, France  
1998, 1994 Sao Paulo University, Brazil  
1997, 1996 INSA, Rouen, France  
1996, 1995, 1993 Institute of Mathematics, Warsaw, Poland

## Research Interests

Singularities and Normal Forms in Various Areas of Local Analysis

## Teaching Experience

Various graduate and undergraduate courses at the Technion, UC Santa Cruz (USA), University de Bourgogne (France), IMPA (Brazil), Plymouth University (UK) and Kharkov Institute of Radio Electronics (USSR). In particular, I gave the following graduate courses at the Technion:

- Introduction to Singularity Theory, Dynamical Systems, Local Normal Forms

## Departmental and Technion Activities

2004– Mathematics Department Representative to Physics Department  
 2003– Member of the Committee on Service Math Courses  
 2000–2002 Member of the Committee on Postdocs and Visitors  
 1998–2000 Member of the Library Committee  
 1996–1997 Member of the Committee on Graduate Courses

## Public Professional Activities

- Member of Editorial Board: Journal of Dynamical and Control Systems (since 2004).
- Referee for various scientific journals and of various research proposals.

## Organization of Conferences

- Organizer of International Workshop on Singularities and Control Theory sponsored by the Institute for Advanced Studies in Mathematics at the Technion, 30 December 1996–6 January 1997.
- Co-organizer of International Workshop on Poisson Structures, August 1998 (a satellite meeting to Berlin International Congress).
- One of organizers of International Conference on Algebra and Analysis sponsored by the Institute for Advanced Studies in Mathematics at the Technion, April 3-6, 2006

## Honors

- Guastella Fellowship, Israel (1993–1995)
- Fellowship of CNPQ, Brazil (1991–1992)
- Kharkov Mathematical Society Prize for Young Mathematicians (1990)

## Graduate Students

- J. Yang      Ph.D. 1997  
 “Polynomial normal forms of vector fields.”
- I. Zelenko    M.Sc 1998  
 “Non-regular abnormal geodesics of 2-distributions:  
 existence, second variation and rigidity.”
- Ph.D. 2002  
 “Invariant curves in Lagrangian Grassmannian  
 and differential geometry of smooth control systems.”

## Research Grants

- Binational Science Foundation grant (BSF), No. 94-00268,  
 with R. Montgomery, USA (1996–1998)
- Israel Science Foundation grant (ISF), No. 78/01 (2001–2004)
- Israel Science Foundation grant (ISF), No. 1356/04 (2004–2007)
- Israel Science Foundation grant (ISF), No. 1383/07 (2007–2011)

## Invited and Plenary Talks at Conferences

1. *Second International Workshop on Real and Complex Singularities*, Sao Carlos, Brazil, August 1992. “Differential forms and vector fields with a manifold of singular points.”
2. *Third International Workshop on Real and Complex Singularities*, Sao Carlos, Brazil, August 1994. “Rigid curves in the sub-Riemannian geometry.”
3. *Symposium on Singularities in Differential Equations and Pfaff Systems, part 2: Singularities of Vector Fields*, Stefan Banach International Mathematical Center, Warsaw, Poland, October 1995. “Orientation on the Martinet surface and global reduction theorems.”
4. *International Workshop on Singularities and Control Theory*, Institute of Advanced Studies in Mathematics, Technion, Haifa, December 30, 1996 - January 6, 1997. “Open problems in geometric control theory.”
5. *International Workshop “Singularities et Geometrie Sous Riemannienne,”* Universite de Savoie, Chambéry, October 7-10, 1997.
  1. “Singular contact structures, reduction to the Martinet surface.”
  2. “Darboux and Martinet theorems in control theory.”
6. *International Workshop “Controle des systemes non lineaires,”* Institut Henri Poincare, Paris, January 26–30, 1998. “Bifurcations related to the stabilizability of control systems on a plane”.
7. *International Conference on Local Differentiable Dynamics and Applications to Bifurcation Theory*, Diepenbeek, Belgium, June 15-19, 1998. “Bifurcations in control theory.”
8. *The 5-th International Workshop on Real and Complex Singularities*, Sao Carlos, Brazil, July 25–31, 1998.  
 “Local reduction theorems and invariants for singular contact structures.”

9. *An International Conference on Complex Analysis in Dynamical systems*, IMPA, Rio de Janeiro, September 1-11, 1998. “Singular contact structures on  $C^3$ .”
10. *An International Workshop on Applications of Singularity Theory to Wave Propagation Theory and Dynamical Systems*, Newton Institute, Cambridge, UK, September 25-29, 2000. “Cartan prolongation, Legendrian curves, Goursat flags and related problems.”
11. *An International Workshop on Geometric Control Theory*, University of Aveiro, Portugal, September 25-27, 2001. “Relative Darboux theorem for singular manifolds.”
12. *An International Conference on Qualitative Theory of Differential Equations in Honor to the 60th Birthday of Prof. Jorge Sotomayor*, Universidade de Sao Paulo, Sao Carlos, June 17-21, 2002. “Relative Darboux theorem for singular manifolds.”
13. *International Workshop within the Trimester on Dynamical and Control Systems*, SISSA, Trieste, Italy, October 6–10, 2003. “Singularities of foliations and vector fields.”
14. *The International Conference “Polish - Japanese Singularity Theory Working Days”* (within the 21-st Century of COE Program “Mathematics of Nonlinear Structure via Singularities”, Hokkaido University, Japan), Bedlewo, Poland, August 30–September 8, 2004.
  1. “Germs and multigerms of integral curves in a contact 3-space.”
  2. “Points and curves in the monster tower.”
15. *The International Conference “Geometric Singularity Theory”*, Bukovina Tatranzaska, Poland, July 12-19, 2005. “Fully simple singularities of plane and space curves”.
16. *The International Symposium “Cartan Geometry and related Mathematical Problems”*, Kyoto University, Japan, October 24-27, 2005. “Cartan prolongation, Legendrization and Monsterization”.
17. *The International Conference “Barcelona Conference in Planar Vector fields”*, Universitat Autònoma de Barcelona in Bellaterra, Spain, February 13-17, 2006. “Curves in foliated plane”.
18. *The International Workshop “Geometry of vector distributions, differential equations, and variational problems”*, SISSA, Trieste, Italy, December 13-15, 2006. “Exact normal form for (2,5) distributions”.

## Invited Series of Lectures

19. *Banach Center Semester on Control Theory and Optimization, International Workshop on Geometry in Nonlinear Control*, Warsaw, Poland, June 1993. 5 lectures on “Singularities and normal forms of smooth distributions.”
20. *Symposium on Singularities in Differential Equations and Pfaff Systems, part 1: Analytic Geometry of Pfaff Systems*, Stefan Banach International Mathematical Center, Warsaw, Poland, September 1995. 3 lectures on “Singularities and invariants of distributions.”
21. *International Trimester on Dynamical and Control Systems*, SISSA-ICTP, Trieste, Italy, Sept.–Dec. 2003. Mini-course (10 lectures) “Singularities of foliations and vector fields.”

22. *International Workshop on Singularities of Differential Systems*, Hokkaido University, Sapporo, Japan, October 2005. 6 lectures on “Singularities of vector distributions.”

### Invited Section Talks

23. *Meetings of Moscow Mathematical Society and I.G.Petrovskii Seminar*, Moscow State University, USSR, January 1987. “Singularities of differential forms and partial differential equations.”
24. *Meetings of Moscow Mathematical Society and I.G.Petrovskii Seminar*, Moscow State University, USSR, January 1988. “Normal forms of odd-dimensional Pfaff equations.”
25. *Meetings of Moscow Mathematical Society and I.G.Petrovskii Seminar*, Moscow State University, USSR, February 1990. “Differential forms and divergence-free vector fields.”
26. *International Conference on Control Theory and its Applications*, Kibbutz Maale HaChamisha, Israel, October 1993. “Stable germs of control systems with respect to the feedback equivalence.”
27. *An international workshop on Symplectic Geometry*, Stanford University, USA, May 20-21, 1999. “Invariants of singular contact structures.”
28. The 8-th International Workshop on Real and Complex Singularities, CIRM, Marseille, France, July 19 - 23, 2004. “Germs and multigerms of integral curves in a contact 3-space.”

### Invited Seminar and Colloquium Talks

In 1990-2007 I gave 37 colloquium talks, 44 seminar talks, and 11 mini-courses in Brazil, China, England, France, Germany, Italy, Japan, Poland, Portugal, Spain, and USA, including

- |            |   |
|------------|---|
| Feb. 1999  | University of California at Berkeley, USA.<br>“Geometry on the Martinet surface.” |
| April 1999 | Stanford University, USA. “Singular contact structures.”                          |
| Sept. 2000 | Newton Institute, Cambridge, UK. “Internal curves in contact 3-space.”            |
| Feb. 2001  | University of Bourgogne, Dijon, France. “Local contact algebra.”                  |
| Oct. 2005  | Nara Women University, Japan. “Curves in foliated plane”.                         |
| Oct. 2006  | Inst. of Math., Warsaw, Poland “Classification problems of local analysis”.       |
| Oct. 2007  | Beijing University, China “Curves in foliated plane“                              |