

Update: January 25, 2012

Thomas I. Vogel

BIOGRAPHICAL SKETCH

IN THE PROFESSION

- 7/89-present Associate Professor, Texas A&M University,
College Station, Texas.
Have taught calculus, advanced calculus, linear algebra,
ODE's, complex variables, discrete math, mathematical
modeling at the undergraduate and graduate level,
and graduate level real analysis.
- Summer, 2008 Visited two weeks at Stanford University, (funding
source: Stanford and A&M).
- 7/1/03-8/15/03 Participant in Workshop on Capillarity, Max Planck
Institute for Mathematics, Leipzig, Germany.
(funding source: MPI and TAMU.)
- Summer, 1993 Visited one month at University of Leipzig, (funding
source: Leipzig).
- 8/83-6/89 Assistant Professor, Texas A&M University,
College Station, Texas.
- 7/87-8/87 Staff Scientist II, Lawrence Berkeley Laboratories,
Berkeley, California.
- 1/86-6/86 Visiting Assistant Professor, Ohio State University.
- 9/82-8/83 Research Associate, Mathematics Research Center,
University of Wisconsin, Madison, Wisconsin.
This post-doctoral appointment was purely research with
no teaching involved.
- 9/80-8/82 Assistant Professor, Northwestern University,
Evanston Illinois. Five one-quarter courses
taught per year, mostly calculus except
for an ODE's course.
- 9/76-6/80 Teaching Fellow, Stanford University, Stanford, California.

One quarter per year taught a three hour calculus course.

GRANTS

NSF grant #DMS-8801515 awarded for 7/1/88-12/31/90. Title was "Stability of liquid bridges with free curves of contact".

INVITED TALKS

- Hour talk entitled “Capillary Surfaces in Wedges and Cones”, at the 1991 Texas Geometry and Topology meeting, Austin, TX, October 1991.
- Forty minute talk entitled “Stability of a drop trapped between parallel planes” at the Workshop on Differential Geometry, Computer Graphics, and Calculus of Variations, held at MSRI, Berkeley, CA, May 1988.
- Fifty minute talk entitled “Stability and Energy Minimality for Capillary Surfaces”, March 29, 2001, at Wichita State University. (funding source: Wichita State and TAMU)
- Gave short talks at special sessions of AMS regional meetings, October 1988 (Lawrence, KS), October 1990 (Denton, TX), October 1999 (Austin, TX), March 2001 (Lawrence, KS), October 2001 (Chattanooga, TN) and at an AMS national meeting January 1991 (San Francisco, CA). I also gave a short talk at a special session of the International Conference on Differential Equations and Dynamical Systems, August 1997 (Waterloo, ON).

SERVICE

- Co-organized a special session on “Free surface interfaces and partial differential equations” at the AMS sectional meeting in Austin, October 8-10, 1999. Co-organized a special session titled “Variational problems for free surface interfaces” at the AMS sectional meeting in Chattanooga, October 2001.
- Faculty Senator (Fall 1995–Spring 1997, Fall 2004–Fall, 2010).
 - Chair of Academic Affairs Committee (Fall 2005–Fall 2007), chair of Faculty Senate Election committee, (Fall 1996–Spring 1997, Fall 2004–Fall 2006, Fall 2008–Fall, 2009). Co-chair, ad hoc committee on the University Studies degree, summer 2006.
 - Member of Faculty Senate Executive Committee, Spring 2007–Spring 2009.
 - Member of Academic Affairs Committee of Faculty Senate (Fall 2004–Spring, 2010), member of Faculty Senate Diversity subcommittee, (Fall 2006–Spring, 2010), member of Faculty Senate By-laws committee (Fall 2009–Spring, 2010), member of Faculty Senate Election committee (Fall 1995–Spring 1997, Fall 2004–Fall 2006, Fall 2008–Fall 2009), Committee on the Status of Lecturers (Fall 2004–Fall 2006), member of Faculty Senate Personnel and Welfare committee (Fall 1995–Spring 1997), Parking and Transportation subcommittee of P&W committee (Spring 1996–Spring 1997)
 - Faculty Senate representative to AOC (Fall 2005–Spring 2009). Faculty Senate representative to College of Science Undergraduate Curriculum Committee (Fall 2007–Spring, 2010)..
- Member of Task Force for Campus Arts Programs, Fall, 2009-Spring, 2010.
- Member of Honors Council, Fall 2011-present.
- Departmental ombudsman (1992-present). I handle about a half-dozen student complaints per semester. This often involves classroom visits to advise beginning instructors on teaching methods.

- Secretary for the Robert F. Smith Memorial Fund (this was founded by Math department members in the 1930's, but is independent of the Math department).
- Member of department's Promotion committee for lecturers (subcommittee L), Fall 2009–Fall, 2011.
- Member of department's Teaching committee (2006-2009). Member of department's Awards committee (2002-2006). Member of department's Promotion and Tenure subcommittee (1999-2001). Chair of Promotion and Tenure subcommittee (2000-2001). Member of Undergraduate Committee (1999-2001), member of Undergraduate Curriculum committee (1989-1992), undergraduate advisor (1989-1995). Member of Calculus Common Exam Committees, (1994-1996). Member of organizing committee for the Third, Fourth and Fifth Annual Texas A&M Mathematics tournaments, held November 1994, 1995, and 1996. Member of organizing committee for the Memorial Conference for Ilya Bakelman, 1993. Member of organizing committee for the 1990 and 1994 Texas Geometry and Topology meeting here at A&M.

DEGREES

- 9/76-8/80 Stanford University, Stanford, California.
 M.S. in Mathematics: 6/78
 Ph.D. in Mathematics: 1/81
 Thesis advisor: Robert Finn
 Courses included: real, complex, and functional analysis, algebra, topology, differential geometry, mathematical physics, calculus of variations, and a number of differential equations courses.
- 9/72-3/76 Michigan State University, East Lansing, Michigan.
 B.S. with high honors from Lyman Briggs College, with area of concentration in mathematics.

STUDENTS

- Jared Teslow, M.S. completed in May, 2006.
- Chris Fuqua, M.S. completed in May, 2008.

- Ron Ollis, M.S. completed in May, 2009
- Jeroen Stedehouder, M.S. completed in December, 2009.
- Daniel Godber (co-chair), M.S., completed in May, 2010.

RESEARCH INTERESTS

Existence, uniqueness, and stability problems for capillary surfaces.

REFEREED PUBLICATIONS

1. "Unbounded parametric surfaces of prescribed mean curvature", *Indiana U. J. Math.*, vol. 31, no. 2 (1982), 281-288.
2. "Symmetric unbounded liquid bridges", *Pac. J. Math.*, vol. 103, no. 1 (1982), 205-241.
3. "Asymmetric unbounded liquid bridges", *Annali Sc. Norm. Sup. Pisa*, series IV, vol. 9, no. 3 (1982), 433-442.
4. "Cavitation flow in a channel with oscillatory wall", (with Avner Friedman), *Non-linear Analysis*, vol. 8, no. 2 (1984), 115-132.
5. "A free boundary problem arising from a galvanizing process", *SIAM J. Math. Anal.*, vol. 16, no. 5 (1985), 970-979.
6. "Asymptotic behavior of two semi-linear elliptic free boundary problems", *Pac. J. Math.*, vol. 123, no. 2 (1986), 477-495.
7. "Stability of a drop trapped between two parallel planes", *SIAM J. Appl. Math.*, vol. 47, no. 3 (1987), 516-525.
8. "Uniqueness for certain surfaces of prescribed mean curvature", *Pac. J. Math.*, vol. 134, no. 1 (1988), 197-207.
9. "Stability of a drop trapped between parallel planes II: general contact angles", *SIAM J. Appl. Math.*, vol. 49, no. 4 (1989), 1009-1028.
10. "A note on the sessile drop", *Pac. J. Math.* vol. 144, no. 2 (1990), 383-388.
11. "Stability and bifurcation of a surface of constant mean curvature in a wedge", *Indiana U. J. Math.*, vol. 41, no. 3 (1992), 625-648.
12. "On the volume infimum for liquid bridges", joint work with R. Finn, *Zeitschrift fuer Analysis und Ihre Anwendungen* (1992), 3-23.
13. "Uniqueness for capillary surfaces in wedges and cones", pp. 129-138 of **Geometric Analysis and Non-linear Partial Differential Equations**, ed. I. Bakelman, Marcel Dekker NY, 1993.

14. “On constrained extrema”, *Pac. J. Math* vol. 176, no. 2 (1996), 557-561.
15. “Sufficient conditions for multiply constrained extrema”, *Pac. J. Math*, vol. 180, no. 2 (1997), 377–384.
16. “Non-linear Stability of a certain capillary surface”, *Dynamics of Continuous, Discrete, and Impulsive Systems*, vol. 5, no. 1-4, (1999), 1–16.
17. “Sufficient conditions for capillary surfaces to be energy minima”, *Pac. J. Math.*, vol. 194, no. 2 (2000), 469–489.
18. “Local energy minimality of capillary surfaces in the presence of symmetry”, *Pac. J. Math.*, vol. 206, no. 2 (2002), 487–509.
19. “Stability in a ball-partition problem”, *IJMMS*, vol. 2005, no. 8 (2005), 1283–1290.
20. “Comments on Radially Symmetric Liquid Bridges with Inflected Profiles”, *Dynamics of Continuous, Discrete, and Impulsive Systems*, Supplement Volume (2005), 862–867.
21. “Convex, Rotationally Symmetric Liquid Bridges between Spheres”, *Pac. J. Math.*, vol. 224, no. 2 (2006), 367–377.
22. “Floating Criteria in Three Dimensions”, (with Robert Finn), *Analysis*, vol. 29 (2009), 387–402 .

UNREFEREED PUBLICATIONS

1. “Symmetric and asymmetric unbounded liquid bridges”, Thesis (1980), Stanford University.
2. “A free boundary problem arising from a galvanizing process”, Technical Summary Report 2540, August 1983, Mathematics Research Center.
3. “Stability of a drop trapped between two parallel planes: preliminary report”, **Variational Methods for Free Surface Interfaces**, ed. by P. Concus and R. Finn, Springer-Verlag New York, 1987, pp. 139-144.

4. "Types of instability for the trapped drop problem with equal contact angles", **Geometric Analysis and Computer Graphics**, ed. by P. Concus, R. Finn, and D.A. Hoffman, Springer-Verlag New York, 1991, pp. 195-203.
5. "Numerical results on the stability of a drop dropped between parallel planes", Lawrence Berkeley Laboratories technical report LBL-30486, March 1991.
6. "Stability in a ball-partition problem", Max Planck Institute preprint 76/2003.