

## Refereed Publications:

- [P1] *Bifurcation of a unique and stable periodic orbit from a homoclinic orbit in some infinite dimensional systems* (with S.N. Chow), *Trans. A.M.S.*, 312(1989), pp.539–587.
- [P2] *The Šil'nikov problem, exponential expansion, strong  $\lambda$ -lemma,  $C^1$ -linearization, and homoclinic bifurcations*, *J.D.E.*, 79(1989), pp.189–231.
- [P3] *Exponential expansion with Šil'nikov's saddle-focus*, *J.D.E.*, 82(1989), pp.156–173.
- [P4] *Homoclinic bifurcations with nonhyperbolic equilibria*, *SIAM. J. Math. Anal.*, 21(1990), pp.693–719.
- [P5] *Homoclinic bifurcation at resonant eigenvalues* (with S.N. Chow and B. Fiedler), *J.D.D.E.*, 2(1990), pp.177–244.
- [P6] *The bifurcation of homoclinic and periodic orbits from heteroclinic orbits* (with S.N. Chow and D. Terman), *SIAM J. Appl. Math.*, 21(1990), pp.179–204.
- [P7] *The bifurcation of a homoclinic orbit from two heteroclinic orbits—a topological approach* (with S.N. Chow and D. Terman), *Applicable Analysis*, 42(1991), pp.275–299.
- [P8] *The bifurcations of countable connections from a twisted heteroclinic loop*, *SIAM J. Math. Anal.*, 22(1991), pp.653–679.
- [P9] *The existence of infinitely many traveling front and back waves in FitzHugh-Nagumo equation*, *SIAM J. Math. Anal.*, 22(1991), pp.1631–1650.
- [P10] *The transverse homoclinic dynamics and its bifurcation with nonhyperbolic fixed points*, *Trans. A.M.S.*, 331(1991), pp.15–53.
- [P11] *Smooth conjugacy of center manifolds* (with A. Burchard and K.N. Lu), *Proc. Royal Soc. Edinburgh*, 120A(1992), pp.61–77.
- [P12] *On Šil'nikov's homoclinic-saddle-focus theorem*, *J.D.E.*, 102(1993), pp.305–329.
- [P13] *Homoclinic twisting bifurcations and cusp horseshoe maps*, *J.D.D.E.*, 5(1993), pp.417–467.
- [P14] *A mathematical model that mimics the bursting oscillations in pancreatic  $\beta$ -cells*, *Math. Biosciences*, 119(1994), pp.241–250.
- [P16] *Constructing homoclinic orbits and chaotic attractors*, *Int. J. Bif. & Chaos*, 4(1994), pp.823–841.
- [P17] *Šil'nikov-Hopf bifurcations* (with K. Sakamoto), *J.D.E.*, 119(1995), pp.1–23.
- [P18] *Constructing Lorenz type attractors through singular perturbations*, *Int. Bif. & Chaos*, 5(1995), pp.1633–1642.
- [P19] *Conjugation for polynomial mappings* (with G. H. Meisters and G. Zampieri), *Z angew Math Phys*, 46(1995), pp.872–882.
- [P20] *Spiral-plus-saddle attractors and elementary mechanisms for chaos generation*, *Int. Bif. & Chaos*, 6(1996), pp.513–527.
- [P21] *Folding at the genesis of chaos*, *Proceedings of the First World Congress of Nonlinear Analysts, Vol. IV*(1996), pp.3765–3777, Walter de Gruyter Publishers, Berlin.
- [P22] *Exponential expansion with principal eigenvalues*, *Int. Bif. & Chaos*, 6(1996), pp.1161–1167.
- [P23] *Theory and application of a nongeneric heteroclinic loop bifurcation* (with S.N. Chow and M. J. Friedman), *SIAM J. Appl. Math.* **59**(1999), pp.1303–1321.
- [P24] *Glucose-induced period-doubling cascade in the electrical activity of pancreatic  $\beta$ -cells*, *J. Math. Bio.*, 38(1999), pp.21–78.
- [P25] *Dynamic behavior of a ferroelectric actuator* (with Qing Jiang), *Mechanics and Mathematics of Solids*, 4(1999), pp.89–107.
- [P27] *On a nonlinear communication scheme*, (with S.-N. Chow and J.K. Hale), *Int. J. Bif. & Chaos*, **11**(2001), pp.2227–2232.
- [P28] *Food chain chaos due to junction-fold point*, *Chaos*, **11**(2001), pp.514–525.
- [P29] *Chaotic attractors in one-dimension generated by a singular Shilnikov orbit*, (with K. Taylor), *Int. J. Bif. & Chaos*, **12**(2001), pp.3059–3083.
- [P30] *Singular perturbation of  $n$ -front traveling waves in the FitzHugh-Nagumo equations*, (with D. Bell), *Nonlinear Analysis, Real World Applications*, **3**(2002), pp.515–541.
- [P31] *Food chain chaos due to Shilnikov's orbit*, (with G. Hines), *Chaos*, **12**(2002), pp.533–538.
- [P32] *Food chain chaos due to transcritical point*, (with G. Hines), *Chaos*, **13**(2003), pp.578–585.
- [P33] *Food chain chaos with canard explosion*, *Chaos*, **14**(2004), pp.1083–1092.

- [P34] *Chaotic coexistence in a top-predator mediated competitive exclusive web*, (with B. Bockelman\*, E.Green\*, G. Hines, L. Lippitt\*, & J. Sherman\*), J. Dyna. Diff. Eq., **16**(2004), pp.1062–1092.
- [P35] *Food web chaos without subchain oscillators*, (with B. Bockelman\*), Int. J. Bif. & Chaos, **15**(2005), pp.3481–3492
- [P36] *Biological control does not imply paradox*, (with Shannon Jessie\*, Glenn Ledder, Alex Rand\*, Sarah Srodulski\*), J. Math. Biosciences, **208**(2007), pp.26–32.
- [P37] *Why is the number of DNA bases 4?*, Bulletin of Math. Biol., **68**(2006), pp.727–733.
- [P38] *Equilibriumizing all food chain chaos through reproductive efficiency*, Chaos 16, 043125 (2006)(7 pages), DOI: 10.1063/1.2405711
- [P39] *The origin of 2 sexes through optimization of recombination entropy against time and energy*, Bulletin of Math. Biol., **69**(2007), pp.2105–2114. DOI 10.1007/s11538-007-9215-z.
- [P40] *Competitive coexistence in stoichiometry chaos*, (with Irakli Loladze). Chaos 17, 033108 (2007) (14 pages), DOI: 10.1063/1.2752491
- [P41] *The Time Invariance Principle, Ecological (Non)Chaos, and A Fundamental Pitfall of Discrete Modeling*, accepted in Jan. 2008 for publication in Ecological Modeling, **215**(2008), pp.287–292.
- [P42] *Can discrete modelers work without the TIP?* Ecological Modeling, **220**(2009), pp.2600–2601 .
- [P43] *Conceptual circuit models of neurons*, Journal of Integrative Neuroscience, **8**(2009), pp.255–297.
- [P44] *Metastability and plasticity in a conceptual model of neurons*, Journal of Integrative Neuroscience, **9**(2010), pp.31–47.
- [P45] *From energy gradient and natural selection to biodiversity and stability of ecosystems*, The Open Ecology Journal, **3**(2010), pp.95–110, DOI: 10.2174/1874213001003010095
- [P46] *Neural spike renormalization. Part I – Universal number 1*, J. Diff. Eq., 2010 doi:10.1016/j.jde.2010.10.002
- [P47] *Neural spike renormalization. Part II – Multiversal chaos*, J. Diff. Eq., 2010 doi:10.1016/j.jde.2010.10.004

### Non-Refereed Publications:

- [P15] *Inclination-flip bifurcations of homoclinic orbits*, in the Proceedings of International Conference on Bifurcations of Differentiable Dynamics, Belgium.
- [P26] *Stress intensification due to polarization switching* (with H.Y. Fang and Q. Jiang), in Mathematics and Control in Smart Structures, Proceedings of the International Society of Optical Engineering, ed. V.V. Varadan, Vol.3323, 1998, pp.109–118.