

Shai Revzen

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Education

- 2020 **J.D.**, *Wayne State Univ.*, Detroit.
(exp. 2023) Law
- 2003 **Ph.D.**, *Univ. California*, Berkeley.
Dec 2009 Integrative Biology
- 1994 **M.Sc.**, *Hebrew Univ.*, Jerusalem.
Jun 2002 Computer Science (Optimization)
- 1989 **B.Sc.**, *Hebrew Univ.*, Jerusalem, *Magna cum laude*.
May 1993 Degree from honours program; Majors Computer Science, Math (extended); Minor Physics

Doctoral thesis

- title Neuromechanical Control Architectures in Arthropod Locomotion
supervisor Robert J. Full

Master thesis

- title Paging on Access Graphs of Minimal Degree 3
supervisor Nati Linial

Work Experience

Academia

- 19–now **Associate Professor**, *U. Michigan (Ecology and Evolutionary Biology)*, Ann Arbor.
Research, student supervision; biomechanics and mathematical biology
- 19–now **Associate Professor**, *U. Michigan (Electrical Engineering and Computer Science)*, Ann Arbor.
Research, student supervision; robotics and control theory
- 12–19 **Assistant Professor**, *U. Michigan (Ecology and Evolutionary Biology)*, Ann Arbor.
Research, student supervision; biomechanics and mathematical biology
- 12–19 **Assistant Professor**, *U. Michigan (Electrical Engineering and Computer Science)*, Ann Arbor.
Research, student supervision; robotics and control theory
- 11–12 **Visiting Assistant Professor**, *U. Michigan (Electrical Engineering and Computer Science)*.
- 09–12 **Postdoctoral Research Associate**, *U. Pennsylvania*, Philadelphia.
Research, student supervision; robotics and control theory
Advisors Mark Yim, Daniel E. Koditschek and George Pappas
- 06–09 **Graduate Student Researcher**, *U. California*, Berkeley.
Funded Ph.D. research; biomechanics

Tech Industry

- 19–now **General Manager**, *Izun, Inc.*, Pittsfield, MI USA.
Technology Consulting and Education
- 22–now **Chief Science Officer**, *Acculine Medical*, Petach Tiqva, ISRAEL.
Biomedical Diagnostic Device start-up
- 03–22 **Founding partner**, *Bio-Signal Analysis*, Tel-Aviv, ISRAEL.
Technology start-up
- 01–06 **Chief Architect, R&D**, *Harmonic, Inc.*, Sunnyvale, CA, USA.
R&D, embedded programming, algorithms; Company develops digital video equipment for cable and satellite
- 98–01 **Chief Architect**, *Harmonic Data, Ltd.*, Tel-Aviv, ISRAEL.
Company-wide system architecture, basic research team manager, academic liaison; Company develops Internet over satellite solutions
- 96–98 **Instructor**, *John Bryce Training*, Ramat-Gan, ISRAEL.
Teaching Java, Javascript, HTML; Company trains IT professionals
- 97 **Software Engineer**, *Compedia, Ltd*, Ramat-Gan, ISRAEL.
Design and development of 3D video game engine; Company develops edutainment products for kids

Military Service (Israel)

- 96–17 **Reserve duty**, *IDF*.
- 93–96 **Mandatory service**, *IDF*.

Publications and Other Products

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Papers

- [CRB21] G Council, S Revzen, and S A Burden. “Representing and computing the B-derivative of an EC vector field’s PC flow”. In: *J Comput Nonlinear Dynam* (2021). ACCEPTED. DOI: [10.1115/1.4054481](https://doi.org/10.1115/1.4054481). arXiv: [2102.10702](https://arxiv.org/abs/2102.10702). URL: [\[LINK\]](#).
- [WBR21a] Z Wu, S L Brunton, and S Revzen. “Challenges in Dynamic Mode Decomposition”. In: *Roy Soc Interface* 18 (2021), p. 20210686. DOI: [10.1098/rsif.2021.0686](https://doi.org/10.1098/rsif.2021.0686).
- [BHR20a] B Bittner, R L Hatton, and S Revzen. “Data-Driven Geometric System Identification for Shape-Underactuated Dissipative Systems”. In: *Bio-inspiration and Biomimetics* 17 (2020), p. 026004. DOI: [10.1088/1748-3190/ac3b9c](https://doi.org/10.1088/1748-3190/ac3b9c).
- [ZR20] D Zhao and S Revzen. “Multi-legged steering and slipping with low DoF hexapod robots”. In: *Bioinspiration & biomimetics* 15.4 (2020), p. 045001. DOI: [10.1088/1748-3190/ab84c0](https://doi.org/10.1088/1748-3190/ab84c0).
- [KBS19] M Kvalheim, B Bittner, and Revzen S. “Gait modeling and optimization for the perturbed Stokes regime”. In: *J Nonlinear Dynamics* (2019). DOI: [10.1007/s11071-019-05121-3](https://doi.org/10.1007/s11071-019-05121-3).
- [WZR19] Ziyou Wu, Dan Zhao, and Shai Revzen. “Coulomb Friction Crawling Model Yields Linear Force–Velocity Profile”. In: *J Applied Mechanics* 86.5 (2019). DOI: [10.1115/1.4042696](https://doi.org/10.1115/1.4042696).
- [BHR18] B A Bittner, R A Hatton, and S Revzen. “Geometrically Optimal Gaits: a Data-Driven Approach”. In: *Nonlinear Dynamics* 94.3 (2018), pp. 1933–1948. DOI: [10.1007/s11071-018-4466-9](https://doi.org/10.1007/s11071-018-4466-9).
- [EKR18] J Eldering, M Kvalheim, and S Revzen. “Global linearization and fiber bundle structure of invariant manifolds”. In: *Nonlinearity* 31.9 (2018). Ed. by Rafael de la Llave, p. 4202. DOI: [10.1088/1361-6544/aaca8d](https://doi.org/10.1088/1361-6544/aaca8d).
- [Fit+17] I Fitzner, Y Sun, V Sachdeva, and S Revzen. “Rapidly Prototyping Robots: Using Plates and Reinforced Flexures”. In: *IEEE Robotics Automation Magazine* 24.1 (Mar. 2017), pp. 41–47. ISSN: 1070-9932. DOI: [10.1109/MRA.2016.2639058](https://doi.org/10.1109/MRA.2016.2639058).
- [RK17] S Revzen and D E Koditschek. “Why we need more degrees of freedom”. In: *Procedia IUTAM* 20 (2017). 24th International Congress of Theoretical and Applied Mechanics, pp. 89–93. ISSN: 2210-9838. DOI: <https://doi.org/10.1016/j.piutam.2017.03.012>.
- [Wil+17a] S Wilshin, G C Haynes, J Porteous, D E Koditschek, S Revzen, and A J Spence. “Morphology and the gradient of a symmetric potential predict gait transitions of dogs”. In: *Biological Cybernetics* 111.3 (2017), pp. 269–277. ISSN: 1432-0770. DOI: [10.1007/s00422-017-0721-2](https://doi.org/10.1007/s00422-017-0721-2).
- [Wil+17b] S Wilshin, M A Reeve, G C Haynes, S Revzen, D E Koditschek, and A J Spence. “Longitudinal quasi-static stability predicts changes in dog gait on rough terrain”. In: *Journal of Experimental Biology* 220.10 (2017), pp. 1864–1874. ISSN: 0022-0949. DOI: [10.1242/jeb.149112](https://doi.org/10.1242/jeb.149112).
- [Bur+16] S A Burden, S S Sastry, D E Koditschek, and S Revzen. “Event-Selected Vector Field Discontinuities Yield Piecewise-Differentiable Flows”. In: *SIAM Journal of Applied Dynamical Systems* 15.2 (2016), pp. 1227–1267. DOI: [10.1137/15M1016588](https://doi.org/10.1137/15M1016588).

- [BRS15] S A Burden, S Revzen, and S S Sastry. “Model reduction near periodic orbits of hybrid dynamical systems”. In: *IEEE Transactions on Automatic Control* 60.10 (2015), pp. 2626–2639. DOI: [10.1109/TAC.2015.2411971](https://doi.org/10.1109/TAC.2015.2411971).
- [Kas+15] M Kaspari, N A Clay, J A Lucas, S Revzen, A D Kay, and S P Yanoviak. “Thermal adaptation and phosphorus shape thermal performance in an assemblage of rainforest ants”. In: *Ecology* 97.4 (2015), pp. 1038–1047. DOI: [10.1890/15-1225.1](https://doi.org/10.1890/15-1225.1).
- [Mau+15] H-M Maus, S Revzen, J M Guckenheimer, C Ludwig, J Reger, and A Seyfarth. “Constructing predictive models of human running”. In: *Journal of The Royal Society Interface* 12.103 (2015), p. 2014.0899. DOI: [10.1098/rsif.2014.0899](https://doi.org/10.1098/rsif.2014.0899).
- [Rev+13b] S Revzen, S A Burden, T Y Moore, J-M Mongeau, and R J Full. “Instantaneous kinematic phase reflects neuromechanical response to lateral perturbations of running cockroaches”. English. In: *Biological Cybernetics* 107.2 (2013), pp. 179–200. ISSN: 0340-1200. DOI: [10.1007/s00422-012-0545-z](https://doi.org/10.1007/s00422-012-0545-z).
- [RG12] S Revzen and J M Guckenheimer. “Finding the dimension of slow dynamics in a rhythmic system”. In: *Journal of The Royal Society Interface* 9.70 (May 2012), pp. 957–971. DOI: [10.1098/rsif.2011.0431](https://doi.org/10.1098/rsif.2011.0431).
- [SRP12] S Sundaram, S Revzen, and G Pappas. “Linear iterative strategies to identify and overcome malicious links in wireless networks”. In: *Automatica* 48.11 (Nov. 2012), pp. 2894–2901. DOI: [10.1016/j.automatica.2012.06.072](https://doi.org/10.1016/j.automatica.2012.06.072).
- [BRS11] S Burden, S Revzen, and S S Sastry. “Dimension reduction near periodic orbits of hybrid systems”. In: *IEEE Conference on Decision and Control and European Control Conference (CDC-ECC)* (2011), pp. 6116–6121. DOI: [10.1109/CDC.2011.6160405](https://doi.org/10.1109/CDC.2011.6160405).
- [Whi+11] P J White, S Revzen, C E Thorne, and M Yim. “A general stiffness model for programmable matter and modular robotic structures”. In: *Robotica* 29.01 (2011), pp. 103–121. ISSN: 1469-8668. DOI: [10.1017/S0263574710000743](https://doi.org/10.1017/S0263574710000743).
- [Spe+10] A J Spence, S Revzen, J Seipel, C Mullens, and R J Full. “Insects running on elastic surfaces”. In: *Journal of Experimental Biology* 213.11 (2010), pp. 1907–1920. DOI: [10.1242/jeb.042515](https://doi.org/10.1242/jeb.042515).
- [Jus+08] A Jusufi, D I Goldman, S Revzen, and R J Full. “Active tails enhance arboreal acrobatics in geckos”. In: *PNAS* 105.11 (2008), pp. 4215–4219. DOI: [10.1073/pnas.0711944105](https://doi.org/10.1073/pnas.0711944105).
- [RG08b] S Revzen and J M Guckenheimer. “Estimating the phase of synchronized oscillators”. In: *Physical Review E* 78.5 (Nov. 2008), p. 051907. DOI: [10.1103/PhysRevE.78.051907](https://doi.org/10.1103/PhysRevE.78.051907).

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Preprints

- [BR] Brian Bittner and Shai Revzen. “Optimizing Gait Libraries via a Coverage Metric”. URL: [\[LINK\]](#).
- [Wil+22] Simon Wilshin, Matthew D Kvalheim, Clayton Scott, and Shai Revzen. “Estimating Phase from Observed Trajectories Using the Temporal 1-Form”. 2022. URL: [\[LINK\]](#).
- [GR21] Sandilya Sai Garimella and Shai Revzen. “Dandelion-Picking Legged Robot”. 2021. URL: [\[LINK\]](#).

- [WKR21] Simon Wilshin, Matthew D Kvalheim, and Shai Revzen. “Phase Response Curves and the Role of Coordinates”. 2021. URL: [\[LINK\]](#).
- [BHR20b] B Bittner, R L Hatton, and S Revzen. “Data-Driven Geometric System Identification for Shape-Underactuated Dissipative Systems”. 2020. URL: [\[LINK\]](#).
- [CR20a] G Council and S Revzen. “Fast Recovery of Robot Behaviors”. May 2020. URL: [\[LINK\]](#).
- [K Hr20] M D Kvalheim, D Hong, and S revzen. “Generic Properties of Koopman Eigenfunctions for Stable Fixed Points and Periodic Orbits”. 2020. URL: [\[LINK\]](#).
- [KR19c] Matthew D Kvalheim and Shai Revzen. “Existence and uniqueness of global Koopman eigenfunctions for stable fixed points and periodic orbits”. 2019. URL: [\[LINK\]](#).
- [B B18a] S Revzen B Bittner R Hatton. “A Data-Driven Approach to Connection Modeling”. 2018. URL: [\[LINK\]](#).
- [KR16b] Matthew Kvalheim and Shai Revzen. “Reverse-engineering invariant manifolds with asymptotic phase”. 2016. URL: [\[LINK\]](#).
- [RB16] S Revzen and S A Burden. “Computing the Bouligand derivative of a class of piecewise-differentiable flows”. 2016. URL: [\[LINK\]](#).
- [Bur+14] S A Burden, S S Sastry, D E Koditschek, and S Revzen. “Event-selected vector field discontinuities yield piecewise-differentiable flows”. 2014. URL: [\[LINK\]](#).
- [BRS13b] S A Burden, S Revzen, and S S Sastry. “Model reduction near periodic orbits of hybrid dynamical systems”. English. 2013. URL: [\[LINK\]](#).

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Other Products

- [BIR21a] BIRDS-Lab. *BigAnt v6 robot motion tracking data - processed dataset*. Deepblue Data Repository. Aug. 2021. DOI: [10.7302/jh82-fh69](https://doi.org/10.7302/jh82-fh69).
- [BIR21b] BIRDS-Lab. *BigAnt v6 robot motion tracking data - RAW dataset*. Deepblue Data Repository. Aug. 2021. DOI: [10.7302/024q-kk06](https://doi.org/10.7302/024q-kk06).
- [BIR21c] BIRDS-Lab. *BIRDS Lab Multipod robot motion tracking data - processed data and code*. Deepblue Data Repository. Oct. 2021. DOI: [10.7302/0fpj-dz57](https://doi.org/10.7302/0fpj-dz57).
- [BIR21d] BIRDS-Lab. *BIRDS Lab Multipod robot motion tracking data - RAW dataset*. Deepblue Data Repository. Oct. 2021. DOI: [10.7302/m05a-0d90](https://doi.org/10.7302/m05a-0d90).
- [BIR21e] BIRDS-Lab. *BIRDS Lab Multipod robot motion tracking data - videos*. Deepblue Data Repository. Oct. 2021. DOI: [10.7302/1y3q-1b42](https://doi.org/10.7302/1y3q-1b42).
- [BIR21f] BIRDS-Lab. *Walking Like a Worm : dataset and figures*. Deepblue Data Repository. Aug. 2021. DOI: [10.7302/gqk6-3x41](https://doi.org/10.7302/gqk6-3x41).
- [RCB21] S Revzen, G Council, and S Burden. “Computing multi-contact collisions (much!) faster”. In: *American Control Conference*. Ed. by J Pusey, Yan Gu, and Ye Zhao. IEEE American Control Conference. 2021. URL: [\[LINK\]](#).
- [Rev+21a] S Revzen, D Zhao, B Bittner, G Clifton, and N Gravish. “Bridging Walking and Slithering - Stokesian Locomotion”. In: *Dynamic Walking*. extended abstract and poster. Dynamic Walking. 2021. DOI: [10.7302/4322](https://doi.org/10.7302/4322).

- [Rev+21b] S Revzen, D Zhao, B Bittner, G Clifton, and N Gravish. “Constant speed gaits should work across all speeds”. In: *Dynamic Walking*. extended abstract and poster. Dynamic Walking. 2021. DOI: [10.7302/4323](https://doi.org/10.7302/4323).
- [WBR21b] Ziyou Wu, S L Brunton, and S Revzen. *Challenges in Dynamic Mode Decomposition – figures*. Deepblue Data Repository. Aug. 2021. DOI: [10.7302/nzq9-4715](https://doi.org/10.7302/nzq9-4715).
- [Zha21] D Zhao. “Locomotion of low-DOF multi-legged robots”. PhD thesis. University of Michigan, 2021. DOI: [10.7302/3030](https://doi.org/10.7302/3030).
- [Bit20] Brian Bittner. “Data-Driven Methods for Geometric Systems”. PhD thesis. University of Michigan, 2020. DOI: [10.7302/1460](https://doi.org/10.7302/1460).
- [CR20b] George Council and Shai Revzen. “Recovery of Behaviors of Robots without Dynamics”. In: American Physical Society, 2020. URL: [\[LINK\]](#).
- [M A20] S Revzen M Anderson T McLaughlin. “Serial Elastic versus Parallel Elastic Actuators in Hopping”. In: *Dynamic Walking*. 513. Dynamic Walking. Internet, June 2020. URL: [\[LINK\]](#).
- [MAR20a] T. McLaughlin, M. Anderson, and S. Revzen. *Hopping with Elastic Restitution Is More Difficult Than It Seems*. URL. 2020.
- [MAR20b] Taylor McLaughlin, Marion Anderson, and Shai Revzen. “Hopping with Elastic Restitution Is More Difficult Than It Seems”. In: American Physical Society, 2020. URL: [\[LINK\]](#).
- [Rev20a] S Revzen. *From slithering, to swimming, to walking : a journey of geometric mechanics*. U Michigan Applied Physics Seminar. Dec. 2020. URL: [\[LINK\]](#).
- [Rev20b] S Revzen. *How the physics of slithering can teach multilegged robots to walk*. U Michigan Saltiel Life Sciences Seminar. Sept. 2020. URL: [\[LINK\]](#).
- [Rev20c] S Revzen. *Kahn Autonomous Systems Mega-Project Annual Meeting (organizer)*. Kahn Foundation Annual Meeting. Dec. 2020. URL: [\[LINK\]](#).
- [S20a] Revzen S. *How walking is a lot like slithering*. U Michigan EEB Department Seminar. Nov. 2020. URL: [\[LINK\]](#).
- [S20b] Revzen S. *Recovering from robot failures by very fast learning*. U Cal Santa-Cruz CPSRC Seminar. Nov. 2020. URL: [\[LINK\]](#).
- [S20c] Revzen S. *Two approaches to make robots robustly recover from failure*. University of Washington Mechanical Engineering Seminar. Jan. 2020.
- [Sar+20] A Sarin, D Abbot, S Revzen, and A-T Avestruz. “Bidirectional Capacitive Wireless Power Transfer for Energy Balancing in Modular Robots”. In: *Applied Power Electronics Conference and Exposition*. IEEE, 2020, pp. 852–859. DOI: [10.1109/APEC39645.2020.9124139](https://doi.org/10.1109/APEC39645.2020.9124139).
- [BR19] B Bittner and S Revzen. “Optimizing Gaits for Coverage on Lie Groups”. In: *Dynamic Walking*. Dynamic Walking. June 2019. URL: [\[LINK\]](#).
- [Cou19] G Council. “Data Driven Methods to Build Robust Legged Robots”. PhD thesis. University of Michigan, 2019. URL: [\[LINK\]](#).
- [CR19] G Council and S Revzen. “Energy and Phased Based Movement Recovery”. In: *2019 SIAM Conference on Dynamical Systems*. SIAM. Snowbird, UT, 2019. URL: [\[LINK\]](#).
- [KBR19] M Kvalheim, B Bittner, and S Revzen. “Reduced-Order Models for Locomotion in the Perturbed Stokes Regime”. In: *2019 SIAM Conference on Dynamical Systems*. SIAM. Snowbird, UT, 2019. URL: [\[LINK\]](#).

- [KR19a] M Kvalheim and S Revzen. “Hybrid Oscillators: Phase and Amplitude in a Class of Non-Smooth Systems”. In: *2019 SIAM Conference on Dynamical Systems*. SIAM. Snowbird, UT, 2019. URL: [\[LINK\]](#).
- [KR19b] M Kvalheim and S Revzen. “Principal Koopman Eigenfunctions for Nonlinear and Nonsmooth Systems”. In: *IPAM workshop: Operator Theoretic Methods in Dynamic Data Analysis and Control*. (poster). UCLA, Feb. 2019.
- [Rev19a] S Revzen. *How many legs become a snake?* CMU Mechanical Engineering Seminar. July 2019.
- [Rev19b] S Revzen. “Moving with more legs is different: a geometric mechanics perspective”. In: *Integrative and comparative biology*. Vol. 59. 2019, E191–E191.
- [Rev19c] S Revzen. *Three legs to stand on: vignettes from the study of locomotion*. AIM Program Seminar. Feb. 2019. URL: [\[LINK\]](#).
- [RCK19] S Revzen, G Council, and M Kvalheim. “Is Legged Locomotion Almost Smooth?” In: *Dynamic Walking*. 446. Dynamic Walking. Canmore AB, CA, June 2019. URL: [\[LINK\]](#).
- [RW19] Shai Revzen and Ziyu Wu. “Viscous friction-like relationship arises from a simple Columb friction locomotion model”. In: *APS Meeting Abstracts*. 2019. URL: [\[LINK\]](#).
- [SR19] Y Sun and S Revzen. “A hexapedal robot designed for ground contact force analysis”. In: *Dynamic Walking*. 544. Dynamic Walking. Canmore AB, CA, June 2019. URL: [\[LINK\]](#).
- [ZLR19] D Zhao, H Li, and S Revzen. “Design and Undulatory Gait Tests of a Meter-size Modular Centipede Robot”. In: *Dynamic Walking*. 503. Dynamic Walking. Canmore AB, CA, June 2019. URL: [\[LINK\]](#).
- [B B18b] S Revzen B Bittner R Hatton. “Step Selection in Data-Driven Geometric Gait Optimization”. In: *American Physical Society March Meeting*. 2018.
- [BR18a] B Bittner and S Revzen. “The Locality of Data-Driven Models”. In: *Dynamic Walking*. 2018.
- [BR18b] B Bittner and S Revzen. “What do nematode swimming gaits optimize?” In: *Yearly Meeting of the Society for Integrative and Comparative Biology*. 2018.
- [KER18] M Kvalheim, J Eldering, and S Revzen. “Global linearization and fiber bundle structure of invariant manifolds”. In: *AIMS*. 2018. URL: [\[LINK\]](#).
- [KR18a] M Kvalheim and S Revzen. “Templates and Anchors: a review of notions of model reduction”. In: *Dynamic Walking*. 2018. URL: [\[LINK\]](#).
- [KR18b] M Kvalheim and S Revzen. “Testing an extended "Posture Principle"”. In: *Integrative and Comparative Biology*. SICB. 2018. URL: [\[LINK\]](#).
- [ZSR18] D Zhao, V Sachdva, and S Revzen. “Modeling Multilegged Locomotion: the Friction Dominated Limit”. In: *Integrative and Comparative Biology*. 2018.
- [BR17] B Bittner and S Revzen. “Geometric Insights for Data-Driven Gait Analysis”. In: *IEEE International Conference On Intelligent Robots and Systems, Workshop on Robotics Inspired Biology*. 2017. URL: [\[LINK\]](#).
- [CR17a] G Council and S Revzen. “Gait Synthesis with Reduced Proprioceptive Requirements”. In: *IEEE International Conference On Intelligent Robots and Systems, Workshop on Robotics Inspired Biology*. 2017. URL: [\[LINK\]](#).
- [CR17b] G Council and S Revzen. “Limb Coordination with Reduced Prioprioceptive Requirements via Event-Selected Dynamics”. In: *MBI workshop 4: Sensori-Motor Control of Animals and Robots*. 2017. URL: [\[LINK\]](#).

- [KR17a] M Kvalheim and S Revzen. “A dynamical systems perspective on Templates & Anchors: some general methods for anchoring templates”. In: *IEEE International Conference On Intelligent Robots and Systems, Workshop on Robotics Inspired Biology*. 2017. URL: [\[LINK\]](#).
- [KR17b] M Kvalheim and S Revzen. “Asymptotic phase, model reduction, and control of Templates Anchors”. In: *MBI workshop 4: Sensori-Motor Control of Animals and Robots*. 2017. URL: [\[LINK\]](#).
- [RR17] S Ramasamy R Hatton B Bittner and S Revzen. “Data-driven geometric gait analysis”. In: *Dynamic Walking*. 2017. URL: [\[LINK\]](#).
- [Rev17a] S Revzen. “In defense of Aristotle: is there a Connection for multi-legged locomotion?” In: *MBI workshop 4: Sensori-Motor Control of Animals and Robots*. 2017. URL: [\[LINK\]](#).
- [Rev17b] S Revzen. *Morphologically Modulated Dynamics*. ARO & ONR Bio-inspired Autonomous Systems Workshop. June 2017.
- [Rev17c] S Revzen. *Seeking Simple Models for Multilegged Locomotion Hybrid Oscillators, Rapid Manufacturing, and Slippage*. Ben-Gurion University, ISRAEL. May 2017.
- [Rev17d] S Revzen. *Seeking Simple Models for Multilegged Locomotion Hybrid Oscillators, Rapid Manufacturing, and Slippage*. Technion, ISRAEL. May 2017.
- [Rev17e] S Revzen. “When do locomotor appendages get complicated?” In: *Integrative and comparative biology*. Vol. 57. 2017, E385.
- [RH17] S Revzen and R Hatton. “Phase Helps Find Geometrically Optimal Gaits”. In: *Bulletin of the APS*. X12.00008. 2017. URL: [\[LINK\]](#).
- [V S17] S Revzen V Sachdva D Zhao. “Slipping Matters”. In: *Dynamic Walking*. 2017.
- [ZR17] D Zhao and S Revzen. “Slip Matters in Hexapedal Steering”. In: *IEEE International Conference On Intelligent Robots and Systems, Workshop on Robotics Inspired Biology*. 2017. URL: [\[LINK\]](#).
- [Ban+16] B Banjanin, SA Burden, TY Moore, S Revzen, and RJ Full. “Estimating predictive dynamical models of legged locomotion from data”. In: *Integrative and comparative biology*. Vol. 56. 2016, E11–E11.
- [CR16] G Council and S Revzen. “Recovering a gait using energy and phase”. In: *Dynamic Walking*. 2016.
- [KR16a] M Kvalheim and S Revzen. “Bioinspired Legged Locomotion”. In: ed. by M Sharbafi and A Seyfarth. Elsevier, 2016. Chap. Templates and Anchors, Chapter 3.2, pp. 62–78. ISBN: 978-0-12-803766-9. DOI: [10.1016/B978-0-12-803766-9.00004-X](#).
- [Rev16a] S Revzen. (*invited presentation ARO workshop*). ARO workshop on The Future of Vibration Energy Transfer in Solids and Structures Needs and Opportunities Workshop. 2016.
- [Rev16b] S Revzen. (*invited presentation ONR workshop*). ONR workshop on Distributed Sensing, Actuation, and Control for Bioinspired Soft Robotics. Oct. 2016.
- [Rev16c] S Revzen. *A Few Reasons Why I Love Legs*. Ann Arbor Nerd Night Talk. June 2016. URL: [\[LINK\]](#).
- [Rev16d] S Revzen. *Seeking Simple Models for Multilegged Locomotion Hybrid Oscillators, Rapid Manufacturing, and Slippage*. University of California Berkeley. Jan. 2016.

- [Rev16e] S Revzen. *Seeking Simple Models for Multilegged Locomotion Hybrid Oscillators, Rapid Manufacturing, and Slippage*. University of Pennsylvania Special GRASP Seminar. June 2016.
- [Rev16f] S Revzen. *Seeking Simple Models for Multilegged Locomotion Hybrid Oscillators, Rapid Manufacturing, and Slippage*. University of Washington Robotics Seminar. Dec. 2016.
- [RK16] S Revzen and M Kvalheim. “Bioinspired Legged Locomotion”. In: ed. by M Sharbafi and A Seyfarth. Elsevier, 2016. Chap. Locomotion as an Oscillator, Chapter 3.5, pp. 97–108. ISBN: 978-0-12-803766-9. DOI: [10.1016/B978-0-12-803766-9.00004-X](https://doi.org/10.1016/B978-0-12-803766-9.00004-X).
- [WR16] P M Wensing and S Revzen. “Bioinspired Legged Locomotion”. In: ed. by M Sharbafi and A Seyfarth. Elsevier, 2016. Chap. Template models for control, Chapter 4.5, pp. 240–266. ISBN: 978-0-12-803766-9. DOI: [10.1016/B978-0-12-803766-9.00006-3](https://doi.org/10.1016/B978-0-12-803766-9.00006-3).
- [YLR16] M Y Yu, A Liedtk, and S Revzen. “Trotting horses synchronize their legs during the second half of stance”. In: *Integrative and comparative biology*. Vol. 56. 2016, E247–E247.
- [ZR16] D Zhao and S Revzen. “Slipping helps steering in a multilegged robot”. In: *Dynamic Walking*. 2016.
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