

## CURRICULUM VITAE

**Daniel Takashi Kawano**  
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Department of Mechanical Engineering  
Rose-Hulman Institute of Technology

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### RESEARCH AND ACADEMIC INTERESTS

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Research and academic interests include algorithms for exactly decoupling second-order linear dynamical systems; modeling, analysis, and simulation of dynamical systems; experimental modal analysis; visualization of simulated dynamic behavior; and teaching courses in dynamics, vibration, and MATLAB programming.

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### EDUCATION

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Ph.D. Mechanical Engineering, University of California, Berkeley, 2011

M.S. Mechanical Engineering, University of California, Berkeley, 2008

B.S. Mechanical Engineering, California Polytechnic State University, San Luis Obispo, 2006

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### EXPERIENCE

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Sep 2017 – present                      Associate Professor, Department of Mechanical Engineering,  
Rose-Hulman Institute of Technology, Terre Haute, IN

Sep 2011 – Aug 2017                      Assistant Professor, Department of Mechanical Engineering,  
Rose-Hulman Institute of Technology, Terre Haute, IN

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### PROFESSIONAL DEVELOPMENT AND SCHOLARLY ACTIVITY

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#### *Books*

1. B. H. Tongue and D. T. Kawano, *Engineering Mechanics: Dynamics*, Wiley, 2017.

#### *Archival journals*

1. D. T. Kawano, R. G. Salsa, Jr., and F. Ma, [Decoupling of second-order linear systems by isospectral transformation](#), *Zeitschrift für angewandte Mathematik und Physik* **69**(6) 137 (2018).
2. D. T. Kawano, R. G. Salsa, Jr., F. Ma, and M. Morzfeld, [A canonical form of the equation of motion of linear dynamical systems](#), *Proceedings of the Royal Society A* **474**(2211) 20170809 (2018).
3. R. G. Salsa, Jr., D. T. Kawano, F. Ma, and G. Leitmann, [The inverse problem of linear Lagrangian dynamics](#), *ASME Journal of Applied Mechanics* **85**(3) 031002 (2018).

4. D. T. Kawano, M. Morzfeld, and F. Ma, [The decoupling of second-order linear systems with a singular mass matrix](#), *Journal of Sound and Vibration* **332**(25) 6829-6846 (2013).
5. M. Morzfeld, D. T. Kawano, and F. Ma, [Characterization of damped linear dynamical systems in free motion](#), *Numerical Algebra, Control and Optimization* **3**(1) 49-62 (2013).
6. D. T. Kawano, M. Morzfeld, and F. Ma, [The decoupling of defective linear dynamical systems in free motion](#), *Journal of Sound and Vibration* **330**(21) 5165-5183 (2011).
7. D. T. Kawano, [On modeling and simulation of tethered systems with sharp, rough contacts](#), *Communications in Nonlinear Science and Numerical Simulation* **16**(1) 550-565 (2011).
8. A. Jusufi, D. T. Kawano, T. Libby, and R. J. Full, [Righting and turning in mid-air using appendage inertia: reptile tails, analytical models and bio-inspired robots](#), *Bioinspiration & Biomimetics* **5**(4) 045001 (2010).

#### *Conference proceedings*

1. D. T. Kawano and B. H. Tongue, [Video-based online learning: the other side of the looking glass](#), ASEE Annual Conference & Exposition, Indianapolis, IN, United States, Jun 15-18, 2014.
2. B. Tongue and D. Kawano, [MoveIt – learning modules for dynamic systems](#), ASEE Annual Conference & Exposition, Louisville, KY, United States, Jun 20-23, 2010.
3. C. Birdsong, P. Schuster, J. Carlin, D. Kawano, W. Thompson, and J. Kempenaar, [Test methods and results for sensors in a pre-crash detection system](#), SAE World Congress & Exposition, Detroit, MI, United States, Apr 3-6, 2006.
4. J. Carlin, C. Birdsong, P. Schuster, W. Thompson, and D. Kawano, [Evaluation of cost effective sensor combinations for a vehicle precrash detection system](#), SAE Commercial Vehicle Engineering Conference, Rosemont, IL, United States, Nov 1-3, 2005.

#### *Invited talks*

1. D. T. Kawano, Advances in decoupling, Michigan Technological University, Houghton, MI, United States, Sep 25, 2014.

#### *Posters*

1. E. W. Cating and D. T. Kawano, Design of vibration class laboratory assignments focusing on broader application, 2015 Vibration Institute Annual Training Conference, Indianapolis, IN, United States, Jul 15-17, 2015.

#### *Online educational resources*

Since 2012, I have been collaborating with Professor Oliver M. O'Reilly and graduate student Alyssa Novelia in the Department of Mechanical Engineering at the University of California, Berkeley on a website devoted to disseminating instructional material, including simulations and animations, regarding the rotation of a rigid body in three dimensions and its applications. For more information, please visit our website, [Rotations](#).

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**SERVICE ACTIVITIES**

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Member, ME faculty search committee (Oct 2016 – Dec 2016)  
Member, Rules and Discipline Committee (Sep 2016 – May 2017)  
Member, ME faculty search committee (Sep 2015 – Jan 2016)  
Chair, thesis advisory committee for Ethan Cating (Sep 2014 – present)  
Member, search committee for a new ME Department secretary (Jun 2014)  
Reviewer, *Journal of Vibration and Control* (Mar 2014)  
Member, ME Curriculum Committee (Sep 2013 – May 2014)  
Chair, Improving ES 203 Committee (Sep 2013 – Nov 2013)  
Member, thesis advisory committee for Jonathan Nibert (Apr 2013 – May 2013)  
Coordinator and presenter, ME Department FE Exam review sessions (Mar 2013 – Mar 2014)  
Chair, thesis advisory committee for Blaine Castogna (Nov 2012 – May 2013)  
Member, thesis advisory committee for Matthew Winter (Aug 2012 – Jan 2014)  
Reviewer, *Journal of Sound and Vibration* (Aug 2012)  
Member, Academic Computing Tech Council (Sep 2012 – May 2013)  
Reviewer, new online learning environment for Wiley (May 2012)  
Co-advisor, Pi Kappa Alpha fraternity (May 2012 – present)  
Faculty supervisor, Intercollegiate Bowling Team (Jan 2012, Oct 2012, Jan 2013)  
Advisor, Rose Grand Prix Engineering (Nov 2011 – May 2017)

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**CERTIFICATIONS**

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EIT certified (California): #122435

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**AWARDS AND HONORS**

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ASEE Mechanics Division 2016 Ferdinand P. Beer and E. Russell Johnston, Jr., Outstanding New Mechanics Educator Award