

Curriculum Vitae

Jacob W. Hinkel-Lipsker, Ph.D.

Associate Professor
Department of Kinesiology
California State University, Northridge

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EDUCATION

- Ph.D. Human Physiology, University of Oregon 2013-2017
Dissertation: Variability of Practice and Its Application to Locomotor Adaptation
Advisor: Michael E. Hahn, Ph.D.
- M.S. Kinesiology, California Polytechnic State University, San Luis Obispo 2010-2013
Thesis: Effect of Warm-Up Activity on Vertical Ground Reaction Forces in Basketball Players During Drop Jump Landings
Advisor: Robert D. Clark, Ph.D.
- B.A. Political Science, San Diego State University 2004-2008

HONORS AND AWARDS

- 2023 Research Fellow, College of Health and Human Development, California State University, Northridge
- 2021 Young Faculty Scholar Award, Western Society of Kinesiology and Wellness
- 2021 Student Success Champion, California State University, Northridge
- 2016 Best Poster Presentation, *12th Annual Northwest Biomechanics Symposium*
- 2016 Distinguished Graduate Teaching Award, Department of Human Physiology, University of Oregon

PROFESSIONAL POSITIONS AND APPOINTMENTS

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|--------------|------------------------------|--|
| 2022-present | Associate Professor | Department of Kinesiology, California State University, Northridge |
| 2017-2022 | Assistant Professor | Department of Kinesiology, California State University, Northridge |
| 2016-2017 | Sport Performance Specialist | Bowerman Sports Science Clinic, Department of Human Physiology, University of Oregon |
| 2013-2016 | Graduate Teaching Fellow | Department of Human Physiology, University of Oregon |
| 2015-2016 | Sports Science Consultant | Tampa Bay Rays, Major League Baseball |

2011-2013	Graduate Teaching Assistant	Department of Kinesiology, California Polytechnic State University, San Luis Obispo
2011-2012	Graduate Research Assistant	Department of Kinesiology, California State University, San Luis Obispo
2009-2010	Sport Performance Coach	Athlete's Edge, Vista, CA

BIBLIOGRAPHY

Peer-reviewed publications

* = students under my advisement

Retzinger, G.R.*, Golbarg, B.*, Pham, W.T.*, Lachica, I.J.*, Chan, T., **Hinkel-Lipsker, J.W.** (2024). Holographic hintways: A systems feasibility and usability study of augmented reality cueing for gait adaptation. *Gait and Posture* 107, 218-224

Altman Singles, A.R., Phillips, D.A., Talaty, M.C., Odle, B.M., **Hinkel-Lipsker, J.W.**, Goehler, C.M., Bigelow, K.E. (2023). A multi-university examination of undergraduate research in the field of biomechanics. *Journal of Biomechanics* 159, 111776. <https://doi.org/10.1016/j.jbiomech.2023.111776>.

Weise, M.A.*, Vicente, J.A.*, Ponce de Leon, B.P.*, Savola, M.*, Hernandez, K.*, Flanagan, S.P., **Hinkel-Lipsker, J.W.** (2023). Virtual reality for action observation does not enhance motor learning of a complex weightlifting task. *Journal of Motor Learning and Development* 11(2), 283-303. <https://doi.org/10.1123/jmld.2022-0069>

Baylor, R., Jaque, V.J., **Hinkel-Lipsker, J.W.**, Flanagan, S.P. (2022). Older people trip, some fall—A program to decrease seniors' fall risk. *Strength and Conditioning Journal* 45(6), 683-697. <https://doi.org/10.1519/SSC.0000000000000782>

Doty, T.A., Knox, L.E., Krause, A.X.*, Berzenski, S.R., **Hinkel-Lipsker, J.W.**, Drew, S.A. (2022). Keep it brief: Videoconferencing frequency and duration as predictors of visual and body fatigue. *International Journal of Human-Computer Interaction*. <https://doi.org/10.1080/10447318.2022.2132358>.

Hinkel-Lipsker, J.W., Stoehr, N.M.*, Depur, P.L.*, Weise, M.A.*, Vicente, J.A.*, Drew, S.A., Rogers, S.M. (2021). Altered spatiotemporal gaze dynamics during unexpected obstacle negotiation in a fatigued state. *Motor Control* 26(1), 58-75. <https://doi.org/10.1123/mc.2021-0046>.

Hinkel-Lipsker, J.W., Stoehr, N.M.*, Lachica, I.J.*, Rogers, S.M. (2021). Gait adaptations to physical fatigue during the negotiation of variable and unexpected obstacles. *Human Factors: Journal of the Human Factors and Ergonomics Society*. <https://doi.org/10.1177/00187208211007588>.

Drew, S.A., Awad, M.F., Armendariz, J.A., Gabay, B., Lachica, I.J.*, **Hinkel-Lipsker, J.W.** (2020). The trade-off of virtual reality training for dart throwing: A facilitation of perceptual-motor learning with a detriment to performance. *Frontiers in Sports and Active Living* 2(59). <https://doi.org/10.3389/fspor.2020.00059>.

Hinkel-Lipsker, J.W., Hahn, M.E. (2018). Coordinative structuring of gait kinematics during adaptation to variable and asymmetric split-belt treadmill walking—A principal component analysis approach. *Human Movement Science* 59, 178-192. <https://doi.org/10.1016/j.humov.2018.04.009>.

Hinkel-Lipsker, J.W., Hahn, M.E. (2017). Contextual interference during adaptation to asymmetric split-belt treadmill walking results in transfer of unique gait mechanics. *Biology Open*, bio-028241. <https://doi.org/10.1242/bio.028241>.

Hinkel-Lipsker, J.W., Hahn, M.E. (2017). The effects of variable practice on locomotor adaptation to a novel asymmetric gait. *Experimental Brain Research* 235(9), 2829-2841. <https://doi.org/10.1007/s00221-017-5015-3>.

Hinkel-Lipsker, J.W., Hahn, M.E. (2016). Novel kinetic strategies adopted in asymmetric split-belt treadmill walking. *Journal of Motor Behavior* 48(3), 209-217. <https://doi.org/10.1080/00222895.2015.1073137>.

Hinkel-Lipsker, J.W., Hahn, M.E. (2016). A method for automated control of belt velocity changes with an instrumented treadmill. *Journal of Biomechanics* 49(1), 132-134. <https://doi.org/10.1016/j.jbiomech.2015.11.017>.

Hagobian, T., Yamashiro, M., **Hinkel-Lipsker, J.**, Streder, K., Evero, N., Hackney, T. (2013). Effects of acute exercise on appetite hormones and ad libitum energy intake in men and women. *Applied Physiology, Nutrition, and Metabolism* 38(1), 66-72. <https://dx.doi.org/10.1139/apnm-2012-0104>.

Conference papers and abstracts

* = students under my advisement

2023

Pham, W.T.*, Retzinger, G.R.*, Golbarg, B.*, Dang, K.*, Vicente, J.A.*, Ponce de Leon, B.P.*, Marootian, N.*, Patel, Z.*, Diaz, J.*, Lua-Perez, R.*, **Hinkel-Lipsker, J.W.** (2023). A.R.G.! Augmented reality and gait: Cues elicit gait adaptations in AR. Poster presentation at the *2023 International Society of Biomechanics/Japanese Society of Biomechanics* meeting, Fukuoka, JP.

Vicente, J.A.*, Ponce de Leon, B.P.*, **Hinkel-Lipsker, J.W.** (2023). Get on up; Relating objective hip-hop dance biomechanics to subjective scoring. Poster presentation at the *2023 International Society of Biomechanics/Japanese Society of Biomechanics* meeting, Fukuoka, JP.

Retzinger, G.R.*, Golbarg, B., Pham, W.T.*, Nzeza, R.R.*, Chan, T., **Hinkel-Lipsker, J.W.** (2023). Feasibility of a novel augmented reality application for eliciting altered spatiotemporal gait patterns. Podium presentation at the *2023 American College of Sports Medicine Annual Meeting*, Denver, CO.

Golbarg, B.*, Savola, M.*, Diaz, J.*, Pham, W.T.*, Dang, K.*, Lua, R.*, **Hinkel-Lipsker, J.W.** (2023). Acute effects of virtual environment design on gait and balance control-An exploratory study. Poster presentation at the *2023 American College of Sports Medicine Annual Meeting*, Denver, CO.

Vicente, J.A., Retzinger, G.R., Ruswick, T.R., Kasabov, S., **Hinkel-Lipsker, J.W.** (2023). Relating subjective evaluation to objective biomechanical measurements in hip-hop dance choreography. Poster presentation at the *2023 American College of Sports Medicine Annual Meeting*, Denver, CO.

2022

Ponce de Leon, B.P.*, Savola, M.*, Pham, W.T.*, Ruswick, T.R.*, Lua-Perez, R.*, Vicente, J.A.*, **Hinkel-Lipsker, J.W.** (2022). Action observation: Olympic clean-and-jerk skill acquisition of novice individuals in virtual reality. Poster presentation at the *2022 Southwest American College of Sports Medicine* conference, Costa Mesa, CA.

Savola, M.*, Ponce de Leon, B.P.*, Duben, A.*, Pham, W.T.*, Vicente, J.A.*, **Hinkel-Lipsker, J.W.** (2022). Make reading fun: Implications of virtual reality on standing balance and control. Poster presentation at the *2022 Southwest American College of Sports Medicine* conference, Costa Mesa, CA.

Vicente, J.A.*, Ponce de Leon, B.P.*, Savola, M.*, Nzeza, R.N.*, Diaz, S.M.*, Pham, W.T.*, Ruswick, T.R.*, **Hinkel-Lipsker, J.W.** (2022). Just bust a move: Relating subjective evaluation to objective measurements in hip-hop dance. Poster presentation at the *2022 Southwest American College of Sports Medicine* conference, Costa Mesa, CA.

Retzinger, G.R.*, Golbarg, B.*, Nzeza, R.N.*, Pham, W.T.*, Mehrjou, M.*, Diaz, S.M.*, **Hinkel-Lipsker, J.W.** (2022). A.R.G! Augmented reality and gait: Analyzing the influence of cues on gait patterns in augmented reality. Poster presentation at the *2022 Southwest American College of Sports Medicine* conference, Costa Mesa, CA.

Vicente, J.A.*, Lachica, I.J.*, Ponce de Leon, B.P.*, Boren, S.S.*, **Hinkel-Lipsker, J.W.** (2022). Fatigue-induced destabilization of locomotor control during obstacle negotiation. Podium presentation at the *17th International Symposium of 3D Analysis of Human Movement*, Tokyo, JP.

Talaty, M.C., Odle, B.M., **Hinkel-Lipsker, J.W.**, Phillips, D.A., Altman-Singles, A.R., Goehler, C.M., Bigelow, K.E. (2022). Undergraduate research in biomechanics: Fundamental practice, metrics of success, and broader impact. Poster presentation at the *2022 North American Congress on Biomechanics*, Ottawa, ON, CAN.

Vicente, J.A.*, Ponce de Leon, B.P.*, **Hinkel-Lipsker, J.W.** (2022). Break it down: Relating objective hip-hop dance biomechanics to judges' subjective scoring. Podium presentation at the *2022 CSUNposium*.

Krause, A.X.*, Cando, N.R.*, Ponce de Leon, B.P.*, **Hinkel-Lipsker, J.W.** (2022). Effects of sensory-visual cues on individual gait in an augmented reality environment. Podium presentation at the *2022 CSUNposium*.

Savola, M.*, Duben, A.*, Hakonsson, Z.*, Marin-Acosta, Y.*, Alcasabas, A.*, **Hinkel-Lipsker, J.W.** (2022). Make reading fun: implications of virtual reality on the visual and vestibular system. Poster presentation at the *2022 CSUNposium*.

Cando, N.R.*, Alcasabas, A.J.*, Fishman, A.*, **Hinkel-Lipsker, J.W.** (2022). Action observation in a virtual reality environment and its effects on motor learning of a novel task. Podium presentation at the *2022 CSUNposium*.

2021

Weise, M.A.*, Cando, N.R.*, Nzeza, R.*, Krause, A.X.*, Hernandez, K.*, Alcasabas, A.J.*, **Hinkel-Lipsker, J.W.** (2021). Lifting in an alternate reality: The application of action observation within virtual reality and weightlifting. Poster presentation at the *2021 Southwest American College of Sports Medicine* conference, Costa Mesa, CA.

Vicente, J.A.*, Krause, A.X.*, Marin-Acosta, Y.*, Flores, E.*, Tabada, E.*, **Hinkel-Lipsker, J.W.** (2021). Crossing over to the other side; Studying effect of fatigue when walking in a randomized and new space. Poster presentation at the *2021 Southwest American College of Sports Medicine* conference, Costa Mesa, CA.

Ponce de Leon, B.P.* , Savola, M.B.* , Boren, S.S.* , Fishman, A.J.* , Varma, S.* , **Hinkel-Lipsker, J.W.** (2021). Obstacle negotiation gaze strategies of the physically fatigued. Poster presentation at the *2021 Southwest American College of Sports Medicine* conference, Costa Mesa, CA USA.

Weise, M.A.* , Cando, N.* , Joo, J.* , Arzumanyan, G.* , **Hinkel-Lipsker, J.W.**, Rogers, S.M., Stoehr, N.M.* (2021). Watch your step: Altered spatiotemporal strategies while negotiating unexpected obstacles under physical fatigue. Podium presentation at the *Virtual 45th Annual Meeting of the American Society of Biomechanics*.

Ayala, M.E.* , Vicente, J.A.* , Chavez, M.* , Vogt, N.* , Depur, P.L.* , Stoehr, N.M.* , Rogers, S.M.* , **Hinkel-Lipsker, J.W.** (2021). Physical fatigue affects spatiotemporal gaze dynamics during negotiation of unexpected obstacles. Poster presentation at the *Virtual 45th Annual Meeting of the American Society of Biomechanics*.

Depur, P.L.* , Ponce de Leon, B.P.* , Cho, A.Y.* , Hernandez, K.G.* , **Hinkel-Lipsker, J.W.** (2021). Pedagogical methodology in distance learning yoga to improve balance control. Poster presentation at the *Virtual 45th Annual Meeting of the American Society of Biomechanics*.

Stoehr, N.M.* , Vicente, J.A.* , Ayala, M.* , Rogers, S.M., **Hinkel-Lipsker, J.W.** (2021). Navigation of unexpected obstacles while fatigued: Considerations for workers in physically demanding professions. Poster presentation at the *30th Annual Meeting of the Neural Control of Movement Society*.

Cho, A.* , Depur, P.L.* , Ponce de Leon, B.P.* , Stoehr, N.M.* , **Hinkel-Lipsker, J.W.** (2021). Improvements in balance control in yoga may depend on method of virtual instruction in novice practitioners. Poster presentation at the *30th Annual Meeting of the Neural Control of Movement Society*.

Weise, M.A.* , Vicente, J.A.* , **Hinkel-Lipsker, J.W.** (2021). Reading in space: Virtual reality reading in an immersive environment. Podium presentation at the *2021 CSUNposium*. **Awarded 1st place in podium session**.

Ponce de Leon, B.P.* , Ayala, M.E.* , Arzumanyan, G.* , Depur, P.L.* , **Hinkel-Lipsker, J.W.** (2021). Namaste healthy in an online world. Podium presentation at the *2021 CSUNposium*.

Depur, P.L.* , Cho, A.* , **Hinkel-Lipsker, J.W.** (2021). Improved balance control following distance learning of yoga in novice practitioners. Podium presentation at the *2021 CSUNposium*.

2020

Weise, M.A.* , Cando, N.R.* , Arzumanyan, G.M.* , Stoehr, N.M.* , Rogers, S.M., **Hinkel-Lipsker, J.W.** (2020). The tiring truth: A biomechanical performance analysis of spatiotemporal strategies during obstacle negotiation while physically fatigued. Poster presentation at the *2020 Southwest American College of Sports Medicine* conference, Online.

Ayala, M.E.* , Cho, A.Y.* , Dang, K.* , Depur, P.L.* , Stoehr, N.M.* , Rogers, S.M., **Hinkel-Lipsker, J.W.** (2020). The effects of physical fatigue on the selection of gaze strategies during an obstacle navigation task. Poster presentation at the *2020 Southwest American College of Sports Medicine* conference, Online.

Vicente, J.* , Ponce de Leon, B.P.* , Krause, A.X.* , Stoehr, N.M.* , Rogers, S.M., **Hinkel-Lipsker, J.W.** (2020). Take a breath: Anthropometric and physiological factors predicting obstacle negotiation ability while physically fatigued. Poster presentation at the *2020 Southwest American College of Sports Medicine* conference, Online.

Stoehr, N.M.*, Depur, P.*, St. Julien, A.*, Angulo-Barroso, R.M., **Hinkel-Lipsker, J.W.** (2020). Balance control and muscle asymmetry for persons with lower-limb amputation during yoga poses. Poster presentation at the *Virtual 44th Meeting of the American Society of Biomechanics*.

Lachica, I.J.*, Chan, T., Vicente, J.*, Ayala, M.*, Krause, A.X.*, Weise, M.A.*, **Hinkel-Lipsker, J.W.** (2020). A novel augmented reality platform delivers sensory cues to improve Parkinsonian gait. Poster presentation at the *Virtual 44th Meeting of the American Society of Biomechanics*.

Stoehr, N.M.*, **Hinkel-Lipsker, J.W.** (2020). Balance strategies of lower-limb amputees during yoga: An analysis of standing-neutral symmetrical poses. Podium presentation at the *2020 CSUNposium*.
****Awarded 1st place in podium session**.**

Lachica, I.J.*, Chan, T.*, **Hinkel-Lipsker, J.W.** (2020). Effects of action-relevant sensory cues on Parkinsonian gait. Podium presentation at the *2020 CSUNposium*.

Vicente, J.*, Ayala, M.*, Caliboso, A.*, Dang, K.*, Rogers, S.M., **Hinkel-Lipsker, J.W.** (2020). Mind your step: The effects of physical fatigue on obstacle navigation in healthy individuals. Poster presentation at the *2020 CSUNposium*.

Weise, M.A.*, Krause, A.X.*, Gluck, J.A., Levaton, D., Drew, S.A., **Hinkel-Lipsker, J.W.** (2020). Visual and motor implications of learning a novel task in virtual reality. Poster presentation at the *2020 CSUNposium*.

Depur, P.L.*, Graham, V.A., Stecyk, S., Rozi, K.*, **Hinkel-Lipsker, J.W.** (2020). Peripheral vision and action observation strategies in elite collegiate soccer players. Poster presentation at the *2020 CSUNposium*.

2019

Depur, P.L.*, Graham, V.A., Stecyk, S., Caliboso, A.*, Nunez, P.*, **Hinkel-Lipsker, J.W.** (2019). Visual training improves peripheral vision and action observation strategies in adult collegiate soccer players. Poster presentation at the *2019 Southwest American College of Sports Medicine* conference, Newport Beach, CA USA

Stoehr, N.*, Rogers, S., Garifi, K.*, **Hinkel-Lipsker, J.W.** (2019). Exhausted? Try navigating in the dark. Poster presentation at the *2019 Southwest American College of Sports Medicine* conference, Newport Beach, CA USA

Lachica, I.J.*, Drew, S.A., Awad, M.F., Armendariz, J.A., Gabay, B., **Hinkel-Lipsker, J.W.** (2019). Kinematics and real-world performance implications of acquiring a novel dart-throwing skill in virtual reality. Podium presentation at the *2019 Southwest American College of Sports Medicine* conference, Newport Beach, CA USA. ****Nominated for graduate student research award**.**

Stoehr, N.*, Rogers, S., Lachica, I.J.*, **Hinkel-Lipsker, J.W.** (2019). Environmental navigation in a fatigued state: Alterations in perceptual-motor obstacle crossing behavior following exercise. *XXVII Congress of the International Society of Biomechanics (ISB2019)*, Calgary, AB, CAN.

Lachica, I.J.*, Drew, S.A., Stoehr, N.*, **Hinkel-Lipsker, J.W.** (2019). Hitting the bullseye: Unique kinematic strategies emerge from acquiring a novel skill in a virtual environment. *XXVII Congress of the International Society of Biomechanics (ISB2019)*, Calgary, AB, CAN.

Leitao, M.R., Larranaga, D., Awad, M.F., Armendariz, J.A., McGinnis, C., Drew, S.A., **Hinkel-Lipsker, J.W.** (2019). Hitting the virtual mark: An investigation of training effects in virtual reality. *Association for Psychological Science Annual Meeting*, Washington, D.C. USA.

2018 and earlier

Lachica, I.J.*, Drew, S.A., Stoehr, N.M.*, **Hinkel-Lipsker, J.W.** (2018). Novel skill acquisition using virtual reality: Implications for transfer of task performance and kinematics to the real world. *2018 Southwest American College of Sports Medicine*, Costa Mesa, CA USA.

Hinkel-Lipsker, J.W., Hahn, M.E. (2018). Unique locomotor adaptations emerge from variable asymmetric split-belt treadmill walking. *42nd Annual Meeting of the American Society of Biomechanics*, Rochester, MN USA.

Hinkel-Lipsker, J.W., Hahn, M.E. (2018). Determining coordinative structures during adaptation to a novel gait: A principal component analysis approach. *XV International Symposium on 3D Analysis of Human Movement (3D-AHM 2018)*, Manchester, UK.

Hinkel-Lipsker, J.W., Hahn, M.E. (2016). The effect of variable practice on transfer of an asymmetrical gait pattern. *Proceedings of the 40th Annual Meeting of the American Society of Biomechanics*, Raleigh, NC USA.

Hinkel-Lipsker, J.W., Hahn, M.E. (2016). The effect of variable practice on retention of an asymmetrical gait pattern. *XIV International Symposium on 3D Analysis of Human Movement (3D-AHM 2016)*, Taipei, TW.

Hinkel-Lipsker, J.W., Hahn, M.E. (2016). Variable practice and transfer of a novel asymmetrical split-belt walking pattern. *12th Annual Northwest Biomechanics Symposium*, Vancouver, BC CAN.

Received award for outstanding poster presentation.

Hinkel-Lipsker, J.W., Hahn, M.E. (2015). Automation of stride-specific belt velocities on instrumented treadmills for gait rehabilitation and training. *Proceedings of the 39th Annual Meeting of the American Society of Biomechanics*, Columbus, OH USA.

Hinkel-Lipsker, J.W., Hahn, M.E. (2015). Automation of instrumented treadmill belt velocities for gait rehabilitation and training. *11th Annual Northwest Biomechanics Symposium*. Seattle, WA USA.

Hinkel-Lipsker, J., Hahn, M.E. (2015). Gradual training induces novel kinetic strategies during asymmetric split-belt treadmill walking. *2015 American College of Sports Medicine, Northwest*, Bend, OR USA.

Hinkel-Lipsker, J., Sawers, A., Hahn, M.E. (2014). Gradual training induces novel inter-limb kinetic strategies for asymmetric split-belt treadmill walking. *10th Annual Northwest Biomechanics Symposium*, Salem, OR USA.

RESEARCH GRANT AWARDS**Awarded External Research Grants**

Aug 2023-Jul 2024

Principal Investigator

Research Experiences for Undergraduates (REU) supplement for RUI:
Improving motor learning and rehabilitation via experimental directional dynamic human-virtual reality interaction systems

National Science Foundation Mind, Machine, and Motor Nexus (M3X) program

Co-PIs: Stefanie Drew, Thomas Chan, Peter Bishay

Total costs: \$16,000

- Aug 2022-Sept 2025 **Principal Investigator**
 RUI: Improving motor learning and rehabilitation via experimental directional dynamic human-virtual reality interaction systems
 National Science Foundation Mind, Machine, and Motor Nexus (M3X) program
Co-PIs: Stefanie Drew, Thomas Chan, Peter Bishay
Total costs: \$788,138
- July 2021-May 2022 **Co-Principal Investigator**
 The AWARE Project: Arming wearable augmented reality equipment to strengthen psychological reserves and resilience.
 Department of Defense (#78166-RT-REP).
PIs: Thomas Chan, Kacie Blackman, Carrie Saetermoe.
Total costs: \$580,192

Pending External Research Grants

- Jan 2024-Dec 2027 **Co-Principal Investigator**
 ART: Expanding Capacity in CSUN's Entrepreneurial Ecosystem to Accelerate Translational Research
 National Science Foundation Accelerating Research Translation program
PI: Timothy Tiemann
Total costs: \$5,950,327

Awarded Internal Research Grants

- July 2022 **Principal Investigator**
 2022 Spring Faculty Travel Grant Program
 California State University Program for Education and Research in Biotechnology (CSUPERB)
Total costs: \$1,500
- June 2022-Aug 2022 **Principal Investigator**
 RUI: Collaborative Research: The future and viability of effective learning practices in virtual reality.
 CSUN Research and Sponsored Projects Summer Grant Program
Co-PI: Stefanie Drew
Total costs: \$3,000
- June 2021-Aug 2021 **Principal Investigator**
 RUI: Collaborative Research: Perceptual-motor learning in virtual reality: Merging motor learning theory with virtual environment design.
 CSUN Research and Sponsored Projects Summer Grant Program
Co-PI: Stefanie Drew
Total costs: \$3,000
- June 2020-May 2021 **Principal Investigator**
 Turning the corner: Providing visual cues during walking to individuals with Parkinson's disease using a novel augmented reality platform.

CSUN Research, Scholarship, and Creative Activity Award

Co-PI: Thomas Chan

Total costs: 3 units teaching release time.

June 2020-Aug 2020

Co-principal Investigator

Utilizing new technologies to optimize reader experience of older adults.

CSUN Research and Sponsored Projects Summer Grant Program.

PI: Stefanie Drew

Total costs: \$3,000

Aug 2019-Dec 2019

Principal Investigator

How “real” is virtual reality? A multi-modal investigation of human motor learning in a virtual environment.

CSUN Probationary Faculty Grant Award

Co-PIs: Stefanie Drew, Thomas Chan.

Total costs: 3 units teaching release time.

Sept 2019-May 2020

Co-principal Investigator

An interdisciplinary investigation of transference of learning utilizing virtual reality systems.

CSUN College of Social and Behavioral Sciences Research Award.

PIs: Thomas Chan, Stefanie Drew

Total costs: \$4,440

July 2018-July 2019

Principal Investigator

Watch where you walk: Human visual perception and motion of the lower limbs while navigating obstacles in a fatigued state.

CSUN Research, Scholarship, and Creative Activity Award

Co-PIs: Sean Rogers, Stefanie Drew

Total costs: \$4,950.66

June 2018-April 2019

Co-principal investigator

An investigation of the impact of immersive virtual reality practice on visual and mechanical abilities.

CSUN College of Social and Behavioral Sciences Research Competition

PI: Stefanie Drew

Total costs: \$3,507.86

June 2018-Aug 2018

Principal investigator

Enhancement of on-field visual perception in adult collegiate soccer players.

CSUN Research and Graduate Studies Summer Seed Grant

Co-PIs: Victoria Graham, Shane Stecyk

Total costs: \$2,855

June 2018-Aug 2018

Co-principal investigator

An inter-disciplinary investigation of the impact of immersive virtual reality practice on visual and mechanical abilities.

CSUN Research and Graduate Studies Summer Seed Grant

PI: Stefanie Drew

Total costs: \$2,970

INVITED TALKS

Augmented and virtual reality for gait and balance rehabilitation: Benefits, challenges, and future outlook (**Oct 29, 2023**). Symposium for 2023 *Southwest American College of Sports Medicine Annual Meeting*.

Tips and tricks in teaching biomechanics (**Dec 13, 2022**). Panel discussion for the *American Society of Biomechanics Early Faculty Affinity Group* [Online].

Mind your step: Visuomotor adaptations to physical fatigue during a novel obstacle negotiation task (**October 7, 2021**). 2021 *Western Society for Kinesiology and Wellness Annual Conference*. Oakland, CA USA [Online].

Staying productive during COVID-19 panel (**May 11, 2021**). *CSUN Student Success Workshop*, Northridge, CA USA [Online].

Presenting your research: Designing a research presentation HHD & HUM (**February 19, 2020; March 2, 2021**). *CSUN Student Success Workshop*, Northridge, CA USA

Enhancement of on-field visual perception in adult collegiate soccer players. (**February 28, 2019**). *CSUN Research and Graduate Studies Summer Grant Program*, Northridge, CA USA.

Variability of Practice and Locomotor Adaptation. (**January 20, 2017**). *Department of Human Physiology Seminar Series*, Eugene, OR USA.

Variable Practice and the Learning of Novel Gait Patterns. (**February 27th, 2016**). *University of Oregon Graduate Research Forum*. Eugene, OR USA.

The Use of Asymmetrical Split-Belt Walking in Training of Novel Gait. (**September 2, 2015**). *Tokyo University of Science-University of Oregon Biomechanics Workshop*, Tokyo, JP.

Motor Learning and Control: An Introduction. (**May 7, 2013**). *Department of Kinesiology*, California Polytechnic State University, San Luis Obispo. CA USA.

About Cal Poly. (**October 8, 2011**). *31st American College of Sports Medicine Southwest Annual Meeting*, Reno, NV USA.

EDUCATIONAL ACTIVITIES

Courses taught at California State University, Northridge:

2024	KIN 479	Motor Control	Spring 2024
	KIN 601	Advanced Evidence-Based Practice in Kinesiology	Spring 2024
2023	KIN 479	Motor Control	Spring 2023, Fall 2023
	KIN 601	Advanced Evidence-Based Practice in Kinesiology	Spring 2023
2022	KIN 445	Advanced Biomechanics	Spring 2022
	KIN 479	Motor Control	Spring 2022, Fall 2022
	KIN 579	Advanced Studies in Motor Behavior	Fall 2022
	KIN 601	Advanced Evidence-Based Practice in Kinesiology	Fall 2022
2021	KIN 309	Science and Technology in Sports	Summer 2021, Fall 2021

	KIN 445	Advanced Biomechanics	Spring 2021
	KIN 477	Motor Development	Spring 2021
	KIN 479	Motor Control (formerly Perception and Movement)	Spring 2021, Fall 2021
2020	KIN 445	Advanced Biomechanics	Spring, Summer 2020
	KIN 479	Perception and Movement	Spring 2020, Fall 2020
	KIN 579	Advanced Studies in Motor Behavior	Fall 2020
2019	KIN 445	Advanced Biomechanics	Spring, Summer 2019
	KIN 477	Motor Development	Fall 2019
	KIN 479	Perception and Movement	Spring, Fall 2019
2018	KIN 445	Advanced Biomechanics	Spring 2018
	KIN 479	Perception and Movement	Spring, Fall 2018
	KIN 575/L	Biomechanical Analysis Techniques & Lab	Fall 2018
2017	KIN 477	Motor Development	Fall 2017
	KIN 479	Perception and Movement	Fall 2017

Courses taught at University of Oregon:

2016	HPHY 333	Motor Control Lab	Fall 2016
	HPHY 381	Biomechanics Lab	Winter 2016
2015	HPHY 333	Motor Control Lab	Winter 2015
	HPHY 381	Biomechanics Lab	Fall 2015
2014	HPHY 104	Understanding Human Disease Discussion	Spring 2014
	HPHY 333	Motor Control Lab	Winter 2014
	HPHY 381	Biomechanics Lab	Fall 2014
2013	HPHY 381	Biomechanics Lab	Fall 2013

Courses taught at California Polytechnic State University, San Luis Obispo:

2013	KINE 213	Basketball	Winter, Spring 2013
	KINE 302	Biomechanics Lab	Winter, Spring 2013
	KINE 402	Motor Learning and Control Lab	Winter, Spring 2013
2012	KINE 213	Basketball	Winter, Spring, Fall 2012
	KINE 302	Biomechanics Lab	Winter, Spring, Fall 2012
	KINE 402	Motor Learning and Control Lab	Winter, Spring, Fall 2012
2011	KINE 302	Biomechanics Lab	Fall 2011

KINE 402 Motor Learning and Control Lab

Fall 2011

Research Trainees at California State University, Northridge*M.S. students advised (as primary advisor and thesis committee chair):*

2023-present Wendy Pham, B.S. Department of Kinesiology
Thesis in development

2023-present Alique Malakian, B.S. Department of Kinesiology
Thesis in development

2023-present Zeelkumari Patel, B.P.T. Department of Kinesiology
Thesis in development

2023-present Gwendolyn Retzinger, B.S. Department of Kinesiology
Thesis in development

2022-2023 Amanda Duben, B.S. Department of Kinesiology
Disparity in research: A look into pediatric lower-limb amputees
Current position: Head athletic trainer, Valencia High School

2021-present Rabbani Nzeza, B.S. Department of Kinesiology.
Thesis in development

2021-present Makena Savola, B.S. Department of Kinesiology.
Using augmented reality to help maintain balance control during overhead work.

2020-2021 Michael Weise, M.S. Department of Kinesiology.
Lifting in space: Effects of motor learning through action observation via virtual reality.
Current position: Teacher, Antelope Valley Union High School District

2020-2022 Joshua Vicente, M.S., Department of Kinesiology.
Breaking it down: Relative objective hip-hop dance biomechanics to subjective scoring.
Current position: Lecturer, California State University, Northridge and California Lutheran University

2020-2021 Guillermo Jimenez, M.S. Department of Kinesiology.
Perceived competence and preparedness of fire academy graduates.
Current position: Physical education teacher, Monterey Peninsula Unified School District.

2019-2021 Pranavi Depur, M.S. Department of Kinesiology.
Distance learning models in novice yoga practitioners.
Current position: D.P.T. student at Mount Saint Mary's University, Los Angeles.

2018-2020 Nicole Stoehr, M.S. Department of Kinesiology.
Postural control for those with lower-limb amputation during yoga: An analysis of standing-neutral symmetrical poses.
Current position: D.P.T. student at AT Still University

2018-2020 Isaiah Lachica, M.S. Department of Kinesiology.
Effects of action-relevant augmented reality sensory cues on Parkinsonian gait.
Current position: Biokinesiology Ph.D. student at University of Southern California.

M.S. students advised (as thesis committee member):

- 2023-present Austin Quezada, B.S., Department of Kinesiology
The effects of an 8-week strength training program on lower extremity impulse in dancers.
Chair: Danielle Jarvis, Ph.D.
- 2023-present Kimberly Hernandez, B.S. Department of Kinesiology
Strength and conditioning in dancers
Chair: Danielle Jarvis, Ph.D.
- 2023-present Ricardo Tolentino, B.S. Department of Kinesiology
Comparing kinetics and kinematics of non-dancers and dancers in dance functional movements.
Chair: Danielle Jarvis, Ph.D.
- 2023-present Jessica Harrison, B.S. Department of Kinesiology
Immediate effects of immersive virtual reality training on upper limb function and fatigue in people with multiple sclerosis
Chair: Taeyou Jung, Ph.D.
- 2023-present Belle Ponce de Leon, B.S. Department of Kinesiology
Why does the insulin signaling cascade fail in the tissue of high fat fed rodents?
Chair: Ben Yaspelkis, Ph.D.
- 2022-2023 Kyle Miller, B.S. Department of Kinesiology
Brain response to unilateral resistance exercise in people post-stroke
Chair: Taeyou Jung, Ph.D.
- 2021-2022 Christopher Urey, B.S. Department of Kinesiology
The effect of dance shoes on jumping performance in dancers
Chair: Danielle Jarvis, Ph.D.
- 2021-present Randal Stone, B.S. Department of Kinesiology
Thesis in development
Chair: Sean Flanagan, Ph.D.
- 2021-2022 Cynthia Delgado, B.S. Department of Psychology
The explanatory role of presence in the effects of virtual environments on reading comprehension, cybersickness, and accommodative response
Chair: Stefanie Drew, Ph.D.
- 2021-2022 Christopher Reyes, B.S. Department of Kinesiology.
Validity of an inertial measuring unit system for tracking human movement.
Chair: Danielle Jarvis, Ph.D.
- 2021-2021 Celine Crichi, B.S. Department of Kinesiology.
Children's movement control strategies in landing.
Chair: Rosa Angulo-Barroso, Ph.D.
- 2021-2021 Kathy Reyes, B.S. Department of Kinesiology.
A comparison of kicking kinematics among college students with and without Autism Spectrum Disorder.
Chair: Danielle Jarvis, Ph.D.

- 2021-2021 Isabella Pregozen, B.S. Department of Kinesiology.
The effects of chronic ankle instability on biomechanics in athletes: A systematic review.
Chair: Danielle Jarvis, Ph.D.
- 2020-2021 Ryan Drantch, B.S. Department of Kinesiology.
Effects of a virtual taekwondo program on balance for young adults with Autism Spectrum Disorder.
Chair: Teri Todd, Ph.D.
- 2020-2021 Ryan Baylor, B.S. Department of Kinesiology.
Older people trip, some fall: An investigation into how and why the older population trips and falls, and what can be done to intervene...
Chair: Sean Flanagan, Ph.D.
- 2020-2021 Jonathan Montano, B.S. Department of Kinesiology.
Acute effects of maximal isometric contractions on concentric jump performance.
Chair: Paulo Marchetti, Ph.D.
- 2020-2021 Michael Francisco, B.S. Department of Kinesiology.
Brain activity in post-stroke individuals performing aquatic treadmill and land treadmill walking.
Chair: Taeyou Jung, Ph.D.
- 2019-2022 Robert Mosher, B.S. Department of Psychology.
The impact of immersive virtual reality displays on ocular function.
Chair: Stefanie Drew, Ph.D.
- 2019-2020 Ying Liu, B.S. Department of Kinesiology.
Effects of a single bout of aerobic exercise on visuospatial abilities in young adults with autism spectrum disorder.
Chair: Teri Todd, Ph.D.
- 2018-2020 Min Park, M.S. Department of Kinesiology.
Effects of Weighted-Ball Hold Training on the Sequencing of Baseball Pitchers.
Chair: Shane Stecyk, Ph.D.
- 2018-2020 Ryan Duffy, M.S. Department of Kinesiology.
Effects of Weighted-Ball Hold Training on the Sequencing of Baseball Pitchers.
Chair: Shane Stecyk, Ph.D.
- 2018-2019 Erica Burke, M.S. Department of Kinesiology.
Influence of the high-intensity dance performance fitness test on lower extremity biomechanics.
Chair: Danielle Jarvis, Ph.D.

Ed.D. students advised (as dissertation committee member):

- 2019-2020 Rebecca Pena, Ed.D., Department of Educational Leadership and Policy Studies.
Service learning and the enhancement of employability skills.
Chair: Sloane Burke-Winkleman, Ph.D.

Research Trainees at University of Oregon

Undergraduate Honors College students advised (as thesis committee member):

- 2016-2017 Francesca Picchi-Wilson, B.S. Department of Human Physiology.
Predictors and Indicators of Maximal Sprint Performance.
Chair: Michael Hahn, Ph.D.
- 2014-2015 Shaun Resseguie, B.S. Department of Human Physiology.
Analysis of Dynamic Balance Control in Transtibial Amputees.
Chair: Michael Hahn, Ph.D.

CONTRIBUTIONS TO THE UNIVERSITY AND COMMUNITY

Contributions to the University

Service to the Department of Kinesiology, California State University, Northridge

- 2021-2022 Exercise science option coordinator, Kinesiology Mandatory Advisement Group
- 2019-2020 Curriculum development (KIN 309-Science and Technology in Sport; KIN 479-Motor Control)
- 2018-present Member, Kinesiology Department Graduate Committee
- 2019 Member, Kinesiology Department Mission and Vision Planning Committee
- 2017-2018 Committee member, Kinesiology Student Technology Competition
- 2017-2023 Chair, Kinesiology department Social Committee

Service to the College of Health and Human Development, California State University, Northridge

- 2020-present College representative, CSUN Research and Grants Committee
- 2018-present College representative, Active Learning Ambassadors
- 2019, 2022, 2023 Member, College of Health and Human Development Commencement Committee
- 2018, 2019 Faculty Marshal, Commencement Ceremony

Service to California State University, Northridge

- 2021-2022 Co-chair, Faculty Retreat Committee
- 2020-2021, 2022-2023 Member, Faculty Retreat Committee
- 2021 Member, CSUN Institutional Review Board research reopening subcommittee
- 2019-present Alternate reviewer, CSUN Institutional Review Board
- 2018-present Mentor and Selection Committee Member
 Undergraduate Research Initiative for Scientific Enhancement (U-RISE)
- 2018-2019, 2022-2024 Judge, CSUNposium (research forum)

Contributions to the Scientific Community

- 2022 Session chair, 'Sports', 2022 3D Analysis of Human Movement conference, Tokyo, JP.
- 2022 Ad-hoc grant reviewer, Orthotic and Prosthetic Education and Research Foundation
- 2022 Conference special session organizer and moderator, 9th World Congress of Biomechanics, Taipei TW
- 2022 Abstract reviewer, 2022 North American Congress on Biomechanics
- 2021-present Reviewer and judge, Student Research Award Competition, Southwest American College of Sports Medicine
- 2020 Grant review panelist, National Science Foundation Future of Work at the Human-Technology Frontier: Core Research (FW-HTF; NSF 20-515)
- 2020-present Abstract reviewer, annual American Society of Biomechanics meeting
- 2019-present Member, Education Committee, American Society of Biomechanics
- 2018-present Mentor, American Society of Biomechanics Mentor-Mentee program
- 2017-present Ad-hoc reviewer for scientific journals: *Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization*, *Experimental Brain Research*, *Frontiers in Aging Neuroscience*, *Frontiers in Human Neuroscience*, *Gait and Posture*, *German Journal of Sport and Exercise Research*, *Human Movement Science*, *IEEE Robotics and Automation Letters*, *Journal of Applied Physiology*, *Journal of Biomechanics*, *Journal of Kinesiology and Wellness*, *Journal of NeuroEngineering and Rehabilitation*, *Journal of Neurophysiology*, *Motor Control*, *PLoS One*, *Scientific Reports*, *Sensors*
- 2016-2017 Member, Local Organizing Committee and Program Committee
13th Annual Northwest Biomechanics Symposium, Eugene, OR
- 2014 Member, Local Organizing Committee
International Sports Science Symposium, Eugene, OR

Community Service

- 2020 Program Chair, National Biomechanics Day at CSUN with Van Nuys HS Medicine and Science Magnet. Outreach program in conjunction with the International Society of Biomechanics. CANCELLED DUE TO COVID-19.

Professional Memberships

- 2014-present American Society of Biomechanics
- 2014-present American College of Sports Medicine
- 2016-2018 American Association for the Advancement of Science
- 2018-present International Society of Biomechanics
- 2018-2020 American Physiological Society
- 2021-2022 Neural Control of Movement Society

