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ACADEMIC BACKGROUND

University of Colorado Boulder

- 2017 **PhD Civil Engineering** w/ emphasis in Construction Engineering and Management
Advisor: Dr. Amy Javernick-Will
- 2015 **MS Civil Engineering** w/ emphasis in Construction Engineering and Management
- 2015 Certificate in College Teaching
- 2015 Certificate in Engineering for Developing Communities

California Polytechnic State University San Luis Obispo

- 2013 **BS Civil Engineering** w/ Honors

PROFESSIONAL EMPLOYMENT

The University of Sydney

Faculty of Engineering | School of Civil Engineering

- 2023 – Senior Lecturer in Humanitarian Engineering
- 2018 – 2022 Lecturer in Humanitarian Engineering

United States Peace Corps Response

- 2017 – 2018 Disaster Risk Reduction and Management Program Officer

PROFESSIONAL REGISTRATIONS

- Chartered Professional Engineer [CPEng], #5918603 – Engineers Australia
- Professional Engineer [PE], #87339 – California Board for Professional Engineers, Land Surveyors, and Geologists
- National Engineering Register [NER] – Engineers Australia
- APEC Engineer – Asia-Pacific Economic Cooperation
- International Professional Engineer [IntPE(Aus)] – International Professional Engineers Agreement (IPEA)
- LEED Accredited Professional, Building Design and Construction [LEED AP BD+C], #11030068 – United States Green Building Council
- Safety Assessment Program (SAP) Coordinator – California Office of Emergency Management (CalOES)
- Remote Pilot License [RePL] and Aeronautical Radio Operator Certificate [AROC], #1083090 – Australian Civil Aviation Safety Authority

AWARDS AND HONOURS

- Australasian Association for Engineering Education (AAEE) Citation for Outstanding Early Career Contributions to Engineering Education (2021)
- American Society of Civil Engineers (ASCE) New Faces of Civil Engineering (2021)
- Dean's Award for Teaching Innovation (2020)
- Information and Research for Post-Disaster Reconstruction (i-Rec) Conference – Best Paper (2019)
- Engineering Project Organization Conference – Best Paper (2016)
- USAID/OFDA Humanitarian Shelter and Settlements Fellow (2016)

REFEREED JOURNAL ARTICLES

Underline indicates student advisee.

- [J20] Hadlos, A., **Opdyke, A.**, and Hadigheh, A. (2022) “Where Does Local and Indigenous Knowledge in Disaster Risk Reduction Go from Here? A Systematic Literature Review.” *International Journal of Disaster Risk Reduction*. 79, 103160. doi: 10.1016/j.ijdr.2022.103160
- [J19] Lloyd, S., Gray, J., Healey, S., and **Opdyke, A.** (2022) “Social Vulnerability to Natural Hazards in the Philippines.” *International Journal of Disaster Risk Reduction*. 79, 103103. doi: 10.1016/j.ijdr.2022.103103
- [J18] **Opdyke, A.**, Chiang, D., Tsang, A., and Smyth, J. (2022) “Benchmarking Household Storm Surge Risk Perceptions to Scientific Models in the Philippines.” *Natural Hazards*. 114(2), 1285-1305. doi: 10.1007/s11069-022-05425-5
- [J17] Gray, J., Lloyd, S., Healey, S., and **Opdyke, A.** (2022) “Urban and Rural Patterns of Typhoon Mortality in the Philippines” *Progress in Disaster Science*. 14, 100234. doi: 10.1016/j.pdisas.2022.100234
- [J16] Hendriks, E. and **Opdyke, A.** (2022) “The Influence of Technical Assistance and Funding on Perceptions of Post-Disaster Housing Safety after the 2015 Gorkha Earthquakes in Nepal.” *International Journal of Disaster Risk Reduction*. 73, 102906. doi: 10.1016/j.ijdr.2022.102906
- [J15] Nabong, E. and **Opdyke, A.** (2022) “Promoting Migration as Adaptation to Climate Change: Addressing Mobility Barriers.” *Development in Practice*. ahead-of-print doi: 10.1080/09614524.2022.2043829
- [J14] Healey, S., Llyod, S., Gray, J., and **Opdyke, A.** (2022) “A Census-Based Housing Vulnerability Index for Typhoon Hazards in the Philippines.” *Progress in Disaster Science*. 13, 100211. doi: 10.1016/j.pdisas.2021.100211
- [J13] **Opdyke, A.** and Wang, Z. (2021) “Prioritising Build Back Safer Messaging for Humanitarian Shelter.” *International Journal of Disaster Risk Reduction*. 64, 102475. doi: 10.1016/j.ijdr.2021.102475.
- [J12] Hendriks, E. and **Opdyke, A.** (2021) “Adoption of Seismic Resistant Techniques in Reconstructed Housing in the Aftermath of Nepal’s 2015 Gorkha Earthquake.” *Earthquake Spectra*. 37(4), 2662-2686. doi: 10.1177/87552930211009530
- [J11] Mastroianni, E., Lancaster, J., Korkmann, B., **Opdyke, A.**, and Beitelmal, W. (2021) “Mitigating Infrastructure Disaster Losses Through Asset Management Practices in the Middle East and North Africa Region.” *International Journal of Disaster Risk Reduction*. 53, 102011. doi: 10.1016/j.ijdr.2020.102011
- [J10] **Opdyke, A.**, Goldwyn, B., and Javernick-Will, A. (2021). “Defining a Humanitarian Shelter and Settlements Research Agenda.” *International Journal of Disaster Risk Reduction*. 52, 101950. doi: 10.1016/j.ijdr.2020.101950
- [J9] Hendriks, E. and **Opdyke, A.** (2020) “Knowledge Adoption in Post-Disaster Housing Self-Recovery.” *Disaster Prevention and Management*. 29(6), 849-864. doi: 10.1108/DPM-01-2020-0025
- [J8] See, L.S., Calo, L., Bannon, B., and **Opdyke, A.** (2020) “An Open Data Approach to Mapping Urban Drainage Infrastructure in Developing Communities.” *Water*. 12(7), 1880. doi:10.3390/w12071880
- [J7] **Opdyke, A.**, Javernick-Will, A., and Koschmann, M. (2019) “Assessing the Impact of Household Participation on Satisfaction and Safe Design in Humanitarian Shelter Projects.” *Disasters*. 43(4), 926-953. doi: 10.1111/disa.12405
- [J6] **Opdyke, A.**, Javernick-Will, A., and Koschmann, M. (2018) “A Comparative Analysis of Coordination, Participation, and Training in Post-Disaster Shelter Projects.” *Sustainability*. 10(11), 4241. doi: 10.3390/su10114241

- [J5] **Opdyke, A.**, Javernick-Will, A., and Koschmann, M. (2018) "Household Construction Knowledge Acquisition in Humanitarian Shelter Projects." *International Journal of Disaster Risk Reduction*. 28, 131-139. doi: 10.1016/j.ijdrr.2018.02.038
- [J4] **Opdyke, A.**, Lepropre, F., Javernick-Will, A., and Koschmann, M. (2017) "Inter-Organizational Resource Coordination in Post-Disaster Infrastructure Recovery." *Construction Management and Economics*. 35(8-9), 514-530. doi: 10.1080/01446193.2016.1247973
- [J3] Koschmann, M., Kopczynski, J., **Opdyke, A.**, and Javernick-Will, A. (2017) "Constructing Authority in Disaster Relief Coordination." *Electronic Journal of Communication*. 29(1-2).
- [J2] **Opdyke, A.**, Javernick-Will, A., and Koschmann, M. (2017) "Infrastructure Hazard Resilience Trends: An Analysis of 25 Years of Research." *Natural Hazards*. 87(2), 773-789. doi: 10.1007/s11069-017-2792-8
- [J1] Zerio, A., **Opdyke, A.**, and Javernick-Will, A. (2016) "Characterizing Post-Disaster Reconstruction Training Methods and Learning Styles." *Engineering Project Organization Journal*. 6(2-4), 142-154. doi: 10.1080/21573727.2016.1257484

REFEREED JOURNAL ARTICLES (UNDER REVIEW)

- [JX] Alac, R., Hammad, A.M.A., Hadigheh, A., **Opdyke, A.** Optimising Egress Location to Enhance Evacuation Planning in Buildings Using a Multi-Objective Mixed-Integer Nonlinear Programming Model and BIM-ABM Simulation." *Automation in Construction*.
- [JX] Taylor, J., Poleacovschi, C., **Opdyke, A.**, and Cetin, K. "Leveraging Inter-Organizational Coordination Networks for Housing Climate Change Adaptation across Rural Alaska." *Sustainable and Resilient Infrastructure*.
- [JX] Nabong, E., **Opdyke, A.**, and Walters, J. "Identifying Leverage Points in Climate Change Migration Systems through Expert Mental Models." *Climatic Change*.
- [JX] Nabong, E., Hocking, L., **Opdyke, A.**, and Walters, J. "Decision-Making Factor Interactions Influencing Climate Migration: A Systems-Based Systematic Review" *WIREs Climate Change*.
- [JX] Healey, S., Lloyd, S., Gray, J., and **Opdyke, A.** "Does Safer Housing Save Lives? An Analysis of Typhoon Mortality and Dwellings in the Philippines." *International Journal of Disaster Risk Reduction*.

BOOKS

- [B1] **Opdyke, A.** and de Rivera, L.P (Eds) (In Press) *Inclusive and Integrated Disaster Risk Reduction*. Springer.

REFEREED CONFERENCE PROCEEDINGS

- [C10] **Opdyke, A.** and Warren, I. (2021) "Service-Learning Remotely: Lessons from Delivery in Humanitarian Engineering During the COVID-19 Pandemic." *Australasian Association for Engineering Education Conference*. Perth, WA, Australia, December 2021.
- [C9] Hadigheh, A., Vulic, J., Burrridge, M., Goldfinch, T., Thomas, J. and **Opdyke, A.** (2019) "Preliminary Evaluation of Immersive and Collaborative Virtual Labs in a Structural Engineering Unit of Study." *Australasian Association for Engineering Education Conference*. Brisbane, QLD, Australia, December 2019.
- [C8] Goldwyn, B., **Opdyke, A.**, and Javernick-Will, A. (2019) "Humanitarian Shelter and Settlements Research Priorities." *Engineering Project Organization Conference*. Vail, CO, USA, June 2019.
- [C7] Venable, C., **Opdyke, A.**, Javernick-Will, A., and Liel, A. (2018) "Community Participation in Post-Disaster Shelter Programs: Examining the Evolution of Participation in Planning, Design, and Construction." *Construction Research Congress*, New Orleans, LA, USA, April 2018. doi: 10.1061/9780784481295.023
- [C6] **Opdyke, A.**, Javernick-Will, A., Koschmann, M., and Moench, H. (2016) "Characterizing Post-Disaster Shelter Design and Material Selection: Lessons from Typhoon Yolanda in the

Philippines." *Construction Research Congress*, San Juan, Puerto Rico, USA, June 2016. doi: 10.1061/9780784479827.148

- [C5] **Opdyke, A.**, Javernick-Will, A., Koschmann, M., and Moench, H. (2016) "A Constitutive Communication Lens of Stakeholder Participation in Post-Disaster Recovery." *Engineering Project Organization Conference*, Cle Elum, WA, USA, June 2016. ***Awarded Best Paper***
- [C4] Zerio, A., **Opdyke, A.**, and Javernick-Will, A. (2016) "Post-Disaster Reconstruction Training Effectiveness." *Engineering Project Organization Conference*, Cle Elum, WA, USA, June 2016.
- [C3] **Opdyke, A.**, Javernick-Will, A., Koschmann, M., and Moench, H. (2015) "Emergent Coordination Practice in Post-Disaster Planning of Infrastructure Systems." *Engineering Project Organization Conference*, Edinburgh, UK, June 2015.
- [C2] **Opdyke, A.** and Javernick-Will, A. (2014) "Building Coordination Capacity: Post-Disaster Organizational Twitter Networks." *Institute of Electrical and Electronics Engineers Global Humanitarian Technology Conference*, San Jose, CA, USA, October 2014. doi: 10.1109/GHTC.2014.6970265
- [C1] **Opdyke, A.** and Javernick-Will, A. (2014) "Resilient and Sustainable Infrastructure Systems: The Role of Coordination, Stakeholder Participation, and Training in Post-Disaster Construction." *Engineering Project Organization Conference*, Granby, CO, USA, July 2014

REFEREED CONFERENCE PROCEEDINGS (ACCEPTED)

- [CA2] Nabong, E., Verder, K., Mars, A., and **Opdyke, A.** "Using Agent-Based Modelling to Identify Areas of Displacement Stress Post-Typhoons." *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022.
- [CA1] Hadlos, A., **Opdyke, A.**, and Hadigheh, A. "Development of a Survey Tool for Multi-Hazard Housing Safety of Non-Engineered Construction" *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022.

REPORTS AND REPORT CHAPTERS

- [R5] Nabong, E., **Opdyke, A.**, Alinsunurin, M.K., Merrill, S., McDonald, G., Jensen, P. (2021) "Exploring the Role of Shelter and Livelihoods Recovery." *Roadmap for Research: A Collaborative Research Framework for Humanitarian Shelter and Settlements Assistance*. Twigg, J. and Babister, L. (Eds.), 97-104. *InterAction*.
- [R4] Créte, E., Hosta, J., Hendriks, E., **Opdyke, A.**, Yadav, S., Rakotnirina, M., Moles, O., Maskey, P.M., Guragain, R., Joshi, L., Sieffert, Y., Garnier, P., Flinn, B. (2021) "Incorporating Local Building Practices in Response." *Roadmap for Research: A Collaborative Research Framework for Humanitarian Shelter and Settlements Assistance*. Twigg, J. and Babister, L. (Eds.), 129-136. *InterAction*.
- [R3] Keogh, R., Birzer, C., Brown, N., Cheng, E., Machado, M., Newman, C., **Opdyke, A.**, Smith, J., Stoakley, A., Turner, J. (2020) "Humanitarian Engineering in Australia & New Zealand: Past, Present, and a Way Forward." Burleson, G. (Ed.), *Engineering for Change*.
- [R2] **Opdyke, A.**, Dalgado, D., and Maynard, V. (2017) "Overview of Typhoon Haiyan." *Shelter Projects 2015-2016*. A. Piccioli, J. Ashmore, K. Kosareff, and J. Mamo, eds., *International Organization for Migration (IOM)*, 32-35. ISBN: 978-92-9068-736-8
- [R1] **Opdyke, A.**, Javernick-Will, A., and Koschmann, M. (2017) "Typhoon Haiyan: Shelter Case Studies." *Mortenson Center in Engineering for Developing Communities*, University of Colorado Boulder.

EXTERNAL BLOGS AND COMMENTARY

- [E5] Dibley, T., **Opdyke, A.**, Howard, A., and Pertiwi, P. P. "Why involving people with disability in preparing for disasters leads to better outcomes." *The Conversation*. September 2021.

- [E4] **Opdyke, A.** and Bodo, D. “Lessons from Mainstreaming Disaster Risk Reduction in the Education Sector from the Philippines.” PreventionWeb, *UNISDR International Disaster Reduction Day*. October 2017.
- [E3] **Opdyke, A.**, Tabo, P., and Javernick-Will, A. “Urban Sheltering: Evidence on Hosting and Rental Support.” *Overseas Development Institute Humanitarian Practice Network*. January 2017.
- [E2] **Opdyke, A.** and Javernick-Will, A. “Re-Envisioning Evacuation: Reducing Mortality Through Social Development and Community Sheltering.” PreventionWeb, *UNISDR International Disaster Reduction Day*. September 2016.
- [E1] **Opdyke, A.** and Javernick-Will, A. “Co-Creating Knowledge of Resilience Principles through Local Stories.” PreventionWeb, *UNISDR International Disaster Reduction Day*. October 2015.

CONFERENCE PRESENTATIONS

Presented as a talk or abstract without refereed paper. Presentations with accompanying refereed papers are listed above separately.

- [CP38] **Opdyke, A.** Participatory Technologies as a Catalyst to Reduce Disaster Risk. (Keynote Presentation) *Association for Pacific Rim Universities (APRU) Multi-Hazards Symposium*. Bangkok, Thailand. November 2022.
- [CP37] Alfian, D., Meilianda, E., and **Opdyke, A.** “The Role of Land Subsidence Induced by Palm Oil Plantation Land Clearing to Escalating Flood Disaster Events at Trumon Area, South Aceh Regency of Indonesia” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022.
- [CP36] Besarra, I., **Opdyke, A.**, Santiago, J. Alfredo Mahar Francisco Lagmay, M., and Mendoza, J. “Developing Flood Vulnerability Curves for Leyte, Philippines.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022.
- [CP35] Meilianda, E., Alfian, D., and **Opdyke, A.** “Overview of Spatiotemporal Dynamics of Coastal Residential Areas Affected by Tsunami, Co-seismic Land Subsidence, and River Flood at Aceh Singkil Regency of Indonesia.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022.
- [CP34] Costantino, S., Reza, N., Ha, E., and **Opdyke, A.** The ‘Tsunagari’ to Recovery: Social Capital and Place in Facilitating Infrastructure Reconstruction after the 2011 Tōhoku Earthquake and Tsunami.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022. ***Awarded Best Student Presentation***
- [CP33] Caro, R., Costanzo, J., Sheth, P., and **Opdyke, A.** “Development of an Indicator Approach for Measuring Building Flood Vulnerability in Data-Scarce Regions of the Philippines: A Case Study in Carigara, Leyte.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sydney, Australia. September 2022.
- [CP32] Nabong, E., **Opdyke, A.**, and Walters, J. “Climate Migration System Causal Loop Diagramming using the Mental Models of Experts.” *International System Dynamics Conference*. Frankfurt, Germany, July 2022.
- [CP31] Smith, J., Daniel, S., **Opdyke, A.**, and Dansie, A. “Humanitarian Engineering -- Weaving Engineering and Development for Impact.” *Development Studies Association of Australia Conference*. Sydney, Australia, July 2022.
- [CP30] **Opdyke, A.** “Cash and Shelter: What do We (Not) Know?” *Asia-Pacific Housing Forum*. Bangkok, Thailand, December 2021.
- [CP29] Taylor, J., **Opdyke, A.**, Matous, P., Poleacovschi, C., Hobson, E., Stump, O., Ferguson, A. (2021) “Climate Change Adaptation in Indigenous Housing: A Case Study of Bourke, NSW.” *Climate Smart Engineering Conference*. Sydney, Australia, November 2021.

- [CP28] Skwarko, T., He, I., Cross, S., Opdyke, A., Kendall, J., Hapsoro, A., Hadayani, T., Idris, Y., and McDonald, G. (2021) “The Long Game: Tools for Evaluating Housing Recovery Following the 2010 Merapi Eruption.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Banda Aceh, Indonesia. November 2021.
- [CP27] Nabong, E. and Opdyke, A. (2021) “A Systematic Review of Climate Change and Migration Decision Factors in the Philippines.” *Sydney Southeast Asia Centre Emerging Scholars Conference*. Sydney, Australia, July 2021.
- [CP26] Llyod, S., Gray, J., Healey, S., and Opdyke, A. (2021) “Understanding and Mapping the Spatial Variability of Social Vulnerability in the Philippines.” *Disaster Resilience and Sustainable Development Symposium*. Bangkok, Thailand, June 2021. **(Invited and published in Progress in Disaster Science)**
- [CP25] Opdyke, A., Pertiwi, D., Aluninurin, M. K., Walters, J. (2021) “Inclusive Development: Ensuring Equitable Benefit and Voice.” (Keynote Presentation) *Engineers Without Borders-USA West Coast Conference*, San Luis Obispo, CA, USA, April 2021.
- [CP24] Opdyke, A. (2020) “Confronting Informality in Conflict: Examining the Role of Humanitarian Organisations in Marawi.” *International Conference on Building Resilience*. Bali, Indonesia, January 2020.
- [CP23] Wu, M., Tran, N., Woodley, L., Hendriks, E., and Opdyke, A. (2020) “The Influence of Community Participation, Technical Assistance, and Government Funding on Post Disaster Housing.” *International Conference on Building Resilience*. Bali, Indonesia, January 2020.
- [CP22] Opdyke, A. (2019) “Mobilising Local Knowledge in Local Disaster Risk Reduction Strategies.” *World Bosai Forum*. Sendai, Japan, November 2019.
- [CP21] Opdyke, A. (2019) “Assessing Virtual Reality as an Education Tool for Participatory Coastal Vulnerability Appraisal.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Sendai, Japan, November 2019.
- [CP20] Opdyke, A. and Hilmi, M. (2019) “What Do You Need to Know?: The Role of Research and Evidence in Practice.” *Global Shelter Cluster Annual Meeting*, Geneva, Switzerland, October 2019.
- [CP19] Groves, C., Opdyke, A., Latianara, M., and Vahanvati, M. (2019) “Supporting Shelter Self-Recovery: Challenging Aid Models.” *Australian Council for International Development Conference*. Sydney, NSW, Australia, October 2019.
- [CP18] Opdyke, A., Hodgkin, D., Maea, L., and Shrestha, C.B. (2019) “Humanitarian Shelter Response: Coordinating for Better Recovery.” *Asia-Pacific Housing Forum*. Bangkok, Thailand, September 2019.
- [CP17] Ahmed, M., Chutarat, A., Bahsoon, W., Jalandoni, M., and Opdyke, A. (2019) “Window to Appropriate Construction Technologies” *Asia-Pacific Housing Forum*. Bangkok, Thailand, September 2019.
- [CP16] Hendriks, E. and Opdyke, A. (2019) “Understanding the Role of Knowledge Sources in Housing Self-Recovery Processes in the Philippines.” *i-Rec Conference*. Gainesville, FL, USA, June 2019. ***Awarded Best Paper* (Invited and published in Disaster Prevention and Management)**
- [CP15] Vahanvati, M. and Opdyke, A. (2019) “Reviewing Housing Reconstruction Frameworks: Stages, Scales and Dimensions” *i-Rec Conference*. Gainesville, FL, USA, June 2019.
- [CP14] Opdyke, A., Goldwyn, B. and Javernick-Will, A. (2019) “Identifying and Prioritizing Sectoral Research Evidence Gaps.” (Plenary Session) *InterAction Collaborative Academic-Practitioner Research Forum*. Washington, DC, USA, June 2019.
- [CP13] Opdyke, A. (2018) “Examining the Efficacy of Community Participation in Hazard Mapping for Disaster Risk Reduction.” *International Conference on Building Resilience*. Lisbon, Portugal, November 2018.
- [CP12] Opdyke, A., Palagi, S., Venable, C., and Javernick-Will, A. (2018) “Homeowner Expansions and Modifications: Implications of Household Income and Land Tenure for

Incremental Shelter.” *International Conference on Building Resilience*. Lisbon, Portugal, November 2018.

- [CP11] **Opdyke, A.** Thomas, J., Johnson, F., and Bruce, A. (2018) “Moving Beyond Resilience Rhetoric: Urban Infrastructure and Rethinking the Disaster Cycle.” *Urban Resilience Asia Pacific Conference*. Sydney, NSW, Australia, November 2018.
- [CP10] **Opdyke, A.**, Goldwyn, B. and Javernick-Will, A. (2018) “Moving Toward Consensus in Humanitarian Shelter and Settlements Research Priorities.” (Plenary Session) *UK Shelter Forum*. London, UK, November 2018.
- [CP9] **Opdyke, A.** (2018) “Sheltering in Place: Revisiting Opportunities for Post-Disaster Hosting and Rental Subsidies.” *Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery*. Banda Aceh, Indonesia. October 2018.
- [CP8] **Opdyke, A.**, Goldwyn, B. and Javernick-Will, A. (2018) “Defining a Humanitarian Shelter and Settlements Research Agenda.” *Shelter Centre Shelter Meeting*. Geneva, Switzerland, July 2018.
- [CP7] **Opdyke, A.**, Collins, M., and Vicariot, L. (2017) “Assessment, Research, and Technical Issues in the Settlements Approach.” *Stakeholders Conference for Operationalizing the Settlements Approach*. Washington, DC, USA, June 2017.
- [CP 6] **Opdyke, A.** and Javernick-Will, A. (2017) “Participation Pathways to Increased Social Capital in Humanitarian Shelter Projects.” *i-Rec Conference*. June 2017.
- [CP5] Linden, K., Javernick-Will, A., Amadei, B., Klees, K., and Sandekian, R. – presented by **Opdyke, A.** (2016) “Engineering for Developing Communities: Graduate Certificate and Professional MS Programs.” *Engineering Education for Sustainable Development Conference*. Bruges, Belgium, September 2016.
- [CP4] **Opdyke, A.** and Martindale, T. (2016) “Participatory Community Engagement.” *Engineers Without Borders-USA International Summit*. Denver, CO, USA, March 2016.
- [CP3] **Opdyke, A.**, Moench, M., and Bergh, F. (2016) “Applying Resilience in Practice.” *Engineers Without Borders-USA International Summit*. Denver, CO, USA, March 2016.
- [CP2] **Opdyke, A.** (2015) “Participatory Assessment and Implementation Strategies for Projects.” *Engineers Without Borders-USA West Coast Conference*, San Luis Obispo, CA, USA, November 2015.
- [CP1] **Opdyke, A.** (2015) “Engaging with Communities: Achieving Meaningful Participation in Development Projects.” (Plenary Session) *Engineers Without Borders-USA West Coast Conference*, San Luis Obispo, CA, USA, November 2015.

INVITED TALKS

- [T3] **Opdyke, A.** (2022) “Local and Scientific Knowledge Convergence in Housing Disaster Risk Reduction” *The University of Auckland and Auckland University of Technology*, Auckland, New Zealand. November 2022.
- [T2] **Opdyke, A.** (2022) “TBC” *Massey University*, Auckland, New Zealand. November 2022.
- [T1] Pertiwi, D. and **Opdyke, A.** (2021) “Inclusion and Role of People with Disabilities and Older Persons in Disaster and Humanitarian Response.” *Universitas Gadjah Mada*, Yogyakarta, Indonesia. April 2021.

RESEARCH POSTERS

- [RP2] Nabong, E. and **Opdyke, A.** “Exploring Our Understanding of Climate Migration through Complex Systems Thinking.” *International System Dynamics Conference*. Frankfurt, Germany, July 2022.
- [RP1] Nabong, E. and **Opdyke, A.** (2021) “A Systematic Review of Climate-Induced Migration and Displacement Decision Factors.” *Climate Smart Engineering Conference*. Sydney, Australia, November 2021.

MEDIA AND COVERAGE

- Aljazeera, [Progress or folly? Jokowi’s vision for Indonesia’s new capital](#), 21 January 2022

- Radio Tagumpay Triple H 100.1 FM (Sydney), Research Interview, July 5, 2021.
- American Society of Civil Engineers [New Faces of Civil Engineering](#), February 22, 2021.
- Sydney Southeast Asia Centre Stories Podcast, [Disaster Resilience and Humanitarian Response in the Philippines](#), June 25, 2020.
- BBC Radio, [Commentary on relocation of Indonesia’s capital and disaster risk reduction considerations](#) (3:06:20 – 3:12:24), August 27, 2019.
- News.com.au, [‘Very risky’: Expert fears over plans to move traffic-choked, overcrowded city](#), August 17, 2019.
- Disasters Deconstructed Podcast, [i-Rec Conference Live](#) (Season 1, Episode 3), June 17, 2019.
- The Warren Centre, Expert Hour Webinar: Humanitarian Innovation. April 29, 2019.

CONTRACTS AND GRANTS

Opdyke Total: \$774,563 AUD (External: \$583,628 AUD)

AUD values listed at exchange rate at time of award. Proportion of total award noted after by “Opdyke:” or “USYD”, if subcontracted. Where underlying project funds were from a different organisation, this is noted by “Donor:” if applicable.

- [16] Sydney Environment Institute Collaborative Grant. “Places of Refuge amidst Climate Change in Complex Displacement Contexts.” January – December 2023 AUD 40,950. Susan Banki and **Aaron Opdyke**.
- [15] Natural Hazards Research Australia. “Project T3-A3: Community Risk Assessment.” 120,000 AUD. October 2022 – June 2023. Nader Naderpajouh, Mary Crock, Amanda Howard, David Shlosberg, Floris Van Ogtrop, Jodie Bailie, **Aaron Opdyke**, Petr Matous, Hao Zhang, Willem Vervoort, Ali Hadigheh. *{Award Pending}*
- [14] University of Sydney Office of the Deputy Vice Chancellor (Indigenous Strategy and Services). “Understanding Aboriginal Infrastructure Needs: Identifying Research Priorities and Embedding Knowledge in the Engineering Curriculum.” 9,000 AUD. July 2021 – December 2021. **Aaron Opdyke**, Petr Matous.
- [13] Asia-Pacific Network for Global Change Research Collaborative Regional Research Programme. “Advancing Local Flood Decision-Making for Disaster Risk Reduction.” 70,000 USD (94,493 AUD). October 2021 – September 2023. **Aaron Opdyke**, Emily Nabong, Ella Meilianda, Dedy Alfian, Yopi Ilhamsyah, Joy Santiago, Mahar Lagmay, Jerico Mendoza.
- [12] American Council for Voluntary International Action (InterAction). “Roadmap for Research – Humanitarian Shelter and Settlements.” 2,000 USD (2,713 AUD). Donor: United States Agency for International Development Office for U.S. Foreign Disaster Assistance (USAID/OFDA). September 2020 – December 2020. Eugénie Crété, Julien Hosta, Eefje Hendriks Mampionana Rakotnirina, **Aaron Opdyke**, Santosh Yadav, Oliver Moles, Prem Nath Maskey, Lumanti Joshi, Ramesh Guragain, Yannick Sieffert, Philippe Garnier, Bill Flinn.
- [11] American Council for Voluntary International Action (InterAction). “Roadmap for Research – Humanitarian Shelter and Settlements.” 2,000 USD (2,713 AUD). Donor: United States Agency for International Development Office for U.S. Foreign Disaster Assistance (USAID/OFDA). September 2020 – December 2020. **Aaron Opdyke**, Emily Nabong, Scott Merrill, Gregg McDonald, Pia Jensen, Maria Kristina Alinsunurin.
- [10] Office of the Deputy Vice-Chancellor (Indigenous Strategy and Services). “Participatory Research on Community-Led Housing Development in Remote Communities.” 9,500 AUD. January – December 2020. Petr Matous and **Aaron Opdyke**.
- [9] Catholic Relief Services. “Anibong Resettlement End of Project Evaluation.” 51,622 USD (73,528 AUD). Donor: Catholic Relief Services and American Red Cross. November 2019 – July 2020. **Aaron Opdyke**, Yvonne Su, Ladylyn Maganda, Ara Joy Pacoma.

- [8] Faculty of Engineering Early Career Researcher Development Grant. “Transforming Disaster Risk Assessments at the Nexus of Local Knowledge and Engineering Tools.” 50,000 AUD. November 2019 – November 2020. **Aaron Opdyke.**
- [7] Australian Department of Foreign Affairs and Trade New Colombo Plan Mobility Grant. “Disaster Risk Reduction in the Philippines.” 247,500 AUD. October 2019 – June 2023. **Aaron Opdyke**
- [6] Faculty of Engineering Strategic Education Grant. “Towards a Research-Informed Design for Immersive Virtual Reality (IVR) Environments.” 29,518 AUD. March – December 2019. Ali Hadigheh, Jacqueline Thomas, Tom Goldfinch, **Aaron Opdyke**, Ali Nezhad.
- [5] Sydney Southeast Asia Centre Partnership Grant. “Informal Sheltering Practices in the Philippines: Adaptive Urban Resilience Processes.” 49,967 AUD. November 2018 – December 2021. **Aaron Opdyke**, Benigno Balgos, Paul Jones, Acram Latiph, Erlinda Yape.
- [4] Sydney Southeast Asia Centre Conference Grant. 2,000 AUD. November 2018. **Aaron Opdyke.**
- [3] Project Concern International. “The Neighborhood Approach: Establishing Best Practices, Lessons Learned, and Guidelines on Implementation.” 9,000 USD (12,797 AUD). Donor: United States Agency for International Development Office for U.S. Foreign Disaster Assistance (USAID/OFDA). January 2019 – May 2019. Jim DiFrancesca, Laura Jones, **Aaron Opdyke.**
- [2] World Connect. “Participatory Hazard Mapping for Carigara” 4,999 USD (6,556 AUD) December 2017 – April 2018. **Aaron Opdyke**, Daryl Daniel Bodo.
- [1] United States Agency for International Development (USAID). “Humanitarian Shelter and Settlements Fellowship.” 16,900 USD (23,330AUD) June 2016 – December 2016. **Aaron Opdyke.**

CONTRACTS AND GRANTS UNDER REVIEW

AUD values listed at exchange rate at time of application.

- [GX] Commonwealth Scientific and Industrial Research Organisation (CSIRO) – National Science Foundation (NSF) Artificial Intelligence Research Collaboration Program. “Information Theoretic Learning and Human-Machine Collaboration for Drought Resilience.” 1,687,458 AUD (USYD: 843,729AUD). Hesham El Gamal, Lifeng Lai, **Aaron Opdyke**, Chang Xu.
- [GX] National Science Foundation (NSF) Disaster Resilience Research Grants. “Convergence of Indigenous and Technical Knowledge in Housing Mitigation Decisions: A Global, Multi-Hazard Perspective to Improve Resilience.” 399,450 USD, USYD:49,993 USD (580,850 AUD, USYD: 72,696 AUD). Lauryn Spearing, Cristina Poleacovschi, Aaron Opdyke, Felipe Araya, Scott Feinstein.
- [GX] Australian Department of Foreign Affairs and Trade (DFAT) New Colombo Plan Mobility Grant. “Disaster Risk Reduction in the Philippines.” 99,000 AUD. **Aaron Opdyke.**

CONTRACTED TRAINING ACTIVITIES

- [CT2] Government of Bangladesh. “Multipurpose Disaster Shelter Project (MDSP) – Principles of Evacuation Centres” Donor: World Bank. August 2018.
- [CT1] International Organisation for Migration (IOM). “Diaspora for Safer Shelter Construction in the Philippines.” Donor: United States Agency for International Development Office for U.S. Foreign Disaster Assistance (USAID/OFDA). May 2018.

TEACHING

CIVL5320 – Engineering for Sustainable Development

2022 (S2) – 18 students (pending)

2021 (S2) – 22 students (4.45/5 overall student evaluation*)

2020 (S2) – 21 students (4.79/5 overall student evaluation*)

2019 (S2) – 11 students (4.61/5 overall student evaluation)

2018 (S2) – 16 students (4.78/5 overall student evaluation*)

CIVL5330 – Global Engineering Fieldwork

2023 (July Intensive), Philippines (pending)

2022 (July Intensive), Philippines (Remote) – 5 students (4.67/5 overall student evaluation)

2019 (July Intensive), India – 32 students (4.43/5 overall student evaluation*^{CC})2018 (December Intensive), India – 16 students (4.35/5 overall student evaluation*^{CC})2018 (July Intensive), Samoa – 23 students (4.68/5 overall student evaluation*^{CC})*Selected for Faculty of Engineering teaching commendation^{CC} Co-coordinated unit of study**STUDENT RESEARCH SUPERVISION**

Research topics shortened for brevity. ¹ Denotes non-lead supervision role. Expected completions are noted by (*) BE – Bachelor of Engineering, MPE – Master of Professional Engineering; ME – Master of Engineering; MPhil – Master of Philosophy, PhD – Doctor of Philosophy

Student	Degree	Topic	Completion
Hadlos, Arvin	PhD	Local and Indigenous Knowledge in Housing Recovery	2025*
Nabong, Emily	PhD	Migration Systems and Climate Change Adaptation	2025*
Besarra, Isaac	MPhil	Climate Change and Flood Risk in the Philippines	2023*
Alac, Ruken	PhD ¹	Protection Planning of Critical Facilities	2023*
Valadkhani, Amir	MPhil ¹	Dynamic Ride-Source Systems	2021
Hickman, Jack	MPE	Minimum Standards for Covered Area in Shelter	2022*
Lin, Shen	MPE	Flood Risk Communication	2022
Jiang, Xinyang	ME	Storm Surge Risk Assessments	2021
Fatima, Khadija	ME	Global Population Data for Local Landslide Risk Estimation	2020
Nagabhyrava, Servani	ME	Finite Element Modelling of Timber Shelter	2019
Wang, Zhenwen	MPE	Prioritising Key Messages for Humanitarian Shelter	2019
Betina, Rowzen	BE	Flood Vulnerability Assessments for Climate Change	2022*
Sheth, Parin	BE	Flood Vulnerability Assessments for Climate Change	2022*
Costanzo, Juliet	BE	Flood Vulnerability Assessments for Climate Change	2022*
Douglass, Connor	BE	Predictive Analytics for Humanitarian Response	2022*
Cruikshank, Claudia	BE	Predictive Analytics for Humanitarian Response	2022*
Gallardo-Gallan, Juan	BE	Predictive Analytics for Humanitarian Response	2022*
Ha, Emily	BE	Long-Term Tsunami Housing Recovery in Japan	2022*
Costantino, Sophia	BE	Long-Term Tsunami Housing Recovery in Japan	2022*
Reza, Nanako	BE	Long-Term Tsunami Housing Recovery in Japan	2022*
Gray, Jasmine	BE	Typhoon Mortality in the Philippines	2021
Lloyd, Sophie	BE	Typhoon Mortality in the Philippines	2021
Healey, Sarah	BE	Typhoon Mortality in the Philippines	2021
Crosby, Dominica	BE	Post-Conflict Sheltering Pathways	2021
Arudselvan, Vanathy	BE	Post-Conflict Sheltering Pathways	2021
Besarra, Isaac	BE	Post-Conflict Sheltering Pathways	2021
He, Ivy	BE	Housing Quality Assessment	2021
Skwarko, Tatiana	BE	Housing Quality Assessment	2021
Cross, Sarah	BE	Housing Quality Assessment	2021
Dunbar, Lachlan	BE	Landslide Exposure Perceptions	2020
Rovelli, Laura	BE	Participatory Hazard Assessments	2020
Johns, Tyler	BE	Participatory Hazard Assessments	2020
Chiang, Desmond	BE	Storm Surge Risk Assessments	2020
Smyth, Jacob	BE	Storm Surge Risk Assessments	2020
Tsang, Anthony	BE	Household Evacuation Plans	2020

Hobson, Edwina	BE	Infrastructure Services for Aboriginal Communities	2020
Stump, Oliver	BE	Infrastructure Services for Aboriginal Communities	2020
Lancaster, James	BE	Mitigating Disaster Losses through Asset Management	2019
Mastroianni, Elyssa	BE	Mitigating Disaster Losses through Asset Management	2019
Korkmann, Benjamin	BE	Mitigating Disaster Losses through Asset Management	2019
Calo, Luke	BE	Impact of Urbanisation and Climate Change on Flood Risk	2019
Bannon, Benjamin	BE	Impact of Urbanisation and Climate Change on Flood Risk	2019
See, Lay Shen	BE	Impact of Urbanisation and Climate Change on Flood Risk	2019
Woodley, Lucy	BE	Safety and Sustainability of Humanitarian Shelter	2019
Tran, Nha Vy	BE	Safety and Sustainability of Humanitarian Shelter	2019
Wu, Mei Feng	BE	Safety and Sustainability of Humanitarian Shelter	2019

Total Completions (Lead Supervisor): ME/MPE (5), BE (26)

Total in Progress (Lead Supervisor): PhD (2), MPhil (1), ME/MPE (1), BE (9)

Total Completions (Non-Lead Supervisor): MPhil (1)

Total in Progress (Non-Lead Supervisor): PhD (1)

Summer/Winter Research Students

Arcolezi, Karina	Sea Level Risk: A Case of Singkil, Aceh	2021
Hocking, Lauren	System Dynamic Modelling of Climate Change Migration	2021
Arudselvan, Vanathy	Understanding Mortality from Typhoons in the Philippines	2020
Desmarais, Ian	Understanding Mortality from Typhoons in the Philippines	2020
See, Janice Ng Weng	Understanding Mortality from Typhoons in the Philippines	2020
Williams, Kellie	Understanding Mortality from Typhoons in the Philippines	2020
Arago, Emann-Ray	Prioritising Key Messages for Humanitarian Shelter	2019

Visiting Scholars

Taylor, Jessica	PhD	Iowa State University	2020
Hendriks, Eefje	PhD	Eindhoven University of Technology	2019

Examiner/External Committee Member

Siddiq, Ilham	PhD	University of Colorado Boulder	2025*
Hendriks, Eefje	PhD	Eindhoven University of Technology	2020
Palagi, Shaye	PhD	University of Colorado Boulder	2020

SERVICE ACTIVITIES

University:

- Higher Degree by Research Examinations Subcommittee (2021 – 2023)
- Philippines Country Coordinator – Sydney Southeast Asia Centre (2019 – present)

Faculty of Engineering:

- Humanitarian Engineering Hub Executive Committee (2021 – present)
- Humanitarian Engineering Innovation Pitch and Hackathon Committee (2019 – present)
- Postgraduate Research Education Committee (2019 – 2022)

School of Civil Engineering:

- Director of Research Training (2019 – 2022)
- Research Committee (2018 – present)
- External Engagement Committee (2018 – present)
- Infrastructure and Resources Committee (2018 – present)
- Undergraduate and Postgraduate Research Event Coordinator (2018)

Guest Editor:

- Journal of Construction Engineering and Management – Special Issue on *Advances in Sustainability in the Built Environment* (forthcoming 2023)
- Sustainability – Special Issue on Sheltering and Housing Displaced Populations (2021)

Conferences:

- Chair, 14th Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery (2022)
- Editor, 13th Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery (2021)

Peer-Reviewer (Journals):

Nature Climate Change; International Journal for Disaster Risk Reduction; Natural Hazards Review; Sustainable Cities and Society; Scientific Reports; International Journal of Disaster Resilience in the Built Environment; Construction Management and Economics; Journal of Management in Engineering; Journal of Construction Engineering and Management; Science of the Total Environment; Sustainable and Resilient Infrastructure; Journal of Water, Sanitation, and Hygiene for Development; Indoor and Built Environment; Journal of Humanitarian Engineering; Engineering Project Organization Journal

Peer-Reviewer (Standards):

- Sphere Handbook (2018 Edition) – Minimum Standards for Shelter, Settlement, and Non-Food Items

Peer-Reviewer (Reports):

- United Nations Office of Disaster Risk Reduction Global Assessment Report Contributing Papers (2021)

Peer-Reviewer (Funding Agencies):

- Asia-Pacific Network for Global Change Research (2019, 2022)
- UK Economic and Social Research Council (2019)

Engineers Australia Accreditation:

- Discipline Expert (Civil/Humanitarian) – Central Queensland University Review (2021)

Committee Participation:

- Australian Council for International Development (ACFID) Urban Community of Practice (2018 – Present)
- Humanitarian Engineering Network Australasia (2018 – Present)
- Global Shelter Cluster Promoting Safer Building Working Group (2017 – Present)
- InterAction Humanitarian Shelter and Settlements Working Group (2016 – Present)

Professional Societies:

- Member, Engineers Australia (2018 – Present)
- Member, Earthquake Engineering Research Institute (2019 – Present)
- Member, Australasian Association for Engineering Education (2019 – Present)
- Member, RedR Australia (2018 – Present)
- Member, Research for Development Impact Network (2018 – Present)
- Member, American Society of Civil Engineers (2009 – Present)

LANGUAGES

- English – Native (C2)
- Spanish – Beginner (A1)
- Waray (Philippines) – Beginner (A1)