CITY OF ALBUQUERQUE
CITY COUNCIL

MEMORANDUM

TO: **All Councilors**

FROM: **Joaquin Baca, City Councilor District 2**

SUBJECT: **Appointment of Mr. Carlos Michelen Strofer to the Tax Increment Finance Board (Downtown TIF Community Representative)**

DATE: **November 2, 2026**

Pursuant to ROA 1994, § 14-8-8-1 the *Tax Increment Finance Board Ordinance*, the City Council shall appoint one (1) Community Representative per TIF District to the Tax Increment Finance Board.

The initial appointees to the Board will serve staggered terms with one member serving a one-year term, two members serving two-year terms, and two members serving three-year terms. Board members may serve no more than two consecutive full terms.

This OC proposes to appoint Mr. Carlos Michelen Strofer as the Downtown TIF Community Representative. As one of the Board's initial appointments, Mr. Michelen Strofer is proposed to serve an initial three-year term. Consistent with section § 14-8-8-5-3(a), the nominee is selected by the Councilor representing the district in which the TIF district is located. In this case, the Downtown TIF District is located entirely within City Council District 2.

APPOINTEE NAME	**TERM**
Carlos Michelen Strofer	**November 2, 2029**

Mr. Michelen Strofer is a resident of City Council District 2 and resides within the greater Downtown area. He is a Research and Development Scientist and Engineer at Sandia National Laboratories and a published scholar in areas such as ocean engineering, marine energy, and computational physics.

Mr. Michelen Strofer has experience participating in public boards and community organizations. He is currently serving his second term on the City of Albuquerque's Transit Advisory Board and is also a board member of the Huning Highland Historic

District Association, where he participates in discussions concerning housing, walkability, multimodal transportation, and local economic development.

Through his community involvement, policy advocacy, research, and writing, Mr. Michelen Strofer engages with urban planning and development issues affecting Albuquerque. He publishes research and analysis through *Downtown ABQ Lab* on Substack, addressing topics including housing, transportation, property tax economics, municipal policy, and efficient land use. His work reflects knowledge of urban planning principles, public policy, community engagement, and the interconnected factors that influence real estate development and redevelopment in Albuquerque.

Because Mr. Michelen Strofer sits on the Transit Advisory Board, he is required to vacate that position upon acceptance of this appointment.

Current Board Membership

Board Role	Name	Term Expires
Member-at-Large – Mayoral Appt.	Vacant	TBD
Member-at-Large – Mayoral Appt.	Vacant	TBD
Member-at-Large – Mayoral Appt.	Vacant	TBD
Member-at-Large – Council Appt.	Vacant	TBD
Downtown TIF Community Rep.	Carlos Michelen Strofer	November 2, 2029
West Central TIF Community Rep.	Vacant	TBD

Pursuant to ROA 1994, § 14-8-8-5, *Board Composition, Appointment, and Terms,* the TIF Board shall consist of at least five core voting members and may contain additional contingent members and ex officio members as follows:

1. Five Core Members:
    - The members shall have experience or knowledge in municipal or public finance, real estate development or redevelopment, urban planning, economic development, finance and banking, accounting, law, or public administration.
    - 3 member-at-large appointed by the mayor and confirmed by the City Council.
    - 1 member-at-large appointed by the City Council.
    - 1 community representative per TIF District, selected by the corresponding City Councilor, confirmed by the City Council.
2. Optional voting members contingent on financial participation in a TIF district (i.e. County, State Department of Finance & Administration or Board of Finance)
    - 1 Bernalillo County representative
    - 1 State representative
    - Shall only have voting rights pertaining to the TIF District in which the entity financially participates

- Term limits are based on continued financial participation or elected official term limits.

3. Ex Officio Members (non-voting)
    - Any Councilor whose council district contains a TIF District.
    - They may participate in discussions but do not count toward quorum.

Carlos A. **Michelen Strofer**

[redacted], Albuquerque, New Mexico, 87102, USA

[redacted] | c.michelen.strofer@gmail.com | cmichelenstrofer | cmichelenstrofer

Education

Virginia Polytechnic Institute and State University

Blacksburg, VA

PH.D. AEROSPACE ENGINEERING — *March 2021*

- GPA 3.90/4.00
- Ocean Engineering track
- Thesis: Machine Learning and Field Inversion approaches to Data-Driven Turbulence Modeling
- Advisor: Dr. Heng Xiao

University of Michigan

Ann Arbor, MI

M.S.E. NAVAL ARCHITECTURE AND MARINE ENGINEERING — *April 2013*

- GPA 7.87/9.00, equivalent GPA 3.96/4.00

B.S.E. NAVAL ARCHITECTURE AND MARINE ENGINEERING — *April 2012*

- Cumulative GPA 3.36/4.00, Major GPA 3.51/4.00
- Minor in Oceanography
- Minor in International Engineering

Professional Development

EXECUTIVE CERTIFICATE IN INNOVATION & LEADERSHIP IN ENERGY—THE UNIVERSITY OF TEXAS AT AUSTIN — *May 2024*

DOE CLIMATE COMMUNICATION WORKSHOP — *May 2022*

Civic Leadership, Urban Planning & Public Finance

Strong Towns Albuquerque

Albuquerque, NM

TREASURER AND BOARD MEMBER; FORMER COMMUNITY OUTREACH CHAIR — *2024 - Present*

- URBAN PLANNING AND LAND USE: Help lead advocacy for incremental housing, safer streets, walkable neighborhoods, and better transportation choices. Worked with community partners to help advance and pass changes to Albuquerque's Integrated Development Ordinance (IDO) that allow more incremental housing, and supported road-safety legislation.
- ORGANIZATIONAL GOVERNANCE: Led the incorporation of Strong Towns Albuquerque as a New Mexico nonprofit, including drafting bylaws, preparing IRS filings, and establishing financial policies. As Treasurer, help oversee its finances.
- COMMUNITY AND GOVERNMENT ENGAGEMENT: Work directly with City Councilors, city staff, state legislators, and neighborhood groups on housing and transportation policy.

Municipal Finance and Urban Planning Research

Albuquerque, NM

INDEPENDENT MUNICIPAL FINANCE RESEARCHER AND WRITER — *2025 - Present*

- PROPERTY VALUE PER ACRE: Created interactive maps and visualizations of Albuquerque property value per acre to show how different development patterns contribute to the city's tax base. Published the analysis in "Where Is Albuquerque's Wealth?"
- MUNICIPAL FINANCIAL SUSTAINABILITY: Examined Albuquerque's financial statements and infrastructure condition trends to explain long-term fiscal challenges in plain language. Published "Albuquerque's Hidden Deficit."
- NATIONAL POLICY EXCHANGE: Invited to a small working-group meeting with Strong Towns founder Chuck Marohn, Urban3 founder Joe Minicozzi, and elected officials, including the mayor of Duluth.

City of Albuquerque Transit Advisory Board

Albuquerque, NM

Board Member

2024 - Present

- Public Administration and Transportation Planning: Advise the City on transit policy and service. Authored a resolution supporting Menaul Boulevard as a Major Transit Corridor. Advocate for frequent, reliable transit and better connections for people walking, biking, and using shared scooters.
- Budget and Performance Analysis: Analyzed transit staffing shortages, missed service, operating budgets, and peer-city performance. Authored a resolution identifying barriers to hiring and retention and calling for compensation reform, including differentiated pay, to restore reliable service.

Huning Highlands Historic District Association

Albuquerque, NM

Board Member

2024 - Present

- Represent neighbors in discussions about infill housing, small-scale businesses, safer streets, walkability, and connections between Downtown and nearby neighborhoods.
- Help write letters to City Council and public agencies, including calls to finish the Central Avenue pedestrian crossing over the railroad tracks and improve everyday walking and biking connections.
- Support neighborhood community-building activities and participate in the community garden.

Rethink I-25

Albuquerque, NM

Co-Founder and Organizer

2025 - Present

- Co-founded a coalition opposing the proposed I-25 widening through central Albuquerque and advocating for safer crossings, neighborhood connections, and better alternatives to highway expansion.
- Organized public outreach and meetings with transportation agencies. Currently working with State Senator Antoinette Sedillo Lopez on proposed legislation to assess transportation investments using vehicle miles traveled (VMT) and greenhouse gas emissions, and prioritize maintaining existing infrastructure.

Professional Experience

Sandia National Laboratories

Albuquerque, NM

R&D Scientist/Engineer

May 2021 - Present

- Oscillating Water Column Hydrodynamics: Investigating different approaches to modeling the hydrodynamics and wave-to-wire dynamics of oscillating water column (OWC) wave energy converters (WEC). Modified open-source marine hydrodynamic code Capytaine to incorporate pressure oscillations on an internal free surface. These simulations are supporting the development and bench testing of an OWC WEC for the oceanographic buoy X-Spar, as part of a multidisciplinary team.
- Differentiable Marine Hydrodynamics: Developing a differentiable hydrodynamic boundary element method (BEM) code in Julia. Automatic differentiation allows for integrating the hydrodynamics, and hence the geometry, into gradient-based design optimization. I lead this project in collaboration with Cornell University and Eurobios, and have secured two rounds of funding from the US Department of Energy. The goal is to have an end-to-end, wave-to-wire, differentiable framework in Julia in which to model WECs, that can be used for design analysis and optimization, control co-design, and developing and incorporating data-driven scientific machine learning models.
- Control Co-Design of WECs: Developing the open-source control co-design code WecOptTool for optimizing WECs using a pseudo-spectral approach and automatic differentiation. The code performs co-optimization of multiple subsystems and optimal structured or unstructured controllers under arbitrary constraints. This is all enabled by fast and efficient gradient calculations using automatic differentiation. I apply research software engineering best practices, including continuous integration, testing, and documentation. Conducted relevant studies, including optimizing drive-train negative spring stiffness to inform our experimental campaign of the WaveBot WEC at Carderock MASK basin, which is equipped with a novel adjustable magnetic spring. Performed similar co-design studies to inform the design of a pitch resonator WEC now operational on WHOI's Pioneer buoy.
- Mentoring: Hired and mentored four graduate and undergraduate interns, providing challenging projects and guidance. Offered professional development opportunities, including conference presentations on their work.

Virginia Tech

Blacksburg, VA

Ph.D. Candidate

Aug. 2016 - Mar. 2021

- Ph.D. research on using sparse experimental measurements for data-driven turbulence modeling.
- Developed a framework to train deep neural network turbulence models with sparse velocity and pressure measurements.
- Used both variational and ensemble methods to obtain model gradients for training.
- Integrated the trained neural network into a custom turbulence model in OpenFOAM for predictive RANS modeling.
- Developed methods to enforce physical constraints on inferred Reynolds stress fields during Bayesian field inversion.
- Used convolutional neural networks for automatic detection of structures in flow fields.

Graduate Teaching Assistant *Aug. 2016 - May 2019*

- Developed course content, taught, graded assignments, and interacted with students for undergraduate aerospace and ocean engineering courses, including wave mechanics, introduction to ocean engineering, aerospace engineering laboratory, and ocean engineering laboratory.

Summer Intern—National Renewable Energy Laboratory—Golden, Co *Apr. - Aug. 2019*

- Used perceptual loss networks to account for model-form uncertainty in data-assimilation problems in fluid mechanics.
- Used the method in wind farm applications, using NREL's WindSE code.

Visiting Scholar—Zhejiang University—Hangzhou, Zhejiang, China *May - Aug. 2018*

- Interacted and collaborated with professors and graduate students at Zhejiang University, while continuing my doctoral research.

Sandia National Laboratories *Albuquerque, NM*

R&D Scientist/Engineer *May 2013 - July 2016*

- Developed WEC-Sim, an open-source wave energy converter (WEC) simulation code.
- Participated in experimental testing of a WEC device for code validation.
- Simulated several marine hydrokinetic turbines using both RANS and the potential flow free-vortex method.
- Developed a methodology for studying probabilistic long-term response of WEC devices in random seas for survivability.

University of Michigan *Ann Arbor, MI*

Student *Sep. 2007 - Apr. 2013*

Research Assistant—VIVACE: Vortex Induced Vibrations for Aquatic Clean Energy *Sep. 2012 - Apr. 2013*

- Performed dynamic CFD simulations of cylinders and similar geometries under vortex induced vibrations in order to identify the potential of new designs for energy harvesting.
- Simulated the effect of turbulence stimulation on energy production and validated with experiments.

Participant, Shipbuilding Training Program—Hyundai Heavy Industries—Ulsan, South Korea *June - July 2012*

- Experienced the shipbuilding process through a series of lectures, tours and hands-on activities.
- Rotated through R&D, Shipbuilding, and Engine and Propeller Manufacturing departments.

Summer Intern—Indústria Naval do Ceará S.A.—Fortaleza, CE, Brazil *May - Aug. 2011*

- Determined if the preliminary structural design of a river hydrographic vessel, designed by Brazilian navy rules, satisfied ABS regulations, and gave recommendations accordingly.
- Assisted with inclination test, sea trials and ABS communications for an offshore fast supply vessel.
- Revised the official contract delivery drawings of a Patrol Vessel for the Namibian Navy.

Participant, SEA Semester—Sea Education Association—Woods Hole, MA *June - July 2010*

- Sailed a tall ship from Hawaii to California, with my shipmates, using traditional methods of navigation.
- Performed various oceanographic data collection routinely, including nets and rosette samplers.
- Designed and conducted a research project on the biogeographical distribution of Lanternfish.

Summer Intern—CIRAMAR Shipyards—Calderas, Dominican Republic *July - August 2008*

- Measured the thickness of ships' plates and structural elements at thousands of points to determine the locations where repair was needed, and assisted with the 'Steel Report'.

Skills

High Performance Computing	Linux OS, bash, high performance computing (HPC), parallel computing.
Programming Languages	Julia, Python, Matlab, SimuLink, C++ (intermediate).
Engineering Software	OpenFOAM, WEC-Sim, WecOptTool, Capytaine, DAKOTA, ParaView, QGIS
Collaboration Software	Git, LaTex, reference managers, vector drawing tools, cloud-based collaboration tools.
Languages	Spanish (fluent), French (intermediate), Portuguese (intermediate).

Awards

2021	**R&D 100**, R&D 100 Award for the WEC-Sim project	*R&D 100*
2015	**1st place**, ASME OMAE - COER Hydrodynamic Modeling Competition	*1st place*

Awarded Proposals

2024	**Sandia LDRD**, Discovery of non-linear hydrodynamic models using machine learning for improved power performance and reliability of energy systems at sea	*$580k*
2023	**DOE WPTO Seedling & Continuing Seedling**, Differentiable Programming to Enable Modern Optimization and Data-Driven Methods for Marine Renewable Energy	*$50K + $100k*
2023	**DOE WPTO Seedling**, Compact Representation of Wave Spectra using Autoencoders	*$50K*

Presentations

Control Co-Design Workshops and Lectures

Instructor/Presenter — *2023 - present*

- Invited seminar speaker at Cornell University's Ezra Systems Seminar Series, February 2025
- Invited seminar speaker at the University of Texas at El Paso's S. Scott Collis Advanced Modeling and Simulations Seminar Series, September 2023
- Taught several hands-on workshops on using WecOptTool for control co-design: two-day control co-design workshop at the Carderock MASK wave basin 2023, 2-hour training for graduate students at Cornell University.

Machine Learning and Deep Learning Workshop

Albuquerque, NM

Organizer, Presenter — *TBD, 2022*

- Organize the annual MLDL workshop at Sandia.
- Taught a training session on enforcing physical constraints in physics-informed machine learning frameworks.

Fields Institute - Scientific Computing Across Scales: Extreme Events and Criticality in Fluid Mechanics.

Toronto, Canada

Participant, Presenter — *2019*

- Invited participant to a workshop on fluid mechanics at the Fields Institute, a prestigious mathematical research institute.
- Presented on "Data-driven, Physics-Based Feature Extraction from Fluid Flow Fields"

SIAM Computational Science and Engineering Conference

Spokane, WA

Presenter, Session chair — *2019*

- Chaired a session on Machine Learning for Fluid Mechanics
- Presented on "Data-Driven Turbulence Models"

WEC-Sim Training Workshops

Instructor/Presenter — *2015 - 2016*

- Taught several hands-on trainings on using the WEC-Sim code for modeling wave energy converters: INORE Symposium 2015, METS conference 2016, two-days workshop at Oregon State University 2016.

Journal Publications

[1] Rafael Baez Ramirez, Ethan J Sloan, and **Carlos A. Michelen Strofer**. "Site-Specific Parameterization of Ocean Spectra for Power Estimates of Wave Energy Converters". In: *Journal of Ocean Engineering and Marine Energy [ACCEPTED]* (2025).

[2] Kapil Khanal, **Carlos A. Michelen Strofer**, Matthieu Ancellin, and Maha N. Haji. "Fully differentiable boundary element solver for hydrodynamic sensitivity analysis of wave-structure interactions". In: *Applied Ocean Research* 163 (2025), p. 104707.

[3] Houssein Yassin, Tania Demonte Gonzalez, Gordon Parker, Giorgio Bacelli, and **Carlos A. Michelen Strofer**. "Derivation and Experimental Validation of a Parameterized Nonlinear Froude–Krylov Force Model for Heaving-Point-Absorber Wave Energy Converters". In: *Energies* 18.11 (2025), p. 2968.

[4] Michael C Devin, Daniel T Gaebele, **Carlos A. Michelen Strofer**, Jeff T Grasberger, Jantzen Lee, Ryan G Coe, and Giorgio Bacelli. "High-dimensional control co-design of a wave energy converter with a novel pitch resonator power takeoff system". In: *Ocean Engineering* 312 (2024), p. 119124.

[5] **Carlos A. Michelen Strofer**, Daniel T. Gaebele, Ryan G. Coe, and Giorgio Bacelli. "Control Co-Design of Power Take-off Systems for Wave Energy Converters using WecOptTool". In: *IEEE Transactions on Sustainable Energy* (2023).

[6] Khalil Mohammad, **Carlos A. Michelen Strofer**, Kaustubha Raghukumar, and Ann Dallman. "Wave Sequential Data Assimilation in Support of Wave Energy Converter Power Prediction". In: *(preparation)* (2023).

[7] **Carlos A. Michelen Strofer** and Heng Xiao. "End-to-end differentiable learning of turbulence models from indirect observations". In: *Theoretical and Applied Mechanics Letters* 11.4 (2021), p. 100280.

[8] **Carlos A. Michelen Strofer**, Xin-Lei Zhang, and Heng Xiao. "DAFI: An Open-Source Framework for Ensemble-Based Data Assimilation and Field Inversion". In: *Communications in Computational Physics* 29.5 (2021), pp. 1583–1622.

[9] **Carlos A. Michelen Strofer**, Xin-Lei Zhang, and Heng Xiao. "Ensemble Gradient for Learning Turbulence Models from Indirect Observations". In: *Communications in Computational Physics* 30.5 (2021), pp. 1269–1289.

[10] **Carlos A. Michelen Strofer**, Jinlong Wu, Heng Xiao, and Eric Paterson. "Data-Driven, Physics-Based Feature Extraction from Fluid Flow Fields". In: *Communications in Computational Physics* 25.3 (2019), pp. 625–650.

[11] **Carlos A. Michelen Strofer**, Xin-Lei Zhang, Heng Xiao, and Olivier Coutier-Delgosha. "Enforcing Boundary Conditions on Physical Fields in Bayesian Inversion". In: *Computer Methods in Applied Mechanics and Engineering* (2019).

[12] Jinlong Wu, **Carlos A. Michelen Strofer**, and Heng Xiao. "Physics-informed covariance kernel for model-form uncertainty quantification with application to turbulent flows". In: *Computers & Fluids* 193 (2019), p. 104292.

[13] Xin-Lei Zhang, **Carlos A. Michelen Strofer**, and Heng Xiao. "Regularization of ensemble Kalman methods for inverse problems". In: *Journal of Computational Physics* (2019).

[14] Ryan G. Coe, **Carlos A. Michelen Strofer**, Aubrey Eckert-Gallup, and Cédric Sallaberry. "Full Long-Term Design Response Analysis of a Wave Energy Converter". In: *Renewable Energy* 116 (2018), pp. 356–366.

[15] Ratanak So, **Carlos A. Michelen Strofer**, Bret Bosma, Pukha Lenee-Bluhm, and Ted K.A. Brekken. "Statistical Analysis of a 1:7 Scale Field Test Wave Energy Converter Using WEC-Sim". In: *IEEE Transactions on Sustainable Energy* 8.3 (2017), pp. 1118–1126.

Conference Proceedings

[16] Ryan G Coe, Michael C Devin, **Carlos A. Michelen Strofer**, Jantzen Lee, Giorgio Bacelli, Alicia Keow, Daniel T Gaebele, Jeff Grasberger, Steven J Spencer, Johannes Spinneken, et al. "Co-design of a wave energy converter for autonomous power". In: *IFAC-PapersOnLine*. Vol. 58. 20. 2024, pp. 446–451.

[17] Ryan G. Coe, Jonathan Bird, Jeff T. Grasberger, Giorgio Bacelli, Alex Hagmüller, and **Carlos A. Michelen Strofer**. "Maximizing Wave Energy Converter Power Extraction by Utilizing a Variable Negative Stiffness Magnetic Spring". In: *Proceedings of the 15th European Wave and Tidal Energy Conference*. Bilbao, Spain, Sept. 2023.

[18] Daniel T. Gaebele, **Carlos A. Michelen Strofer**, Michael C. Devin, Jeff T. Grasberger, Ryan G. Coe, and Giorgio Bacelli. "Incorporating Empirical Nonlinear Efficiency into Control Co-Optmization of a Real World Heaving Point Absorber using WecOptTool". In: *Proceedings of the 42nd International Conference on Ocean, Offshore and Arctic Engineering*. Melbourne, Australia: ASME, July 2023.

[19] **Carlos A. Michelen Strofer**, Ryan G. Coe, Daniel T. Gaebele, Courtney Beringer, Bret Bosma, Bryson Robertson, Giorgio Bacelli, and Michael T. Devin. "Control co-design and uncertainty analysis of the LUPA's PTO using WecOptTool". In: *Proceedings of the 15th European Wave and Tidal Energy Conference*. Bilbao, Spain, Sept. 2023.

[20] Vincent Sinclair Neary, **Carlos A. Michelen Strofer**, Ryan G. Coe, Johannes Spinneken, Graham Penrose, and Mark Bruggermann. "Design Load Case (DLC) Generator: Web-based tool to determine IEC 62600-2 standard design load requirements." In: *Proceedings of the 15th European Wave and Tidal Energy Conference*. Bilbao, Spain, Sept. 2023.

[21] Madelyn Veurink, Wayne Weaver, Rush Robinett, Wilson David, Ronald Matthews, **Carlos A. Michelen Strofer**, and Ann Dallman. "Impact of Wave Forecasting Accuracy on Design and Power Predictions of a WEC Array". In: *2023 IEEE Energy Conversion Congress and Expo*. Oct. 2023.

[22] Ryan G. Coe, **Carlos A. Michelen Strofer**, Aubrey Eckert-Gallup, Yi-Hsiang Yu, and Jennifer van Rij. "WDRT: A Toolbox for Design-Response Analysis of Wave Energy Converters". In: *Proceedings of the 4th Marine Energy Technology Symposium*. Washington D.C., USA, Apr. 2016.

[23] Lance Manuel, Jarred Canning, Ryan Coe, and **Carlos A. Michelen Strofer**. "On the Short-Term Uncertainty in Performance of a Point Absorber Wave Energy Converter". In: *Proceedings of the 4th Marine Energy Technology Symposium*. Washington D.C., USA, Apr. 2016.

[24] **Carlos A. Michelen Strofer**, Ryan G. Coe, Yi-Hsiang Yu, and Qi Wang. "Tool for Distributed Pressure Time-Histories of Marine Structures: Verification and Case Study with a WEC". In: *Proceedings of the 4th Marine Energy Technology Symposium*. Washington D.C., USA, Apr. 2016.

[25] Kelley Ruehl, **Carlos A. Michelen Strofer**, Bret Bosma, and Yi-Hsiang Yu. "WEC-SIM Phase 1 Validation Testing – Numerical Modeling of Experiments". In: *Proceedings of the ASME 2016 35th International Conference on Ocean, Offshore and Arctic Engineering, OMAE2016*. Vol. Volume 6: Ocean Space Utilization; Ocean Renewable Energy. Busan, South Korea: ASME, June 2016.

[26] Kelley Ruehl, **Carlos A. Michelen Strofer**, Yi-Hsiang Yu, and Michael Lawson. "Update on WEC-Sim Validation Testing and Code Development". In: *Proceedings of the 4th Marine Energy Technology Symposium*. Washington D.C., USA, Apr. 2016.

[27] Michael Lawson, Braulio Barahona Garzon, Fabian Wendt, Yi-Hsiang Yu, and **Carlos A. Michelen Strofer**. "COER Hydrodynamic Modeling Competition: Modeling the Dynamic Response of a Floating Body Using the WEC-SIM and FAST Simulation Tools". In: *Proceedings of the 34th International Conference on Ocean, Offshore and Arctic Engineering*. St. John's, New Foundland, Canada: ASME, 2015.

[28] **Carlos A. Michelen Strofer** and Ryan Coe. "Comparison of Methods for Estimating Short-Term Extreme Response of Wave Energy Converters". In: *OCEANS'15 MTS/IEEE Washington*. Washington, DC, USA: IEEE, Oct. 2015.

[29] Kelley Ruehl, **Carlos A. Michelen Strofer**, Michael Lawson, and Yi-Hsiang Yu. "Improving and Validating the WEC–Sim Wave Energy Converter Modeling Code". In: *Proceedings of the 3rd Marine Energy Technology Symposium*. Washington D.C., USA, Apr. 2015.

[30] Asher Simmons, Ted K. A. Brekken, Pedro Lomonaco, and **Carlos A. Michelen Strofer**. “Creating a Dynamometer for Experimental Validation of Power Take-off Forces on a Wave Energy Converter”. In: *2015 IEEE Conference on Technologies for Sustainability (SusTech)*. Ogden, UT, USA: IEEE, July 2015, pp. 148–153.

[31] Ratanak So, Asher Simmons, Ted K. A. Brekken, Kelley Ruehl, and **Carlos A. Michelen Strofer**. “Development of PTO-Sim: A Power Performance Module for the Open-Source Wave Energy Converter Code WEC-Sim”. In: *Proceedings of the ASME 2015 34th International Conference on Ocean, Offshore and Arctic Engineering*. Vol. Volume 9: Ocean Renewable Energy. St. John’s, Newfoundland, Canada: ASME, May 2015.

[32] Budi Gunawan, **Carlos A. Michelen Strofer**, Vincent S. Neary, Ryan G. Coe, Erik Johnson, Arnold Fontaine, Richard S. Meyer, William Straka, and Michael Jonson. “Model Validation Using Experimental Measurements from the Garfield Thomas Water Tunnel at the Applied Research Laboratory (ARL) at Penn State University”. In: *Proceedings of the 2nd Marine Energy Technology Symposium*. Seattle, Washington, USA, Apr. 2014.

[33] Michael Lawson, Yi-Hsiang Yu, Adam Nelessen, Kelley Ruehl, and **Carlos A. Michelen Strofer**. “Implementing Nonlinear Buoyancy and Excitation Forces in the WEC-Sim Wave Energy Converter Modeling Tool”. In: *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*. Vol. Volume 9B: Ocean Renewable Energy. San Francisco, California, USA: ASME, June 2014.

[34] **Carlos Michelen**, Jonathan C. Murray, Vincent S. Neary, and Mathew Barone. “Cactus Open Source Code for Hydrokinetic Turbine Design and Analysis: Model Performance Evaluation and Public Dissemination as Open Source Design Tool”. In: *Proceedings of the 2nd Marine Energy Technology Symposium*. Seattle, Washington, USA, Apr. 2014.

[35] Kelley Ruehl, **Carlos A. Michelen Strofer**, Samuel Kanner, Michael Lawson, and Yi-Hsiang Yu. “Preliminary Verification and Validation of WEC-Sim, an Open-Source Wave Energy Converter Design Tool”. In: *Proceedings of the ASME 2014 33rd International Conference on Ocean, Offshore and Arctic Engineering*. Vol. Volume 9B: Ocean Renewable Energy. San Francisco, California, USA: ASME, June 2014.

[36] Y. Yu, Michael Lawson, Kelley Ruehl, and **Carlos A. Michelen Strofer**. “Development and Demonstration of the WEC-Sim Wave Energy Converter Simulation Tool”. In: *Proceedings of the 2nd Marine Energy Technology Symposium*. Seattle, Washington, USA, Apr. 2014.

[37] Vincent Sinclair Neary, Budi Gunawan, **Carlos A. Michelen Strofer**, Arnie Fontaine, Peter Bachant, Martin Wosnik, Bill Straka, and Richard Meyer. “US Department of Energy (DOE) National Lab Activities in Marine Hydrokinetics: Scaled Model Testing of DOE Reference Turbines.” In: *Proccedings of the 10th European Wave and Tidal Energy Conference*. Aalborg, Denmark, Sept. 2013.