

Artem Korobenko

Curriculum Vitae

Assistant Professor
Department of Mechanical and Manufacturing
Engineering
University of Calgary,
40 Research Place NW,
Calgary, Alberta, Canada T2L 1Y6

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Email: artem.korobenko@ucalgary.ca

Research Interests and Expertise

Computational high-speed aerodynamics and propulsion • design and analysis of supersonic UAVs • computational fluid dynamics (CFD) • fluid-structure interaction (FSI) • computational mechanics • ship hydrodynamics and cavitation • finite element methods (FEM) and isogeometric analysis (IGA) • turbulence modeling and computations • renewable energy applications • damage in composite materials • high-performance computing (HPC)

Education

- 2011 - 2014 **University of California, San Diego**, La Jolla, CA, USA
Ph.D., Structural Engineering Department/Computational Science, Mathematics and Engineering Program (CSME)
- 2009 - 2011 **Clemson University**, Clemson, SC, USA
M.Sc., Mechanical Engineering Department
- 2004 - 2009 **National Aerospace University “Kharkov Aviation Institute”**, Kharkov, Ukraine
B.Eng., Department of Aircraft Engines
Graduation with honors: June 2008

Selected Awards

- 2021 Schulich School of Engineering Faculty Fellowship
- 2020 Schulich School of Engineering Departmental Research Excellence Award
- 2020 Schulich School of Engineering Faculty Fellowship
- 2019 Schulich School of Engineering Research Achievement Award
- 2018 Schulich School of Engineering Teaching Achievement Award
- 2018 Teaching Excellence Award from Engineering Student Society

- 2017 Schulich School of Engineering Research Achievement Award
- 2016 Nominee for 2016 UCSD Chancellor's Postdoctoral Scholar Award
- 2015 Finalist for an oral presentation at Postdoctoral Research Symposium (PDA 2015) at University of California, San Diego.
- 2015 Nominee for 2015 UCSD Chancellor's Dissertation Medal
- 2011 - 2012 Graduate Research Fellowship, University of California, San Diego
- 2009 - 2011 Fulbright Graduate Student Program, Mechanical Engineering Department, Clemson University, Clemson, SC, USA.

Academic Experience

- 2016 – present **University of Calgary**, Calgary, Alberta, Canada
Assistant Professor, Department of Mechanical and Manufacturing Engineering
- 2015 – 2016 **University of California, San Diego**, La Jolla, CA, USA
Postdoctoral Researcher, Structural Engineering Department
Supervisor: Prof. Yuri Bazilevs

Teaching

- W17 ENER 350: "Computing Tools for Energy Engineers"
- F17, F18, F19 ENME 337: "Computing Tools for Engineering Design"
- W18, W19, F19, W21 ENME 547: "Finite Element Method"
- F18, W20, F20, W22 ENME 572/672: "Computational Fluid Dynamics"

Student Supervision

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|--------------|-------------------|---------------|-----------------|
| 2021-present | Eleftherios Tzima | Ph.D. student | main supervisor |
| 2021-present | Jesus Sanchez Gil | Ph.D. student | main supervisor |
| 2021-present | Sujal Dave | Ph.D. student | main supervisor |
| 2021-present | Adrian Carriba | Ph.D. student | main supervisor |
| 2018-present | Ahmed Bayram | Ph.D. student | main supervisor |

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|--------------|--------------------------|---|-----------------|
| 2018-present | David Codoni | Ph.D. student | main supervisor |
| 2020-present | Musaddik Dhalwala | M.Sc. student | main supervisor |
| 2018-2020 | Carlos Forigua Rodriguez | M.Sc. student | main supervisor |
| 2017-2019 | Michael Ravensbergen | M.Sc. student | main supervisor |
| 2019-present | Derek Lastiwka | Ph.D. student | co-supervisor |
| 2018-present | Haoyang Cen | Ph.D. student | co-supervisor |
| 2021-present | Tyson Migadel | M.Sc. student | co-supervisor |
| 2019-present | Mohammad Hameed | M.Sc. student | co-supervisor |
| 2018-2021 | Henry Helmut Stoldt | M.Sc. student | co-supervisor |
| 2021 | Nurgul Akhshataeva | Summer research student (PURE award) | main supervisor |
| 2020 | Ethan Kirkby | Summer research student (USRI award) | main supervisor |
| 2018 | Yu Ning Dai | Summer research student | main supervisor |
| 2018 | Amnah Saleem | Summer research student (PURE award) | main supervisor |
| 2017 | Richard Gao | Summer research student (USRI award) | main supervisor |
| 2017 | Sarah Schmidt | Summer research student (Mitacs Globalink award) | main supervisor |
| 2017 | Arthur Nguyen-Cao | Summer research student | main supervisor |

Professional Service

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| 2021 - present | Co-founder and Treasurer for the Canadian Association for Computational Science and Engineering |
| 2019-present | Director of the University of Calgary Aerospace Network (UCAN) |
| 2017-2019 | Co-founder and co-Director of the UCAN |
| 2017-present | Member of CASI |
| 2016-2020 | Vice-chair (until 2018) and Chair for Committee on Fluid-Structure Interaction (CFSI) of the Applied Mechanics Division (AMD) of ASME |
| 2016-present | Member of Computational Mechanics TC at EMI |
| 2015-present | Member of EMI |
| 2015-present | Member of USACM |

- 2015-present Member of IACM
- 2015-present External reviewer for Research Grant Council of Hong-Kong
- 2012-present Scientific expert for Fulbright Graduate Student Program
- 2011-present Member of ASME

Conference/Symposia Organization

- 2020 **Main organizer** of the **Conference** on Isogeometric Analysis (IGA 2020), October 18-22, 2020, Banff, AB, Canada.
- 2019 **Main organizer** of **Mini-symposia Session** “Computational Fluid-Structure Interaction and Moving Boundaries and Interfaces” at 15th US National Congress on Computational Mechanics (USNCCM14), July 21-August 1, 2019, Austin, TX, USA.
- 2018 **Main organizer** of **Mini-symposia Session** “Computational Fluid-Structure Interaction” at ASME's International Mechanical Engineering Congress and Exposition (IMECE 2018), November 9-15, 2018, Pittsburgh, PA, USA.
- 2018 **Main organizer** of **Mini-symposia Session** “Industrial Applications of IGA Methods” at IGA 2018: Integrating Design and Analysis, October 10-12, 2018, Austin, TX, USA.
- 2018 **Main organizer** of the **Conference** on Advances in Fluid-Structure Interaction (AFSI 2018), May 1-5, 2018, Banff, AB, Canada.
- 2017 **Main organizer** of **Mini-symposia Session** “Computational Fluid-Structure Interaction: Methods and Applications” at 14th US National Congress on Computational Mechanics (USNCCM14), July 17-20, 2017, Montréal, Québec, Canada.
- 2017 **Main organizer** of **Mini-symposia Session** “Isogeometric Methods in Computational Mechanics” at 2017 EMI Conference, June 4-7, 2017, San Diego, CA, USA.
- 2017 **Co-organizer** of **Mini-symposia Session** “Stabilized, Multiscale, and Isogeometric Methods in CFD” at IACM 19th International Conference on Finite Elements in Flow Problems (FEF 2017), April 5-7, 2017, Rome, Italy.
- 2016 **Co-organiser** of **Mini-symposia Session** “Industrial applications of IGA and Meshfree methods” at 2016 USACM Conference on Isogeometric Analysis and Meshfree Methods to be held on October 10-12, 2016, La Jolla, CA, USA.

Journal Referee

International Journal of Numerical Methods for Heat and Fluid Flow • Journal of Fluids and Structures • Applied Sciences • ASME Journal of Applied Mechanics • Computational Mechanics • Computer Methods in Applied Mechanics and Engineering • Computers & Fluids • Energies •

Refereed Journal Articles

- 2021 H. Cen, A. Bayram, C. Forigua, A. Ramirez-Serrano, A. Korobenko “Analysis of ducted fans for UAV”, *TBD*, 2021, *under preparation*
- 2021 M. Dhalwala, A. Bayram, A. Korobenko “Effect of the turbulence on performance of hydrokinetic turbines”, *TBD*, 2021, *under preparation*
- 2021 A. Bayram and A. Korobenko “Modeling of expiratory particles transport using an Eulerian approach and the variational multiscale method”, *TBD*, 2021, *under preparation*
- 2021 B. Dalman, C. Johansen, A. Ramirez-Serrano, A. Korobenko “Multidisciplinary design optimization of a small-scale supersonic UAV using SUAVE”, *TBD*, 2021, *under preparation*
- 2021 G. Doerksen, C. Johansen, A. Ramirez-Serrano, A. Korobenko “A Numerical Investigation of Recirculation in Axisymmetric Confined Jets”, *Chemical Engineering Science*, 2021, *under preparation*
- 2021 M. Rajanna, E. Johnson, D. Codoni, A. Korobenko, Y. Bazilevs, N. Liu, J. Lua, N. Phan, M.-C. Hsu “Finite element simulation and validation of aerospace applications: stabilized methods, weakly enforced essential boundary conditions, and discontinuity capturing for compressible flows”, *TBD*, 2021, *under preparation*
- 2021 H. Stoldt, A. Korobenko, P. Ziade, C. Johansen “Verification and Validation of High-Fidelity Open-Source Simulation Tools for Supersonic Aircraft Aerodynamic Analysis”, *Journal of Verification, Validation and Uncertainty Quantification*, 2021, *under preparation*
- 2021 H. Cen, Q. Zhu, **A. Korobenko** “Wall-function-based weak imposition of Dirichlet boundary condition for stratified turbulent flows”, *Computers & Fluids*, 2021, *under review*
- 2021 A. Bayram and **A. Korobenko** “A numerical formulation for cavitating flows around marine propellers based on variational multiscale method”, *Computational Mechanics*, 2020, *accepted*
- 2021 D. Codoni, G. Moutsanidis, M.-C. Hsu, Y. Bazilevs, C.T. Johansen, **A. Korobenko** “Stabilized finite element formulation for high-speed compressible flows: towards hypersonic simulations” *Computational Mechanics*, 67(3), 785-809, 2021
- 2020 H. Cen, Q. Zhu, **A. Korobenko** “Simulation of stably stratified turbulent channel flow using residual-based variational multiscale method and isogeometric analysis”, *Computers & Fluids*, 214, 2020, 104765

- 2020 K. Takizawa, Y. Bazilevs, T. Tezduyar, **A. Korobenko** “Computational Flow Analysis in Aerospace, Energy and Transportation Technologies with the Variational Multiscale Methods”, *Journal of Advanced Engineering and Computation*, 4(2), pp. 83-117, 2020
- 2020 M. Ravensbergen, T.A. Helgedagsrud, Y. Bazilevs, **A.Korobenko** “Variational multiscale framework applied to atmospheric flow over complex environmental terrain”, *Computer Methods in Applied Mechanics and Engineering*, 368, 113182, 2020
- 2020 A. Bayram and **A. Korobenko** “Variational multi-scale framework for cavitating flows”, *Computational Mechanics*, 66, pp. 49-67, 2020
- 2020 M. Ravensbergen, A. Bayram, **A.Korobenko** “The Actuator Line Method for Wind Turbine Modelling Applied in a Variational Multiscale Framework”, *Computers & Fluids*, 201, 104465, 2020
- 2020 A. Bayram, C. Bear, M. Bear, **A. Korobenko** “Performance analysis of a vertical-axis hydrokinetic turbines array”, *Computers & Fluids*, 200, 104432, 2020
- 2019 T.A. Helgedagsrud, Y. Bazilevs, **A.Korobenko**, K.M. Mathisen, O.A. Øiseth, “Using ALE-VMS to compute aerodynamic derivatives of bridge section”, *Computers & Fluids*, 179, pp. 820-832, 2019
- 2019 Y.Bazilevs, J.Yan, X.Deng, **A.Korobenko** “Computer modeling of wind turbines: 2. Free-surface FSI and fatigue-damage”, *Archives of Computational Methods in Engineering*, 26(4), pp. 1101-1115, 2019
- 2019 **A.Korobenko**, Y.Bazilevs, K.Takizawa, T.Tezduyar “Computer modeling of wind turbines: 1. ALE-VMS and ST-VMS aerodynamic and FSI analysis”, *Archives of Computational Methods in Engineering*, 26(4), pp.1059-1099, 2019
- 2017 **A.Korobenko**, J.Yan, S.M.I.Gohari, S.Sarkar, Y.Bazilevs “FSI Simulation of two back-to-back wind turbines in atmospheric boundary layer flow”, *Computers & Fluids*, 158, pp.167-175, 2017
- 2017 J.Yan, **A.Korobenko**, A.Tejada-Martinez, R.Golshan, Y.Bazilevs “A new variational multiscale formulation for stratified incompressible turbulent flows”, *Computers & Fluids*, 158, pp.150-156, 2017
- 2016 J.Yan, X.Deng, **A.Korobenko**, Y.Bazilevs “Free-surface flow modeling and simulation of horizontal-axis tidal-stream turbines”, *Computers & Fluids*, 155, pp.157-166, 2016
- 2016 Y.Bazilevs, **A.Korobenko**, X.Deng, J.Yan “Fluid–Structure Interaction Modeling for Fatigue-Damage Prediction in Full-Scale Wind-Turbine Blades”, *Journal of Applied Mechanics*, 83(6), 061010 (9 pages), 2016
- 2016 J.Yan, **A.Korobenko**, X.Deng, Y.Bazilevs “Computational free-surface fluid-structure interaction with application to offshore floating wind turbines”, *Computers & Fluids*, 141, pp.155-174, 2016

- 2015 J.Yan, B.Augier, **A.Korobenko**, J.Czarnowski, G.Ketterman, Y.Bazilevs “FSI modeling of a propulsion system based on compliant hydrofoils in a tandem configuration”, *Computers & Fluids*, 141, pp.201-211, 2015
- 2015 Y.Bazilevs, X.Deng, **A.Korobenko**, F.Lanza di Scalea, S.G.Taylor, M.D.Todd “Isogeometric Fatigue Damage Prediction in Large-Scale Composite Structures Driven by Dynamic Sensor Data”, *Journal of Applied Mechanics*, 82(9), 091008, 2015
- 2015 Y.Bazilevs, **A.Korobenko**, J.Yan, A.Pal, S.M.I.Gohari, S.Sarkar “ALE-VMS Formulations for Stratified Turbulent Incompressible Flows with Applications”, *Mathematical Models and Methods in Applied Science*, 25(12), pp. 2349-2375, 2015
- 2015 B.Augier, J.Yan, **A.Korobenko**, J.Czarnowski, G.Ketterman, Y.Bazilevs “Experimental and numerical FSI study of compliant hydrofoils”, *Computational Mechanics*, 55(6), pp.1079-1090, 2015
- 2015 X.Deng, **A.Korobenko**, J.Yan and Y.Bazilevs “Isogeometric Analysis of Continuum Damage in Rotation-Free Composite Shells”, *Computer Methods in Applied Mechanics and Engineering*, 284, pp.349-372, 2015
- 2015 Y.Bazilevs, **A.Korobenko**, X.Deng, J.Yan “Novel Structural Modeling and Mesh Moving Techniques for Advanced FSI Simulation of Wind Turbines”, *International Journal for Numerical Methods in Engineering*, 102(3-4), pp.766-783, 2015
- 2014 Y.Bazilevs, **A.Korobenko**, X.Deng, J.Yan, M.Kinzel, J.O.Dabiri “FSI Modeling of Vertical- Axis Wind Turbines”, *Journal of Applied Mechanics*, 81(8), 081006, 2014
- 2014 **A.Korobenko**, M.-C.Hsu, I.Akkerman, Y.Bazilevs, “Aerodynamic simulation of vertical-axis wind turbines”, *Journal of Applied Mechanics*, 81(2), 021011, 2014
- 2013 **A.Korobenko**, M.-C.Hsu, I.Akkerman, J.Tippmann, Y.Bazilevs, “Structural mechanics modeling and FSI simulation of wind turbines”, *Mathematical Models and Methods in Applied Science*, 23, pp.249-272, 2013 (**Highly cited paper**)

Book Chapters

- 2018 Y.Bazilevs, J.Yan, X.Deng, **A.Korobenko**, “Simulating Free-Surface FSI and Fatigue-Damage in Wind-Turbine Structural Systems”, *Frontiers in Computational Fluid-Structure Interaction and Flow Simulation*, edited by T.Tezduyar, Birkhäuser/Springer, pp. 1-28, 2018
- 2018 **A.Korobenko**, Y.Bazilevs, K.Takizawa, T.Tezduyar “Recent Advances in ALE-VMS and ST-VMS Computational Aerodynamic and FSI Analysis of Wind Turbines”, *Frontiers in Computational Fluid-Structure Interaction and Flow Simulation*, edited by T.Tezduyar, Birkhäuser/Springer, pp. 253-336, 2018
- 2018 **A.Korobenko**, M.-C.Hsu, Y.Bazilevs “A Computational Steering Framework for Large-Scale Composite Structures”, *Handbook of Dynamic Data Driven Applications Systems*, edited by Erik P. Blasch, Sai Ravela, Alex J. Aved, Springer, pp. 155-171, 2018

2018 **A.Korobenko**, M.Pigazzini, X.Deng, Y. Bazilevs, “Multiscale DDDAS Framework for Damage Prediction in Aerospace Composite Structures”, *Handbook of Dynamic Data Driven Applications Systems*, edited by Erik P. Blasch, Sai Ravela, Alex J. Aved, Springer, pp. 677-696, 2018

2016 **A.Korobenko**, X. Deng, J.Yan, Y.Bazilevs, “Recent Advances in Fluid-Structure Interaction Simulations of Wind Turbines”, in *Advances in Computational Fluid-Structure Interaction and Flow Simulation*, A Tribute to Tayfun Tezduyar on the Occasion of his 60th Birthday, edited by K. Takizawa and Y. Bazilevs, Springer, pp. 489-500, 2016 (**most downloaded Birkhauser book in 2017**)

Invited Talks and Conference Presentations

2019 “Variational multi-scale modelling of atmospheric flows over complex terrain using IGA”, *7th International Conference on Isogeometric Analysis – IGA2019*, Munich, Germany, September 18-20, 2019.

2019 “Computational Fluid-Structure Interaction Framework: Stabilized Methods for Fluid Mechanics Coupled with Isogeometric Analysis for Thin Shell Structures”, *IUTAM Symposium on Fluid-Structure Interaction*, in honour of Prof. Michael Paidoussis, McGill University, Montreal, QC, Canada, August 12-15, 2019

2019 “Variational Multi-Scale Modeling for Cavitating Flows on Moving Domains”, *15th U.S. National Congress on Computational Mechanics USNCCM15*, Austin, TX, USA, July 28 – August 1, 2019.

2019 “Variational Multiscale Methods for Multiphase Flows”, *Advances in Fluid-Structure Interaction (AFSI) 2019*, Okinawa, Japan, June 24-26, 2019.

2019 “High-fidelity computational fluid-structure interaction framework for design and analysis of wind turbines”, *PIMS Workshop on Mathematical Sciences and Clean Energy Applications*, Vancouver, BC, Canada, May 21-24, 2019

2019 “Numerical Simulation of Multiple Vertical Axis Hydrokinetic Turbines using Variational Multiscale Methods”, *VIII International Conference on Computational Methods in Marine Engineering (MARINE 2019)*, Gothenburg, Sweden, May 13-15, 2019.

2019 “Isogeometric Analysis for Fluids, Structures and Fluid-Structure Interaction”, *Isogeometric Splines: Theory and Applications Workshop*, Banff, AB, Canada, February 24 – March 1, 2019.

2019 “High-fidelity Numerical Modeling for Renewable Energy Applications”, *20th International Conference on Finite Elements in Flow Problems-FEF2019*, Chicago, IL, USA, March 31- April 3, 2019.

- 2018 “Fluid-Structure Interaction Framework for Compressible and Incompressible Flows: Application to Aerospace and Marine Engineering”, *World Congress on Computational Mechanics (WCCM) 2018*, New York, NY, USA, July 22-27, 2018
- 2018 Panel member at Defence 4.0 - Innovation & Academia. *WestDef 2018*, Calgary, AB, Canada, June 26-28, 2018.
- 2018 “High-Fidelity Modeling in Wind Energy: From Single Turbine to Wind Farm in Complex Terrains”, *Advances in Fluid-Structure Interaction (AFSI) 2018*, Banff, AB, Canada, May 1-4, 2018
- 2018 “Damage Prediction in Aerospace Composite Structures using Dynamically-Data-Driven Simulations”, *Invited Seminar at Composite Research Network (CRN), University of British Columbia*, Vancouver, BC, Canada, April 19, 2018.
- 2018 “Computational Fluid-Structure Interaction Framework: from Theory to Applications”, *Invited Seminar at Pacific Institute for the Mathematical Sciences (PIMS)*, Calgary, AB, Canada, April 5, 2018.
- 2017 “Fluid-Structure Interaction Framework for Wind Turbines Analysis”, *Invited Lecture at Global Leadership Institute, UC San Diego*, San Diego, CA, USA, December 14, 2017.
- 2017 “Computational Fluid-Structure Interaction Framework: from Theory to Applications”, *Invited Seminar at University of Calgary Chapter of SIAM*, Calgary, AB, Canada, October 25, 2017.
- 2017 “Damage Prediction in Aerospace Composite Structures using Dynamically-Data-Driven Simulations”, *Invited Seminar at Iowa State University, Department of Mechanical Engineering*, Ames, IA, USA, September 27, 2017.
- 2017 “Simulation of Multiple Wind Turbines Operating in Atmospheric Boundary Layer Flow: from Aerodynamics to Fatigue Damage”, *2017 NAWEA Symposium*, Ames, IA, USA, September 26-29, 2017.
- 2017 “Design and Analysis of Low-Cost Attritable Aircrafts using Dynamically-Data-Driven IGA Models”, *5th International Conference on Isogeometric Analysis – IGA2017*, Pavia, Italy, September 11-13, 2017.
- 2017 “FSI Framework for Wind Energy and Aerospace Engineering Applications: from Unsteady Aerodynamics to Damage Prediction”, *14th U.S. National Congress on Computational Mechanics USNCCM14*, Montreal, QC, Canada, July 17-20, 2017.
- 2017 “Structural Modeling, Aerodynamic and FSI Simulations as a Part of Multi-fidelity Framework for Self-aware Air Vehicles”, *2017 Engineering Mechanics Institute (EMI) Conference of the American Society of Civil Engineers (ASCE)*, San Diego, CA, USA, June 4-7, 2017.

- 2017 “Numerical Framework for Damage Prediction in Aerospace Composite Structures”, *63rd Aeronautics Conference-AERO2017*, Toronto, ON, Canada, May 16-18, 2017.
- 2017 “Fluid-Structure Interaction Simulations of Multiple Wind Turbines in Atmospheric Boundary Layer Flows”, *19th International Conference on Finite Elements in Flow Problems-FEF2017*, Rome, Italy, April 5-7, 2017.
- 2016 “Isogeometric Modeling and FSI Analysis of Aerospace Composite Structures for Dynamically-Data-Driven Damage Prediction” *USACM Conference on Isogeometric Analysis and Meshfree Methods*, La Jolla, CA, USA, October 10-12, 2016.
- 2016 “Multiscale DDDAS Framework for Aerospace Composite Structures with Emphasis on Unmanned Aerial Vehicle”, *1st International Conference on InfoSymbiotics/DDDAS*, Hartford, CT, USA, August 9-12, 2016.
- 2016 “Dynamic-Data-Driven Damage Prediction in Aerospace Composite Structures”, *AIAA Aviation Forum 2016*, Washington, DC, USA, June 13-17, 2016.
- 2016 “Advances in Fluid-Structure Interaction Simulations of Wind Turbines, Aerospace and Offshore Structures”, *2016 Engineering Mechanics Institute (EMI) Conference of the American Society of Civil Engineers (ASCE) and Probabilistic Mechanics & Reliability Conference*, Vanderbilt University, TN, USA, May 22-25, 2016.
- 2016 “Advanced Computational Analysis of Wind Turbines”, *Danish Center for Applied Mathematics and Mechanics, Technical University of Denmark*, Copenhagen, Denmark, May 19, 2016.
- 2016 “Advanced Computational Analysis for Energy Applications”, *Department of Mechanical and Manufacturing Engineering, University of Calgary*, Calgary, Canada, April 19, 2016.
- 2016 “Advanced Computational Analysis of Aerospace Composite Structures”, *Department of Mechanical, Aerospace and Biomedical Engineering, University of Tennessee, Knoxville*, Knoxville, TN, USA, April 15, 2016.
- 2016 “Aerodynamic Simulation of Multiple Horizontal-Axis Wind Turbines Interacting with Atmospheric Boundary Layer Flow”, *10th Southern California Symposium on Flow Physics (SoCal Fluids X)*, University of California Irvine, Irvine, April 9, 2016.
- 2015 “Isogeometric Analysis of Thin Shell Structures: From Geometry Modeling to Fluid-Structure Interaction”, *Department of Marine Technology, NTNU*, Trondheim, Norway, September 4, 2015.
- 2015 “Dynamically Coupled Fluid-Structure Interaction and Damage Model for Fatigue Prediction in Composite Structures”, *13th U.S. National Congress on Computational Mechanics USNCCM13*, San Diego, CA, USA, July 26-30, 2015.

- 2015 “Isogeometric Dynamic-Data-Driven Analysis of Fatigue Damage in Wind Turbine Blades”, *2015 Engineering Mechanics Institute (EMI) Conference of the American Society of Civil Engineers (ASCE)*, Stanford University, CA, USA, June 16-19, 2015.
- 2015 “Computations of Atmospheric Boundary Layer Flow Interacting with Spinning Wind Turbine Rotor”, *9th Southern California Symposium on Flow Physics (SoCal Fluids IX)*, San Diego State University, San Diego, April 18, 2015.
- 2014 “Computational Fluid-Structure Interaction with Emphasis on Wind Turbine Modeling”, *2014 Engineering Mechanics Institute (EMI) Conference of the American Society of Civil Engineers (ASCE)*, Hamilton, ON, Canada, August 5-8, 2014.
- 2014 “Advances in Computational FSI Including Dynamically Data-Driven Simulations”, *Advances in Computational Fluid-Structure Interaction and Flow Simulation. A Conference Celebrating 60th Birthday of Tayfun E.Tezduyar*, Tokyo, Japan, March 19-21, 2014.
- 2014 “Isogeometric Shell Modeling in Fluid-Structure Interaction Analysis of Wind Turbines”, *Poster presented at Isogeometric Analysis: Integrating Design and Analysis IGA2014*, Austin, TX, USA, January 8-10, 2014. (**Poster Competition Award**)
- 2014 “Isogeometric Shell Modeling in Fluid-Structure Interaction Analysis of Wind Turbines”, *Isogeometric Analysis: Integrating Design and Analysis IGA2014*, Austin, TX, USA, January 8-10, 2014.
- 2013 “FSI Analysis of Wind Turbines at Full Scale”, *Poster presented at 12th U.S. National Congress on Computational Mechanics USNCCM12*, Raleigh, NC, USA, July 22-25, 2013.
- 2013 “FSI Analysis of Vertical-Axis Wind Turbines (VAWT) at Full Scale”, *12th U.S. National Congress on Computational Mechanics USNCCM12*, Raleigh, NC, USA, July 22-25, 2013. (**USNCCM12 Travel Award**)
- 2013 “Dynamic Data-Driven Application System Framework for Large-Scale Composite Structures”, *International Conference on Computational Science (ICCS 2013)*, Barcelona, Spain, June 5-7, 2013.
- 2013 “FSI Analysis of Wind Turbines at Full Scale”, *Poster presented at the UCSD Jacobs School of Engineering 32rd Annual Research Expo*, La Jolla, California, April 18, 2013.
- 2012 “Fluid-Structure Interaction Validation Study of Horizontal Axis Wind Turbine at Full Scale”, *25th JSME Computational Mechanics Division Conference*, Kobe, Japan, October 6-9, 2012.
- 2012 “Fluid-Structure Interaction Analysis of Horizontal Axis Wind Turbines with Composite Blades and Spar Structures”, *6th Southern California Symposium on Flow Physics (SoCal Fluids VI)*, University of California, Santa Barbara, CA, April 14, 2012

2012 “Aerodynamics and Fluid-Structure Interaction Modeling of Wind Turbines”, *Poster presented at the UCSD Jacobs School of Engineering 31st Annual Research Expo*, La Jolla, CA, April 12, 2012.

Contributed Conference Proceedings and Presentations (*presenter is in bold*)

2020 **H. Stoldt**, C. Johansen, A. Korobenko, P. Ziade “Verification and Validation of a High-Fidelity Open-Source Simulation Tool for Supersonic Aircraft Aerodynamic Analysis”, *2020 AIAA AVIATION Forum*, Reno, NV, USA, June 15-19, 2020

2019 **B. Dalman**, C. Johansen, A. Ramirez-Serrano, and A. Korobenko “Multidisciplinary design optimization of a small-scale supersonic UAV using SUAVE”, *Canadian Aeronautics and Space Institute (CASI) AERO 19 Conference*, Laval, Qc, Canada, May 14-16, 2019

2019 **H. Stoldt**, C. Johansen, A. Korobenko, P. Ziade “Validation of rhoCentralFoam for Aerodynamics Simulations of Supersonic Aircraft” *2nd Annual Okanagan Fluid Dynamics Meeting*, Canmore, AB, Canada, April 26 -28, 2019

2019 **H. Cen**, A. Korobenko, Q. Zhou “Numerical simulation of stratified plane couette flow using the residual-based variational multiscale formulation” *2nd Annual Okanagan Fluid Dynamics Meeting*, Canmore, AB, Canada, April 26 -28, 2019

2019 **A. Bayram Mohamed**, A. Korobenko “Performance analysis of a vertical axis hydrokinetic turbines array” *2nd Annual Okanagan Fluid Dynamics Meeting*, Canmore, AB, Canada, April 26 -28, 2019

2019 **M. Ravensbergen**, A. Korobenko “The actuator line method for wind turbine modelling applied in a variational multiscale framework” *2nd Annual Okanagan Fluid Dynamics Meeting*, Canmore, AB, Canada, April 26 -28, 2019

2019 **D. Codoni**, C.T. Johansen, A. Korobenko “Stabilized finite element method for the solution of compressible hypersonic flows” *2nd Annual Okanagan Fluid Dynamics Meeting*, Canmore, AB, Canada, April 26 -28, 2019

2019 **M. Ravensbergen** and A. Korobenko “The Actuator Line Method for Wind Turbine Modelling Applied in a Variational Multi-Scale Framework” *Wind Energy Science Conference 2019*, Cork, Ireland, June 17-20, 2019

2019 **A. Bayram** and A. Korobenko “Performance Analysis of a Vertical Axis Hydrokinetic Turbines Array” *CSME-CFDSC Congress 2019*, London, ON, Canada, June 2-5, 2019

2019 **M. Ravensbergen** and A. Korobenko “The Actuator Line Method for Wind Turbine Modelling Applied in a Variational Multi-Scale Framework” *CSME-CFDSC Congress 2019*, London, ON, Canada, June 2-5, 2019

2018 **M. Ravensbergen** and A. Korobenko “Variational Multi-Scale Methods for

- Modelling Atmospheric Flows over Complex Environmental Terrain”, *26th Annual Conference of the CFD Society of Canada*, Winnipeg, MB, Canada, June 10-12, 2018
- 2017 **T.A.Helgedagsrud**, Y.Bazilevs, A.Korobenko, K.M.Mathisen, O.A.Øiseth “Using ALE-VMS to Compute Wind Forces on Moving Bridge Decks”, *9th National Conference on Computational Mechanics-MekIT’17*, Trondheim, Norway, May 11-12, 2017.
- 2017 A.Korobenko, **M.Pigazzini**, V.Singh, H.Kim, D.Allaire, K.Willcox, A.L.Marsden, Y.Bazilevs “Dynamic-Data-Driven Damage Prediction in Aerospace Composite Structures”, *AIAA Aviation Forum 2016 Conference Proceedings*, DOI: 10.2514/6.2016-4126.
- 2016 **J.Yan**, A.Korobenko, X.Deng, Y.Bazilevs “Computational Free-Surface FSI with Applications”, *2016 Engineering Mechanics Institute (EMI) Conference of the American Society of Civil Engineers (ASCE) and Probabilistic Mechanics & Reliability Conference*, Vanderbilt University, TN, USA, May 22-25, 2016.
- 2016 **J.Yan**, X.Deng, A.Korobenko, Y.Bazilevs “Free-surface Modeling of Tidal Stream Turbines”, *10th Southern California Symposium on Flow Physics (SoCal Fluids X)*, University of California Irvine, Irvine, April 9, 2016.
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