

Whole-device integrated modeling for tokamak design • Bayesian optimization for physics and engineering applications • Fusion reactor optimization with high-fidelity physics models • Turbulence and transport physics validation in tokamak plasmas

RESEARCH EXPERIENCE

MIT Plasma Science and Fusion Center (MIT PSFC) – Cambridge (USA) May 2019 – present
Research Scientist (May 2021 – present)
Postdoctoral Associate (May 2019 – May 2021)

- Contributed to development of physics basis of SPARC (collaboration MIT-CFS) via integrated modeling for device optimization.
- Studied turbulence and transport in ASDEX Upgrade and DIII-D tokamaks via advanced algorithms and perturbative techniques.
- Supported transport modeling of isotope effects in the JET tokamak (collaboration with MIT-ORNL).

MIT Plasma Science and Fusion Center (MIT PSFC) – Cambridge (USA) Sept. 2015 – May 2019
Research Assistant, Ph.D. candidate

- Resolved 20-year-old question in fusion research, resulting in a high-impact publication in *Physical Review Letters*.
- Conducted experiments as session leader in Alcator C-Mod and DIII-D tokamaks. Operated laser blow-off in Alcator C-Mod.
- Summer stay at General Atomics for the study of heat-pulses on DIII-D and power balance analysis in negative triangularity.
- Summer stay at Max-Planck-Institut für Plasmaphysik for the implementation of VITALS tool to study ASDEX Upgrade plasmas.

Laboratory of Fluid Machines, Politecnico di Milano - Milan (Italy) Sept. 2014 – May 2015
Research Consultant (April 2015 – May 2015)

Research Assistant, M.Sc. candidate (Sept. 2014 – April 2015)

- Optimized Organic Rankine Cycle (ORC) turbine stage, resulting in half pressure losses compared to original designs.
- Developed automatic shape-optimization tool for turbomachinery blades using evolutionary strategies and surrogate models.

Drexel University - Philadelphia, PA (USA) January 2014 – June 2014
Research Assistant, M.Sc. candidate

- Investigated CO₂ decomposition through micro-scale non-thermal plasma discharges via CFD simulations.

EDUCATION

Massachusetts Institute of Technology (MIT) - Cambridge, MA (USA) May 2019
Doctor of Philosophy (Ph.D.) in Nuclear Science and Engineering, specialization in Plasma Physics GPA: 4.8/5.0

- Relevant Coursework: Plasma Physics, Nuclear Fusion, Machine Learning, Optimization Methods

- Thesis: “*Perturbative transport experiments and time-dependent modeling in Alcator C-Mod and DIII-D*” (Del Favero thesis prize)

Drexel University - Philadelphia, PA (USA) June 2014
Master of Science (M.Sc.) in Mechanical Engineering GPA: 4.0/4.0

- Relevant Coursework: Advanced Fluid Mechanics & Heat Transfer, Numerical Methods

Class rank: #1 (out of 49 students)

- Double-Degree Master's Thesis at Politecnico di Milano (Milan, Italy), Sept. 2014 – May 2015

- Thesis: “Development of shape-optimization tools for the aerodynamic design of turbomachinery blades” (Cátedra Repsol prize)

Universidad Politécnica de Madrid - Madrid (Spain) April 2013
Equivalent to *Bachelor of Science (B.Sc.) and Master of Science (M.Sc.) in Industrial & Energy Engineering* GPA: 9.0/10.0

- Relevant Coursework: Nuclear Physics & Technology, Fluid Mechanics, Thermodynamics

Class rank: #1 (out of 419 students)

HONORS, AWARDS & FELLOWSHIPS

- Forbes “30 Under 30” in Science Forbes Magazine, Dec. 2020
- *Del Favero* Doctoral Thesis Prize for most innovative advance in the field MIT Nuclear Science and Engineering, Dec. 2019
- *Young Engineer* Early Career Achievement Award Alumni Association ETSII-UPM, June 2018
- *Manson Benedict* Award for Academic Excellence and Professional Promise MIT Nuclear Science and Engineering, May 2018
- MIT International Science and Technology Initiatives (MISTI) Scholarship MIT MISTI program, May 2018
- Award for the Best Student in Industrial and Energy Engineering (two awards) ETSII-UPM, Dec. 2015
- *Repsol* Award for the Best Master's Thesis Project Cátedra Repsol ETSII-UPM, Dec. 2015
- *Caja Ingenieros* Award for Excellent Academic Progress Caja Ingenieros UPM, Dec. 2015

- *La Caixa* Fellowship for graduate studies in North America Banking Foundation la Caixa, July 2014
- Excellence in Performance Award Drexel University, June 2014
- ERASMUS Scholarship for graduate studies European Union & Government of Spain, Apr. 2014
- *Enrique Rodríguez-Marín* Award for Excellent Academic Progress Romanillos Foundation, Mar. 2014
- Award for Excellent Academic Progress (*received twice*) Government of Madrid, Jan 2014 & Jan. 2011
- Atlantis Fellowship for Graduate Studies, EAGLES Consortium FIPSE U.S. & European Union, Apr. 2013
- High-Performing Student Award ETSII-UPM, Dec. 2011
- Award for the Best Results in the University Entrance Test Universidad Complutense de Madrid, Mar. 2010

SERVICE, MENTORSHIP AND FUNDING ACTIVITIES

▪ **Mentorship:**

- Advisor of MIT NSE graduate student A. Saltzman (September 2021 – present).
 - Topic: Integrated transport modeling of multi-channel interactions
- Thesis Reader and Supervision Committee member of MIT NSE graduate student C. Yoo (July 2021 – present).
 - Thesis: “*Database-driven studies of turbulence at ASDEX Upgrade*”
- Supervision Committee member of MIT NSE graduate student R. Bielajew (May 2020 – present).
 - Thesis: “*Experimental Study of Edge Electron Temp. Fluctuations in L-mode, I-mode and H-mode Plasmas at ASDEX Upgrade*”
- Advisor of MIT EECS undergraduate student Benjamin Spector (Summer 2021).
 - Project: “*Characterization and Performance Predictions of L-mode Plasmas in the SPARC Tokamak*”
- Founder of MFE Integrated Modeling (MFE-IM) group at MIT PSFC (August 2021 – present)

▪ **Committees and Boards Memberships:**

- Member of International Program Advisory Committee (IPAC) for IAEA Technical Meeting on Fusion Data Processing, Validation and Analysis (February 2021 – present).
- Member of Executive Committee for U.S. Transport Taskforce Workshop (May 2021 – present).
- Responsible Office for TRANSP at the MIT PSFC (2019 – present).
- Member of Executive Committee of Spain@MIT association (2016 – 2019).
- Students Representative at ETSII – Universidad Politécnica de Madrid (2009 – 2013).

▪ **Instruction, Moderation and Chair Activities:**

- Chairman and organizer of Deep Learning session at the 4th IAEA Technical Meeting on Fusion Data Processing, Validation and Analysis (December 2021).
- Mentor for graduate course at MIT NSE: 22.63 Engineering Principles for Fusion Reactors (Fall 2020).
- Moderator for 1st Computational Physics School for Fusion Research at MIT (August 2019).

▪ **Reviewer and Referee Activities:**

- Refereed for journals (2018 – present): *IOP Nuclear Fusion*, *IEEE Transactions on Plasma Science* and *AIP Physics of Plasmas*.
- Proposal reviewer (2021 – present): U.S. Department of Energy – Office of Science.

▪ **Grant Proposal Writing and Contributions:**

- Lead author on section of MFE Cooperative Agreement 5-year DOE research proposal for MIT PSFC.
- Lead author on DOE research proposal to collaborate with Oak Ridge National Lab to perform research at the JET tokamak.
- Lead author on Facebook Research grant on machine learning and Bayesian optimization to support students at MIT.

INVITED SEMINARS, MEDIA CONTRIBUTIONS AND OUTREACH

▪ **Guest Seminar Speaker/Lecturer:**

- Invited seminar speaker at Universidad Nacional de La Plata, Argentina, October 2021.
- Invited seminar speaker for Nuclear Science & Technology graduate program and Erasmus-Mundus SARENA at UPM, June 2021.
- Invited seminar speaker for Association of Spanish Scientists in Sweden, June 2021.
- Invited seminar speaker at University of Colorado Boulder, Boulder (CO), April 2021.
- Invited seminar speaker for MIT Independent Activities Period, January 2021.
- Invited seminar speaker at University of Wisconsin-Madison, October 2020.
- Invited speaker at *Frontiers of Plasma Physics Colloquium*, organized by the Journal of Plasma Physics, October 2020.
- Lecturer at *Del Favero Prize* ceremony, MIT Nuclear Science and Engineering, Cambridge (MA), December 2019.
- Invited seminar speaker at Dutch Institute of Fundamental Energy Research DIFFER, Eindhoven (Netherlands), Aug 2018.
- Signature speaker at 2018 MIT NSE Graduate Research Expo, Cambridge (MA), March 2018.

▪ **Outreach Activities:**

- Invited speaker at *Frontiers of Innovation & Entrepreneurship* workshop, organized by MIT Sloan & FRdP Foundation, June 2019.

- Invited speaker at *Call for Talent 2019* workshop, organized by Universidad-Empresa & FRdP Foundations, June 2019.
- Invited speaker at *Call for Talent 2018* workshop, organized by Universidad-Empresa & FRdP Foundations, November 2018.
- Speaker at 2nd Joint Meeting of Spanish Scientists in US, Cambridge (MA), June 2017.
- Participant of *PSFC Education and Outreach* events (2015 – 2019).
- Organizer of fusion outreach events for *la Caixa Fellows Association* (2015 – 2019).
- **Relevant Media Articles, Interviews and Documentaries:**
 - Features in press about Forbes 30 Under 30 (2020, <https://bit.ly/2JLSJEB>, <https://bit.ly/36HmNKx>)
 - Article for Cambridge University Press on the publication of the SPARC Physics Basis (2020, <https://bit.ly/36Uv6mW>).
 - Features in press about publication of SPARC Physics Basis (2020, <https://nyti.ms/3l6hWXH>, <https://bit.ly/33Nvlht>).
 - *MIT News* articles following publication in PRL (2018, <http://bit.ly/34bDDZ>) and Del Favero award (2019, <http://bit.ly/34GGEGE>).
 - TV Appearances for fusion outreach: *La Sexta* (2018, <http://bit.ly/321MyQz>) and *Telemadrid* (2019, <http://bit.ly/33AD6UF>).
 - Article for Spanish Nuclear Society's *SNE* monthly magazine (2019, <http://bit.ly/2Zllg4U>).
 - Interviews for *Xataka* (2018, <http://bit.ly/2ZrxRoh>) and *Onda Madrid Radio* (2018, <http://bit.ly/2ZqG3Ft>).

FIRST-AUTHOR PEER-REVIEWED JOURNAL PUBLICATIONS

8. **P. Rodriguez-Fernandez**, C. Angioni, and A. E. White, "Local Transport Dynamics of Cold Pulses in Tokamak Plasmas", invited review paper for *Reviews of Modern Plasma Physics* (*submitted, under review*).
7. **P. Rodriguez-Fernandez**, S.B. Ballinger, D.T. Garnier, R. Granetz, M.J. Greenwald, Z.S. Hartwig, N.T. Howard, J.W. Hughes, J.H. Irby, A.Q. Kuang, Y. Lin, E.S. Marmor, C. Rea, J.E. Rice, J.A. Stillerman, R. Sweeney, R.A. Tinguely, D.G. Whyte, J.C. Wright, A.J. Creely, D. Brunner, C.P. Chrobak, R.T. Mumgaard, M.L. Reinke, V. Riccardo, S.D. Scott, B.N. Sorbom, D.V. Yuryev, V.A. Izzo, "Overview of the SPARC physics basis towards the exploration of burning-plasma regimes in high-field, compact tokamaks" *Nucl. Fusion* (*accepted, in press*).
6. **P. Rodriguez-Fernandez**, N. T. Howard, M. J. Greenwald, A. J. Creely, J. W. Hughes, J. C. Wright, C. Holland, Y. Lin, F. Sciortino and the SPARC team, "Predictions of core plasma performance for the SPARC tokamak", *Journal of Plasma Physics* 86(5), 865860503 (2020). <https://doi.org/10.1017/S0022377820001075>
5. **P Rodriguez-Fernandez**, A E White, N T Howard, B A Grierson, L Zeng, X Yuan, G M Staebler, M E Austin, T Odstrcil, T L Rhodes, F Sciortino, J E Rice, K Thome, C Angioni, E Fable and O Meneghini, "Predict-first Experiments and Modeling of Perturbative Cold Pulses in the DIII-D Tokamak", *Phys. Plasmas* 26, 062503 (2019). <https://doi.org/10.1063/1.5096800>
4. **P Rodriguez-Fernandez**, A E White, N T Howard, B A Grierson, X Yuan, G M Staebler, J E Rice, C Angioni, N M Cao, A J Creely, E Fable, M J Greenwald, A E Hubbard, J W Hughes, J H Irby and F Sciortino, "Perturbative Transport Modeling of Cold-Pulse Dynamics in Alcator C-Mod Ohmic Plasmas", *Nucl. Fusion* 59, 066017 (2019) <https://doi.org/10.1088/1741-4326/ab1575>
3. **P Rodriguez-Fernandez**, A E White, N T Howard, B A Grierson, G M Staebler, J E Rice, X Yuan, N M Cao, A J Creely, M J Greenwald, A E Hubbard, J W Hughes, J H Irby and F Sciortino, "Explaining cold-pulse dynamics in tokamak plasmas using local turbulent transport models", *Phys. Rev. Lett.* 120, 075001 (2018). <http://dx.doi.org/10.1103/PhysRevLett.120.075001>
2. **P Rodriguez-Fernandez**, A E White, A J Creely, M J Greenwald, N T Howard, F Sciortino and J C Wright, "VITALS: A surrogate-based optimization framework for the accelerated validation of plasma transport codes", *Fusion Technol.* 74:1-2, 65-76 (2018). <http://dx.doi.org/10.1080/15361055.2017.1396166>
1. **P Rodriguez-Fernandez**, J E Rice, N M Cao, A J Creely, N T Howard, A E Hubbard, J H Irby and A E White, "On the correlation between "non-local" effects and intrinsic rotation reversals in Alcator C-Mod", *Nucl. Fusion* 57, 074001 (2017). <http://dx.doi.org/10.1088/1741-4326/aa6e89>

FIRST-AUTHOR CONFERENCE PROCEEDINGS

3. **P. Rodriguez-Fernandez**, S.B. Ballinger, D.T. Garnier, R. Granetz, M.J. Greenwald, Z.S. Hartwig, N.T. Howard, J.W. Hughes, J.H. Irby, A.Q. Kuang, Y. Lin, E.S. Marmor, C. Rea, J.E. Rice, J.A. Stillerman, R. Sweeney, R.A. Tinguely, D.G. Whyte, J.C. Wright, A.J. Creely, D. Brunner, C.P. Chrobak, R.T. Mumgaard, M.L. Reinke, V. Riccardo, S.D. Scott, B.N. Sorbom, D.V. Yuryev, V.A. Izzo, "Overview of the SPARC physics basis towards the exploration of burning-plasma regimes in high-field, compact tokamaks", *Proceedings of the 28th IAEA Fusion Energy Conference*, IAEA-CN-286 OV/P-4.
2. **P Rodriguez-Fernandez**, A E White, N T Howard, J E Rice, F Sciortino, N M Cao, A J Creely, M J Greenwald, A E Hubbard, J W Hughes, J H Irby, X Yuan, B A Grierson, G M Staebler, C Angioni and E Fable, "Modeling of Cold-Pulse Propagation and Associated Phenomena in Tokamak Plasmas", *Proceedings of 27th IAEA Fusion Energy Conference (Gandhinagar)*, IAEA-CN-258 EX/10-3.

1. **P Rodriguez-Fernandez** and G Persico, "Automatic design of ORC turbine profiles using evolutionary algorithms", ASME ORC 3rd Int'l Seminar on ORC Power Systems, Brussels (Belgium), Oct 2015. <http://bit.ly/2ZqGcZx>

CO-AUTHORED PEER-REVIEWED JOURNAL PUBLICATIONS

20. G. M. Staebler, M. Knölker, P. B. Snyder, C. Angioni, E. Fable, T. Luda di Cortemiglia, C. Bourdelle, J. Garcia, J. Citrin, M. Marin, HT. Kim, J. Kinsey, CY. Lee, YS. Na, JM. Park, **P. Rodriguez-Fernandez** and M. Wu, "Advances in prediction of tokamak experiments with theory-based models", Nucl. Fusion (*accepted, in press*). <https://doi.org/10.1088/1741-4326/ac1eaf>
19. F. Sciortino, N. T. Howard, R. Reksoatmodjo, A. R. Foster, J. W. Hughes, E. S. Marmor, M. A. Miller., S. Mordijck, T. Odstrcil, T. Pütterich, M. L. Reinke, J. E. Rice and **P. Rodriguez-Fernandez**, "Experimental inference of neutral and impurity transport in Alcator C-Mod using high-resolution X-ray and Ultra-Violet spectra", Nucl. Fusion (*accepted, in press*). <https://doi.org/10.1088/1741-4326/ac32f2>
18. N. T. Howard, **P. Rodriguez-Fernandez**, C. Holland, J. E. Rice, M. Greenwald, J. Candy, and F. Sciortino, "Gyrokinetic simulation of turbulence and transport in the SPARC tokamak", Physics of Plasmas 28, 072502 (2021). <https://doi.org/10.1063/5.0047789>
17. J. E. Rice, N. M. Cao, T. Tala, C. Chrystal, M. J. Greenwald, J. W. Hughes, E. S. Marmor, M. L. Reinke, **P. Rodriguez-Fernandez** and A. Salmi, "Dimensionless parameter scaling of intrinsic torque in C-Mod enhanced confinement plasmas", Nucl. Fusion 61, 026013 (2021). <https://doi.org/10.1088/1741-4326/abcb26>
16. A. J. Creely, M. J. Greenwald, S. B. Ballinger, D. Brunner, J. Canik, J. Doody, ..., **P. Rodriguez-Fernandez**, ..., et al., "Overview of the SPARC Tokamak", Journal of Plasma Physics 86(5), 865860502 (2020). <https://doi.org/10.1017/S0022377820001257>
15. J. W. Hughes, N. T. Howard, **P. Rodriguez-Fernandez**, A. J. Creely, A. Q. Kuang, P. B. Snyder, T. M. Wilks, R. Sweeney, and M. Greenwald. 2020. "Projections of H-Mode Access and Edge Pedestal in the SPARC Tokamak", Journal of Plasma Physics 86(5), 865860504 (2020). <https://doi.org/10.1017/S0022377820001300>
14. S. D. Scott, G. J. Kramer, E. A. Tolman, A. Snicker, J. Varje, K. Särkimäki, J. C. Wright, and **P. Rodriguez-Fernandez**, "Fast-Ion Physics in SPARC", Journal of Plasma Physics 86(5), 865860508 (2020). <https://doi.org/10.1017/S0022377820001087>
13. F. Sciortino, N. T. Howard, E. S. Marmor, T. Odstrcil, N. M. Cao, R. Dux, A. E. Hubbard, J. W. Hughes, J. H. Irby, Y. Marzouk, L. M. Milanese, M. L. Reinke, J. E. Rice and **P. Rodriguez-Fernandez**, "Inference of experimental radial impurity transport on Alcator C-Mod: Bayesian parameter estimation and model selection", Nucl. Fusion 60 126014 (2020). <https://doi.org/10.1088/1741-4326/abae85>
12. N. M. Cao, J. E. Rice, P. H. Diamond, A. E. White, M. A. Chilenski, P. C. Ennever, J. W. Hughes, J. Irby, M. L. Reinke, **P. Rodriguez-Fernandez**, and Alcator C-Mod Team, "Evidence and modeling of turbulence bifurcation in L-mode confinement transitions on Alcator C-Mod", Physics of Plasmas 27, 052303 (2020). <https://doi.org/10.1063/1.5144444>
11. A. J. Creely, L. M. Milanese, E. A. Tolman, J. H. Irby, S. B. Ballinger, S. Frank, A. Q. Kuang, B. L. Linehan, W. McCarthy, K. J. Montes, T. Mouratidis, J. F. Picard, **P. Rodriguez-Fernandez**, A. M. Rosenthal, A. J. Sandberg, F. Sciortino, R. A. Simpson, R. A. Tinguely, M. Zhou, and A. E. White, "Design study of a combined interferometer and polarimeter for a high-field, compact tokamak", Physics of Plasmas 27, 042516 (2020). <https://doi.org/10.1063/1.5142638>
10. T. Fülöp, P. Helander, O. Vallhagen, O. Embréus, L. Hesslow, P. Svensson, A. J. Creely, N. T. Howard and P. Rodriguez-Fernandez, "Effect of plasma elongation on current dynamics during tokamak disruptions", Journal of Plasma Physics, 86(1), 474860101 (2020). <https://doi.org/10.1017/S002237782000001X>
9. C Angioni, E Fable, F Ryter, **P Rodriguez-Fernandez** and T Putterich, "The local nature of the plasma response to cold pulses with electron and ion heating at ASDEX Upgrade", Nucl. Fusion 59, 106007 (2019). <https://doi.org/10.1088/1741-4326/ab313f>
8. N M. Cao, J E Rice, P H Diamond, A E White, S G Baek, M A Chilenski, J W Hughes, J Irby, M L Reinke, **P Rodriguez-Fernandez** and the Alcator C-Mod Team, "Hysteresis as a Probe of Turbulent Bifurcation in Intrinsic Rotation Reversals on Alcator C-Mod" Nucl. Fusion (2019). <https://doi.org/10.1088/1741-4326/ab3b38>
7. A J Creely, **P Rodriguez-Fernandez**, G D Conway, S J Freethy, N T Howard, A E White and the ASDEX Upgrade Team, "Criteria for the Importance of Multi-scale Interactions in Plasma Turbulent Transport Simulations", Plasma Phys. Control. Fusion 61, 085022 (2019). <https://doi.org/10.1088/1361-6587/ab24ae>
6. R A Tinguely, A Rosenthal, R Simpson, S B Ballinger, A J Creely, S Frank, A Q Kuang, B L Linehan, W McCarthy, L M Milanese, K J Montes, T Mouratidis, J F Picard, **P Rodriguez-Fernandez**, A J Sandberg, F Sciortino, E A Tolman, M Zhou, B N Sorbom, Z S

- Hartwig and A E White, "Neutron Diagnostics for the Physics of a High-Field, Compact, Q \geq 1 Tokamak", Fusion Eng. Des. 143, pp. 212-225 (2019). <https://doi.org/10.1016/j.fusengdes.2019.03.148>
5. G Persico, **P Rodriguez-Fernandez** and A Romei, "High-Fidelity Shape-Optimization of Non-Conventional Turbomachinery by Surrogate Evolutionary Strategies", ASME. J. Turbomach. 141(8), 081010-081010-11 (2019) <http://dx.doi.org/10.1115/1.4043252>
 4. J Rice, F Rosmej, N Cao, M Chilenski, N Howard, A Hubbard, J Hughes, J Irby, Y Lin, **P Rodriguez-Fernandez**, S Wolfe, S Wukitch, M Bitter, L Delgado-Aparicio, K Hill and M Reinke, "X-ray Observations of K β Emission from Medium Z He-like Ions in C-Mod Tokamak Plasmas", J. Phys. B: At. Mol. Opt. Phys. 51, 035702 (2018). <http://dx.doi.org/10.1088/1361-6455/aaa17f>
 3. N T Howard, C Holland, A E White, M J Greenwald, **P Rodriguez-Fernandez**, J Candy and A J Creely, "Multi-scale gyrokinetic simulations of an Alcator C-Mod, ELM-y H-mode plasma", Plasma Phys. Control. Fusion 60, 014034 (2017). <http://dx.doi.org/10.1088/1361-6587/aa9148>
 2. A J Creely, N T Howard, **P Rodriguez-Fernandez**, N Cao, A E Hubbard, J W Hughes, J E Rice, A E White, J Candy, G M Staebler, G D Conway, S J Freethy and C Sung, "Validation of nonlinear gyrokinetic simulations of L- and I- mode plasmas on Alcator C-Mod", Phys. Plasmas 24, 0.56104 (2017). <http://dx.doi.org/10.1063/1.4977466>
 1. B LaBombard, A Q Kuang, D Brunner, I Faust, R Mumgaard, M L Reinke, J L Terry, N Howard, J W Hughes, M Chilenski, Y Lin, E Marmor, J E Rice, **P Rodriguez-Fernandez**, G Wallace, D G White, S Wolfe and S Wukitch, "Impurity screening behavior of the high-field side scrape-off layer in near-double-null configurations: prospect for mitigating plasma-material interactions on RF actuators and first-wall components", Nucl. Fusion 57, 076021 (2017). <http://dx.doi.org/10.1088/1741-4326/aa6dd2>

INVITED CONTRIBUTIONS TO CONFERENCES

10. 28th IAEA Fusion Energy Conference, Nice (France), May 10-15 2021. "Overview of the SPARC physics basis towards the exploration of burning-plasma regimes in high-field, compact tokamaks" (Overview poster)
9. 4th Asia-Pacific Conference on Plasma Physics, Association of Asia-Pacific Physical Societies, Virtual Meeting, Oct 26-31 2020. "On the local nature of cold-pulse experiments in Alcator C-Mod, DIII-D and ASDEX Upgrade"
8. 2nd International Conference of Data Driven Plasma Science, Marseille (France), May 13-17 2019. "Surrogate-Based Optimization Techniques for the Validation of Plasma Transport Models"
7. ITPA Transport and Confinement Topical Group Meeting Spring 2019, Austin (TX), Mar 25-27 2019. "Multi-machine study of cold-pulse dynamics: Towards a local model for the temperature inversion effect".
6. 60th Annual Meeting of the APS Division of Plasma Physics, Portland (OR), Nov 5-9 2018. "Understanding cold-pulse dynamics in tokamak plasmas using local turbulent transport models".
5. 27th IAEA Fusion Energy Conference, Gandhinagar (India), Oct 22-27 2018. "Explaining cold-pulse dynamics in tokamak plasmas using local turbulent transport models".
4. 23rd Joint EU-US Transport Task Force Meeting, Sevilla (Spain), Sep 11-14 2018. "Modeling of cold-pulse dynamics in Alcator C-Mod and DIII-D: A local turbulent transport approach".
3. US Transport Task Force Workshop, San Diego (CA), May 8-1 2018. "Prediction of cold-pulse dynamics in tokamak plasmas using quasilinear turbulent transport models".
2. ITPA Transport and Confinement Topical Group Meeting Spring 2018, Daejeon (Republic of Korea), Apr 9-11 2018. "An introduction to VITALS: surrogate models to accelerate transport model validation".
1. ITPA Transport and Confinement Topical Group Meeting Spring 2018, Daejeon (Republic of Korea), Apr 9-11 2018. "Modeling cold-pulse propagation in Alcator C-Mod plasmas using TGLF".

Other contributions to conferences:

- 9 contributed oral presentations:
APS-DPP 2021, EU-TTF 2021, US-TTF 2021, APS-DPP 2020, APS-DPP 2019, APS-DPP 2018, IAEA-TM 2017, APS-DPP 2016, GK-TWGM 2016.
- 6 contributed poster presentations:
EPS 2021, EPS 2019, EPS 2018, APS-DPP 2017, US-TTF 2017, US-TTF 2016.