IVAN MITEVSKI

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EDUCATION

Columbia University, NYC *Sept 2018 - August 2023*
Ph.D. Applied Mathematics & Atmospheric Science, GPA: 4.05
Advisors: Lorenzo Polvani (Columbia) and Clara Orbe (NASA GISS)

New Jersey Institute of Technology (NJIT) *May 2018*
B.S. Applied Mathematics & B.S. Electrical Engineering (RF track), GPA: 4.0/4.0

RESEARCH INTERESTS

Climate dynamics; climate sensitivity; radiative feedbacks and forcing; non-linear and state-dependent responses; atmosphere-ocean interactions; climate variability and climate change.

PUBLICATIONS

10. X. Zhang, D.W. Waugh, **I. Mitevski**, C. Orbe, L.M. Polvani, *Decreased Northern Hemisphere Precipitation from Consecutive CO_2 Doublings Is Associated with Significant AMOC Weakening*, accepted, Environmental Research: Climate

9. **I. Mitevski**, R. Chemke, C. Orbe, L.M. Polvani, *Southern Hemisphere Winter Storm Tracks Respond Differently to Low and High CO_2 Forcings*, https://doi.org/10.1175/JCLI-D-23-0758.1, Journal of Climate, (2024)

8. K. Armour, C. Proistosescu, Y. Dong, ..., **I. Mitevski**, P. Forster, J.M. Gregory, *Sea-surface temperature pattern effects have slowed recent global warming and biased emergent constraints on climate sensitivity*, https://doi.org/10.1073/pnas.2312093121, PNAS, (2024)

7. D. Raiter, L.M. Polvani, **I. Mitevski**, A. Pendergrass, C. Orbe, *Little change in apparent hydrological sensitivity at large CO_2 forcing*, https://doi.org/10.1029/2023GL104954, Geophysical Research Letters, (2023)

6. Shih-Ni Zhou, Y-C. Liang, **I. Mitevski**, L.M. Polvani, *Stronger Arctic Amplification Produced by Decreasing, not increasing, CO_2 Concentrations*, https://doi.org/10.1088/2752-5295/aceea2, Env. Res. Climate, (2023)

5. **I. Mitevski**, Y. Dong, M. Rugenstein, C. Orbe, and L.M. Polvani, *Non-monotonic feedback dependence on CO_2 due to a North Atlantic pattern effect*, https://doi.org/10.1029/2023GL103617, Geophysical Research Letters, (2023).

4. **I. Mitevski**, L.M. Polvani, and C. Orbe, *Asymmetric Warming/Cooling Response to CO_2 Increase/Decrease Mainly Due to Non-Logarithmic Forcing, not Feedbacks*, https://doi.org/10.1029/2021GL097133, Geophysical Research Letters, 2022

3. Y-C. Liang, L.M. Polvani, and **I. Mitevski**, *Arctic Amplification, and its Seasonal Migration, Over a Wide Range of CO_2 Forcing*, https://doi.org/10.1038/s41612-022-00228-8, NPJ Climate and Atmospheric Science, 2022

2. **I. Mitevski**, C. Orbe, R. Chemke, L. Nazarenko and L.M. Polvani, *Non-Monotonic Response of the Climate System to Abrupt CO_2 Forcing*, https://doi.org/10.1029/2020GL090861, Geophysical Research Letters, 2021

1. I.M. Griffiths, **I. Mitevski**, I. Vujkovac, M.R. Illingworth, P. S. Stewart, *The Role of Tortuosity in Filtration Efficiency: a General Network Model for Filtration*, https://doi.org/10.1016/j.memsci.2019.117664, Journal of Membrane Science, 2019

ARTICLES SUBMITTED / IN REVISION

4. **I. Mitevski**, S. Lee, G.A. Vecchi, C. Orbe, L.M. Polvani, *More positive and Less Variable North Atlantic Oscillation at High CO_2 forcing*, Submitted to NPJ Climate and Atmospheric Science
3. T.P. Janoski, **I. Mitevski**, R.J. Kramer, M. Previdi, and L.M. Polvani, *ClimKern: a new Python package and kernel repository for calculating radiative feedbacks*, In Revision, Geoscientific Model Development
2. Y. Liang, O. Miyawaki, T.A. Shaw, **I.Mitevski**, L.M. Polvani, and Y. Hwang, *Linking Radiative-Advective Equilibrium Regime Transition to Arctic Amplification*, In Revision, Geophysical Research Letters
1. **I. Mitevski**, L.M. Polvani, H. He, G.A. Vecchi, C. Orbe, B. Soden, R. Miller, *State dependence of CO_2 Effective Radiative Forcing from 1/16× to 16×CO_2*, In Revision, Journal of Climate

ARTICLES IN PREP.

(*student advisee)

2. K. Wen*, **I. Mitevski**, T.P. Janoski, G.A. Vecchi, *Significant Spread in Radiative Feedbacks Due to Differences in Kernels*
1. **I. Mitevski** and Gabriel Vecchi, *More stabilizing Radiative Feedbacks in CO_2 removal scenarios cause global surface temperature hysteresis*

AWARDS AND HONORS

11. Harry H. Hess Postdoctoral Fellow at Princeton University. 2023-10 to present.
10. NASA Graduate Research Fellowship (FINESST). 2020 to 2023
9. Outstanding Student Presentation Award, AGU 2020. San Francisco, CA. 2020-12
8. Outstanding Poster Award at JMM. Baltimore, MD. 2019-01
7. President's Medal for Academic Excellence at NJIT. 2018-05
6. 1st Place on ECE Senior Design Showcase at NJIT. 2018-05
5. Newark College of Engineering Outstanding Senior Award from Electrical Engineering and the Entire College of Engineering at NJIT. 2018-03
4. Scholarships at NJIT: Albert Dorman Honors, John C. Hartmann, Chamberlain, Pelson. 2015 to 2018
3. Undergraduate Research and Innovation Grant of $9,000 from NJIT to investigate efficient energy system for NJIT Solar Car project. 2017-11
2. Ronald E. McNair Scholar.
1. Participated in the International Physics Olympiad (IPHO) in Bangkok, Thailand. 2011-07

TALKS

23. University of Pennsylvania seminar: To what extent is Climate Sensitivity to CO_2 linear and reversible? Philadelphia, PA. 2024-10
22. NCAR CESM working group meeting: More positive and less variable North Atlantic Oscillation at high CO_2 forcing. Boulder, CO. 2024-06

21. CFMIP Annual Meeting 2024: Radiative Feedbacks in CO_2 removal scenarios. Boston, MA. 2024-06

20. New Jersey Institute of Technology seminar: Life in Academia. Newark, NJ. 2024-02

19. AMS annual meeting: Quantifying the Response of the North Atlantic Oscillation to a Wide Range of CO_2 Forcing. Baltimore, MD. 2024-01

18. AGU annual meeting: State dependence of CO_2 Effective Radiative Forcing from $1/16\times$ to $16\times CO_2$. San Francisco, CA. 2023-12

17. AGU annual meeting: Southern Hemisphere Winter Storm Tracks Respond Differently to Low and High CO_2 Forcings. San Francisco, CA. 2023-12

16. Georgia Tech seminar: Asymmetric and Non-monotonic Response of the Climate System to Idealized CO_2 Forcing. Atlanta, GA. 2023-11

15. North Carolina State seminar: Asymmetric and Non-monotonic Response of the Climate System to Idealized CO_2 Forcing. Raleigh, NC. 2023-11

14. NCAR CESM working group meetin: Arctic amplification and its seasonal migration from $1/8\times$ to $8\times CO_2$ forcing. Boulder, CO. 2023-06

13. Princeton University Geoscience seminar: Asymmetric and Non-monotonic Response of the Climate System to CO_2 Forcing. Princeton, NJ. 2022-12

12. GFDL Atmospheric Dynamics seminar: Asymmetric and Non-monotonic Response of the Climate System to Idealized CO_2 Forcing. Princeton, NJ. 2022-10

11. Stanford University Model Hierarchy Workshop: Asymmetric and Non-monotonic Response of the Climate System to Idealized CO_2 Forcing. Stanford, CA. 2022-08

10. CFMIP Annual Meeting: Non-monotonic feedback dependence on CO_2 due to a North Atlantic pattern effect. Seattle, WA. 2022-07

9. AGU annual meeting: Asymmetric Climate System Response to CO_2 Induced Warming and Cooling. New Orleans, LA. 2021-12

8. ECS & cloud feedback virtual symposia: Non-monotonic Response of the Climate System to Abrupt CO_2 Forcing. Virtual. 2021-06

7. NASA GISS Seminar series: Non-monotonic Response of the Climate System to Abrupt CO_2 Forcing. New York, NY. 2021-06

6. Joint Mathematics Meeting (JMM): The Role of Tortuosity in Filtration Efficiency. Baltimore, MD. 2019-01

5. New Jersey Institue of Technology senior design showcase: Integrated Power Management System for Solar Cars. Newark, NJ. 2018-05

4. Rangam Consultants expo: Integrated Power Management System for Solar Cars. Somerset, NJ. 2017-12

3. Society of Hispanic Engineers annual meeting: Frequency and Area Dependence of High-K/Ge MOS Capacitors. Kansas City, MO. 2017-11

2. Electrochemical Society annual meetings: Frequency and Area Dependence of High-K/Ge MOS Capacitors. New Orleans, LA. 2017-05

1. Lincoln Technical Institute seminar: Frequency and Area Dependence of High-K/Ge MOS Capacitors. Paramus, NJ. 2016-10

POSTERS

7. US CLIVAR Pattern Effect Workshop: Non-monotonic feedback dependence on CO_2 due to a North Atlantic pattern effect. Boulder, CO. 2022-05
6. AGU annual meeting: Southern Hemisphere Winter Storms Respond Differently to Low and High CO_2 forcing. New Orleans, LA. 2021-12
5. AGU annual meeting: Non-monotonic Response of the Climate System to Abrupt CO_2 Forcing. New Orleans, LA. 2021-12
4. AGU annual meeting: Non-monotonic Response of the Climate System to Abrupt CO_2 Forcing. Online. 2020-12
3. AGU annual meeting: Dynamical Sensitivity to Abrupt Changes in CO_2 as Represented in NASA Goddard Institute for Space Studies (GISS) ModelE E2.1. San Francisco, CA. 2019-12
2. JMM annual meeting: Numerical Methods for Solving Monge-Ampere Equation. San Diego, CA. 2018-01
1. Drexel University Philadelphia AMP symposium: Frequency and Area Dependence of High-K/Ge MOS Capacitors. Philadelphia, PA. 2016-10

TEACHING

Spring 2021	Columbia Univeristy: Geophysical Fluid Dynamics	TA
Spring 2020	Columbia Univeristy: Geophysical Fluid Dynamics	TA
Spring 2019	Columbia Univeristy: Intro to Numerical Methods	TA
Fall 2018	Columbia Univeristy: Intro to Numerical Methods	TA

ACADEMIC SERVICE & OUTREACH

4. Reviewer for: Nature Communications, Journal of Geophysical Research: Atmospheres, Geophysical Research Letters, Journal of Climate.
3. AMS Conference on Climate Variability and Change: session co-chair. 2024-10
2. New Jersey Governor's STEM Scholars: Mentored high school students on building a "micro-mouse" robot that self navigates a maze. 2017 to 2018
1. Newark Public Schools, New Jersey: Mentored and tutored underrepresented elementary and middle school students in science. 2016

WORK EXPERIENCE

AllianceBernstein – New York, NY *Jun 2022 - Aug 2022*

Climate Finance Intern

- Established a framework and created a database to quantify and price avoided CO_2e emissions from 58 climate products
- Found 14 optimal solutions to maximize decarbonization at a lower price than carbon credits
- Assessed decarbonization impact of all 58 products in 2021 and forecasted for 2030

Mak Group LLC – Clifton, NJ *May 2013 - Jan 2017*

Project Estimator/Manager, General Construction

- Estimated, scheduled, and coordinated trades at building projects up to $5,000,000
- Communicated conflicts and issues to designers and architects, and contributed to the solution
- Reviewed contracts and supervised, tracked, and evaluated day-to-day activities of accounting
- Oversaw financial objectives by preparing annual budgets, scheduling expenditures, analyzing variances, and initiating corrective actions

SKILLS

- Tools: Python, MATLAB, Linux, SQL
- Packages: XArray, NumPy, Matplotlib, Jupiter Notebook, SciPy, Scikit-Learn, Pandas
- Languages: English, Macedonian (Native)