

DR. ILIUSI DONAJI VEGA DEL VALLE

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Innovative and proactive physicist with expertise in modeling complex systems and big data analysis. My research focuses on climate change, sustainability, and human health, supported by a strong background in fostering and managing international collaborations. With a results-oriented and uplifting approach, I have successfully led impactful interdisciplinary projects across academia, the private sector, and non-governmental organizations. Driven by a deep commitment to climate justice, human health, and environmental protection, I strive to advance scientific excellence and create data-driven solutions that center on community needs.

SKILLS

- **Personal Strengths:** Systems thinking, problem-solving mindset, creativity, natural leadership, teamwork, political sensitivity, networking, intercultural understanding, and effective communication,
- **Core Skills:** Big data management, scientific modeling, project coordination, and stakeholder engagement
- **Specializations:** Machine learning, ESG (Environmental, Social, and Governance), MEL (Monitoring, Evaluation, and Learning) frameworks, Business and Human Rights research, Climate impact assessment.
- **Languages:** Spanish (Native), English (Fluent), German (Fluent), Arabic (Intermediate), French (Beginner).
- **Technical Tools:** Python, R, GIS, Bash scripting, Git/GitHub, Microsoft Suite, LaTeX, Asana, Slack, WordPress, Django (User level).
- **Expertise:** Simplifying complex data, fostering collaboration, and creating actionable solutions.

PROFESSIONAL EXPERIENCE (SELECTION)

- **Founding researcher** at [Carbonleap.io](https://carbonleap.io), since December 2024: Leading research on climate risks to support ESG professionals and advising SMEs on emission reduction strategies.
- **Co-creator** at [Earthly Matters](https://earthlymatters.com), since November 2024: Writing engaging content on climate science with a touch of humor, published on Substack, BlueSky, and LinkedIn.
- **Co-founder & CEO** at [Climate Threads Collective](https://climatethreadscollective.com), since October 2024: Leading strategy, project development, and consulting on research, communication materials, and support for climate initiatives rooted in justice. Facilitating connections between scientists, policymakers, and communities most affected by climate change.
- **Researcher & Founding member** at [Observatorio Agroindustrial en México \(OBSAM\)](https://observatorioagroindustrial.mx), since 2020: Analyzing the expansion of oil palm in Mexico and evaluating the impact of governmental policies on agricultural practices.
- **Data Manager** for the Inter-Sectoral Impact Model Intercomparison Project ([ISIMIP](https://www.isimip.org)), Potsdam Institute for Climate Impact Research ([PIK](https://www.pik-potsdam.de)), 09.2017-07.2023: Designed and implemented Python-based quality checks for managing 100TB of geolocated data. Provided technical support to 200+ climate researchers worldwide. Authored a data management plan for the [new ISIMIP repository](https://www.isimip.org) that secured BMBF funding (Project 16QK05 "[ISI-Access](https://www.isimip.org)").
- **Health Research Cross-sectoral Coordinator** for ISIMIP, PIK, 03.2021-07.2023: Restructured operations and communications across pre-existing research areas: temperature-related mortality, water-borne diseases, and vector-borne diseases; coordinated a new research protocol to establish the Food Security & Nutrition sector.
- **Labor Research Cross-sectoral Coordinator** for ISIMIP, PIK, 03.2021-07.2023: Coordinated the development of a new research protocol to establish the Labor Supply and Productivity research sector.
- **Cross-Sectoral Science Team Member** for ISIMIP, PIK, 03.2021-07.2023: Supported input-data preparation and analyzed simulation data, with a focus on cross-sectoral issues.
- **Junior Scientist** for ISIMIP, PIK, 09.2022-07.2023: Developed strategies and indicators to assess climate risks and impacts for compounding climate hazards across multiple sectors, as part of the EU project "[Cascades](https://www.cascades-project.eu)" and the BMBF project "[PIK_Change](https://www.pik-change.org)".
- **Postdoctoral Researcher** for ISIMIP, PIK, 09.2017-08.2022: Conducted climate impacts simulations on drought (Lange et al, 2020) and represented ISIMIP at the SBSTA 50 UNFCCC Intersessionals (EU-H2020 project "[ENGAGE](https://www.engage-project.eu)").
- **Project Manager** at [OpenOil UG](https://www.openoil.org), 2016-2017: Established a global network of 100+ specialists in estimating the cashflows and impacts of oil and mining projects; developed financial modeling tools; and organized online trainings and the "Modelling Global Summit", producing 12 reports that influenced legislative and corporate policies.
- **Data Scientist** at the [Department of Education and Psychology](https://www.fu-berlin.de), Free University of Berlin, 04.11.2015-31.03.2016: Developed big data analysis methods for the prediction of psycho-pathological trajectories in depression using machine learning algorithms on privacy-preserving medical data, forming the foundation for the next project phase.

ACADEMIC EDUCATION

- **PhD in Bioinformatics** by the International Max Planck Research School on Computational Biology and Scientific Computing ([IMPRS-CBSC](https://www.imprs-cb.org)) - Free University of Berlin & Max Planck Institute for Molecular Genetics, 2010-2016.
- **MSc in Physic** by the National Autonomous University of Mexico (UNAM), 2007-2010.
- **BSc in Physics** by the National Autonomous University of Mexico (UNAM), 2002-2007.

HONORARY POSITIONS

- **Chair of the Board** at [México vía Berlin e.V.](#), since 05.07.2022: Oversee finance, governance and strategic planning. Foster policy engagement in Mexico & Germany for initiatives focused on human rights, environmental governance, and equity-based adaptation (with a focus on migration).
- **Diversity Representative** at PIK, 2021-2023: Designed and implemented communication strategies and the first mechanisms (e.g., surveys and trainings) to monitor and evaluate challenges related to discrimination.

CONTINUOUS PROFESSIONAL DEVELOPMENT (SELECTION)

- **Setting up a business.** DAA Deutsche Angestellten-Akademie GmbH Berlin | 11-17.06.2024
- **Corporate Finance: Environment, Social, and Governance (ESG)** LinkedIn Learning [certificate](#) | 22.01.2024
- **Foundations on Geographic Information Systems (GIS).** LinkedIn Learning [certificate](#) | 11.12.2023
- **Sustainable and ESG Supply Chains.** LinkedIn Learning & PMI@ [certificate](#) | 12.09.2023
- **Deep Learning in Python.** Datacamp, [Certificate #2947779](#) | 10.06.2017
- **Microsoft Excel - Basic and Advanced.** [GoSkills](#), Exam score: 94% | 8.12.2016
- **31-day taster FAST modelling course.** [F1E9](#) | 2016

LECTURES (SELECTION)

- **Speaker** at stakeholder panel: Closing conference & Management Committee meeting of the CA 17132 European Network for Argumentation and Public Policy Analysis | Lisbon, Portugal, 24.03.2023. <https://tinyurl.com/mufpb8wp>
- **Online training provider:** Use of the ISIMIP repository. inventWater Training School, Dundalk Institute of Technology (DKIT) | 16.06.2022. <https://tinyurl.com/yfh225nd>
- **Guest speaker.** Episode: Worrying about and acting on climate change, "Tenemos tarea" [We have homework] radio show at Radio Educación (XEEP) | Mexico City, Mexico, 27.01.2020. <https://tinyurl.com/nhzk3vpv>
- **Poster presentation:** ISIMIP & ISIPedia - Inter-sectoral impact modeling and communication of national impact assessments. SBSTA 50 UNFCCC Intersessionals | Bonn, Germany, 20.06.2019 <https://tinyurl.com/y3a6d6bz>
- **Event organizer:** Modelling global summit. OpenOil | Brandenburg, Germany, 24-28.10.2016.
- **Workshop organizer:** Mathematics for society. México vía Berlin e.V. | Institut für Sozialwissenschaften Humboldt-Universität zu Berlin, Berlin, Germany, 12-13.07.2014. <https://mathforsociety.wordpress.com/>
- **Speaker** at conference. Talk: "Method for tuning the threshold for recurrence plots and its efficiency in recognizing different dynamical states through recurrence network analysis". Fourth international symposium in Recurrence Plots | Hong Kong, China, 5-7.12.2011. <http://www.recurrence-plot.tk/ws2011/index.php?a=programme>

PUBLICATIONS (SELECTION)

- Frieler, K., Volkholz, J., Lange, S., Schewe, J., Mengel, M., Rivas López, M. R., **et al.** (2024). Scenario setup and forcing data for impact model evaluation and impact attribution within the third round of the Inter-Sectoral Model Intercomparison Project (ISIMIP3a). *Geosci. Model Dev.*, 17, 1–51, doi.org/10.5194/gmd-17-1-2024.
- de la Vega-Leinert, A. C., Sandoval Vázquez, S. D., and **Vega del Valle, I. D.** (2023). Mapping the expansion of Oil Palm (*Elaeis guineensis* Jacq.) in Mexico - Methodology and development. *Agrociencia*. doi.org/10.47163/agrociencia.v57i7.2998
- Grant, L., Vanderkelen, I., Gudmundsson, L. et al. (2021). Attribution of global lake systems change to anthropogenic forcing. *Nature Geoscience*, 14, 849–854. doi.org/10.1038/s41561-021-00833-x
- Lange, S., Volkholz, J., Geiger, T., Zhao, F., **Vega, I.**, Veldkamp, T., et al. (2020). Projecting exposure to extreme climate impact events across six event categories and three spatial scales. *Earth's Future*, 11, e2020EF001616. doi.org/10.1029/2020EF001616
- Reyer, C. P. O., Silveyra-Gonzalez, R., Dolos, K., Hartig, F., Hauf, Y., Noack, M., **et al.** (2020). The PROFOUND database for evaluating vegetation models and simulating climate impacts on forests. *Earth System Science Data Discussions* 12: 1295–1320. doi.org/10.5194/essd-2019-220
- **Vega, I.**, Schütte, C., and Conrad, T. O. C. (2016) Finding metastable states in real-world time series with recurrence networks. *Physica A*. 445:1–17, [doi:10.1016/j.physa.2015.10.041](https://doi.org/10.1016/j.physa.2015.10.041)
- Azpeitia, E., Benitez, M., **Vega, I.D.**, Villarreal, C., and Alvarez-Buylla, E.R. (2010). Single-cell and coupled GRN models of cell patterning in the *Arabidopsis thaliana* root stem-cell niche. *BMC Systems Biology*, 4:134. doi.org/10.1186/1752-0509-4-134.

AWARDS

- **Climatebase Fellowship, Cohort 6 fellow | since 03.09.2024**
- **Konrad-Zuse-Stipendium.** scholarship for doctoral studies | Germany, 01.10.2014–31.03.2015.
- **Free University of Berlin Scholarship** for PhD studies | Germany, 01.01.2014–31.08.2014.
- **IMPRS-CBSC scholarship** for PhD studies | Germany, 01.09.2010–31.08.2013.
- **CONACYT scholarship** for MSc studies | Mexico, 2007–2009.
- **DGAPA scholarship** for research project: "Spherical blackholes simulation" | Mexico, 2005.
- **EDUMAR-II teaching campaign** on board of the UNAM B/O "Justo Sierra" | Veracruz, Mexico, 2-4.07.2001