

## **Curriculum Vitae**

### **I. Personal Information**

#### **I.A. Contact Information**

Dr. Maria Zubkova  
UID: 117336252  
Email: mzubkova@umd.edu

4600 River Road, Office 311  
Riverdale, MD 20737

#### **I.B. Academic Appointments at UMD**

Assistant Research Professor (07/2022 – Present)

Post-Doctoral Associate (01/2020 – 06/2022)

#### **I.D. Other Employment**

Graduate Research Assistant at the University of Idaho, ID (2015 – 2019)

GIS Intern at NextGIS, Russia (2014)

Graduate Research Assistant at the Mediterranean Agronomic Institute of Chania, Greece (2012 – 2014)

#### **I.E. Educational Background**

Ph.D., Natural Resources, University of Idaho, ID (2015 – 2019)

M.Sc., Geoinformation in Environmental Management, Mediterranean Agronomic Institute of Chania, Greece (2011 – 2014)

M.Sc., Landscape Gardening, Russian State Agrarian University, Russia (2006 – 2011)

#### **I.G. Professional Certifications, Licenses, and Memberships**

Cooperative Institute for Satellite Earth System Studies (CISESS) of the Earth System Science Interdisciplinary Center (ESSIC) at the University of Maryland, Scientist (2020-present)

American Geophysical Union (AGU), Member (2017-present)

Society for Conservation GIS (SCGIS), Member (2022-present)

International Association of Wildland Fire, Member (2022-present)

## **II. Research, Scholarly, Creative and/or Professional Activities**

### II.B. Chapters

#### II.B.1. Books

Giglio, L.; Roy, D.P.; Humber, M.L.; Ellicott, E.; **Zubkova, M.**; Justice, C.O. Chapter 3: Mapping and Characterizing Fire. In T. Loboda, N. H.F. French, R. Puett (Eds.), *Fire, Smoke and Health: tracking the modeling chain from flames to health and wellbeing*.

### II.C. Refereed Journals

#### II.C.1. Refereed Journal Articles

**Zubkova, M.**; Lotter, M.; Bronkhorst, F.; Giglio, L. 2024. Assessment of the Effectiveness of Coarse Resolution Fire Products in Monitoring Long-term Changes in Fire Regime in Protected Areas in South Africa. *International Journal of Applied Earth Observation and Geoinformation*, 132.

Hall, J.V.; Argueta, F.; **Zubkova, M.**; Chen, Y.; Randerson, J.T.; Giglio, L. 2024. GloCAB: Global Cropland Burned Area from mid-2002 to 2020. *Earth System Science Data* 16 (2), 867-885

**Zubkova, M.**; Humber, M.; Giglio, L. 2023. Is global fire activity declining due to cropland expansion? How much do we know based on remotely sensed data? *International Journal of Remote Sensing*, 44, 4.

**Zubkova, M.**; Boschetti, L.; Abatzoglou, J.; Giglio, L. 2022. Fire regions as environmental niches: a new paradigm to define potential fire regimes in Africa and Australia. *JGR Biogeosciences*.

Nakalembe, C.L.; **Zubkova, M.**; Hall, J.V.; Argueta-Hassel, F.; Giglio, L. 2022. The Impacts of Large-Scale Population Displacement on Land Cover and Land-Use: Bidi Bidi Refugee Settlement, Uganda Case Study. *Environmental Research Letters*, 17 064019.

Humber, M.; **Zubkova, M.**; Giglio, L. 2022. A Remote Sensing-based Approach to Estimating Global Fire Spread Rates. *International Journal of Remote Sensing*, 43:2, 649-673.

**Zubkova, M.**; Giglio, L.; Humber, M.; Hall, J.H.; Ellicott, E. 2021. Conflict and Climate: Drivers of Fire Activity in Syria in the Twenty-First Century. *Earth Interactions*, 25(1): 119-135.

**Zubkova, M.**; Boschetti, L.; Abatzoglou, J.; Giglio, L. 2019. Changes in Fire Activity in Africa from 2002 to 2016 and Their Potential Drivers. *Geophysical Research Letters*, 46(13): 7643-7653.

Boschetti, L.; Roy, D.; Giglio, L.; Huang, H.; **Zubkova, M.**; Humber, M. 2019. Global validation of the Collection 6 MODIS burned area product. *Remote Sensing of Environment*, 217: 72-85.

Abatzoglou, J.; Williams, P.; Boschetti, L.; **Zubkova, M.**; Kolden, C.A. 2018. Global patterns of interannual climate-fire relationships. *Global Change Biology*, 24(1): 5164-5175.

### II.C.3. Perspectives, Opinions, and Letters

**Zubkova, M.** and Giglio, L. 2022. Letter to the Editor on ‘Nonlinear dynamics of fires in Africa over recent decades controlled by precipitation’. *Global Change Biology*, 28(4): 1197-1199.

Giglio, L.; **Zubkova, M.**; D. Roy. 2022. Comment on Otón, G., et al. Analysis of Trends in the FireCCI Global Long Term Burned Area Product (1982–2018). *Fire*, 5(2), 52.

### II.E. Conferences, Workshops, and Talks

#### II.E.2. Invited Talks

Boschetti, L.; Roy, D.; Giglio, L.; **Zubkova, M.**; Sparks, A.; Humber, M., “Global Fire Monitoring from Space (the use and misuse of satellite fire products)”. University of Idaho, Department of Forest, Rangeland and Fire Sciences, Feb. 18th, 2020.

Boschetti, L.; Roy, D.P.; Giglio, L.; Stehman, S.; Humber, M.; **Zubkova, M.**; Melchiorre, A.; Huang, H.; Huo, L-Z., “Validation of the MODIS Collection 6 MCD64 Global Burned Area Product”. American Geophysical Union (AGU) Fall Meeting, New Orleans, LA, Dec. 10 – 15, 2017.

Giglio, L.; Hall, J.; Humber, M.; **Zubkova, M.**; Roy, D.; Boschetti, L.; Argueta, F.; Schroeder, W.; Justice, C., “NASA Fire Product Status”. GOFCC-GOLD Fire Implementation Team meeting, Stresa, Italy, Jun. 21-23, 2022.

Giglio, L.; Roy, D.; **Zubkova, M.**; Hall, J., “Extending the global fire record back in time before MODIS”. GOFCC-GOLD Fire Implementation Team meeting, Stresa, Italy, Jun. 21-23, 2022.

#### II.E.3. Refereed Presentations

**Zubkova, M.** Challenges in reconstructing the historical fire record in South African nature reserves using satellite data. 27<sup>th</sup> International Society for Conservation GIS, Shepherdstown, WV, Sep. 4-6, 2024

**Zubkova, M.**; Mervyn Lötter; Frik Bronkhorst; Giglio, L. “Can coarse resolution products detect changes in African fire activity?” Fire Behavior and Fuels Conference, Boise, ID, Apr. 15 – 18, 2024.

**Zubkova, M.**; Humber, M.; Giglio, L. “Is global fire activity declining due to cropland expansion? How much do we know based on remotely sensed data?”. European Geosciences Union (EGU), Vienna, Austria, Apr. 24 – 28, 2023.

**Zubkova, M.;** Giglio, L.; Humber, M.; Hall, J.H.; Ellicott, E. "Conflict and Climate: Drivers of Fire Activity in Syria in the Twenty-First Century". American Geophysical Union (AGU) Fall Meeting, New Orleans, LA, Dec. 13 – 17, 2021.

Boschetti, L; Roy, D.P.; Giglio, L.; Humber, M.; **Zubkova, M.;** Melchiorre, A.; Huang, H.; Huo, L-Z., "CEOS Stage 3 Validation of the MODIS Collection 6 MCD64 Global Burned Area Product". Land Product Validation and Evolution Symposium, European Space Agency, Frascati (IT), Feb. 28-Mar. 2, 2018.

Boschetti, L; Roy, D.P.; Giglio, L.; Humber, M.; Kumar, S.; **Zubkova, M.;** Melchiorre, A.; Huang, H.; Huo, L-Z., "Validation of the MODIS Collection 6 MCD64 Global Burned Area Product". 11th EARSeL Forest Fires SIG Workshop, Chania, Greece, Sep. 25 – 26, 2017.

Gitas, I.; Kalaitzidis C.; **Zubkova, M.;** Mallinis, G. "Monitoring treeline shift over a 60-year period using object-based image analysis of aerial photography and satellite data". 5th GEOBIA, Thessaloniki, Greece, May 21 - 24, 2014.

#### II.E.6. Refereed Posters

**Zubkova, M.** "How conflicts and climate variability shape fire activity in Syria," Johns Hopkins Postdoctoral Conference, April 2021.

**Zubkova, M.;** Boschetti, L.; Abatzoglou, J., Giglio, J. "Global wildfire regimes and drivers of their spatial and temporal variability," AAAS, Washington DC, Feb. 14–17, 2019.

**Zubkova, M.;** Boschetti, L.; Abatzoglou, J., Giglio, J. "Changes in Fire Activity in Africa from 2002 to 2016 and Their Potential Drivers," AGU Fall Meeting, Washington DC, Dec. 10–14, 2018.

**Zubkova, M.;** Boschetti, L.; Abatzoglou, J. "Climate controls on inter-annual variability and trends in fire activity in the African and Australian Continents," AGU Fall Meeting, New Orleans, LA, Dec. 11 – 15, 2017.

**Zubkova, M.;** Boschetti, L.; Abatzoglou, J. "Climate controls on inter-annual variability and trends in fire activity across Africa," 2017 Conference on Fire Prediction Across Scales Columbia University, New York City, NY, Oct. 23 – 25, 2017.

Abatzoglou, J.; Williams, P.; Boschetti, L.; **Zubkova, M.;** Kolden, C. "Global patterns of interannual fire-climate relationships," 2017 Conference on Fire Prediction Across Scales Columbia University, New York City, NY, Oct. 23 – 25, 2017.

**Zubkova, M.;** Boschetti, L. "Characterizing global fire return intervals from the MODIS data record," AGU Fall Meeting, San Francisco, CA, Dec. 12 – 16, 2016.

#### II.E.8. Non-Refereed Presentations

**Zubkova, M.** "Five interesting facts about wildfires," GeoDC Meeting, Feb. 7, 2024

**Zubkova, M.** "Direct and indirect impacts of human conflict on wildfires," Women in GIS Meeting, Apr. 6, 2022

## II.J. Works in Progress

Giglio, L.; Boschetti, L; Roy, D.; **Zubkova, M.**; Hall, J.; Humber, M. The NASA Visible Infrared Imaging Radiometer Suite (VIIRS) burned area product - VNP64A1.

## II.K. Sponsored Research and Programs – Administered by the Office of Research Administration (ORA)

### II.K.1. Grants

Sponsor: NASA - Washington (Headquarters); Title: Woody Encroachment in Sub-Saharan Africa: The Cause or the Effect of the Decline in Fire Activity?: Amount: \$ 300,000; Period: 3 years (09/01/2024-30/08/2027); Role: Principal investigator

Sponsor: NASA - Washington (Headquarters); Title: A Five-Decade Multi-Sensor Global Burned Area Data Record: Period: 5 years (12/01/2022 - 11/30/2027); Role: Co-Investigator; Other Senior Personnel: L. Giglio (Principal investigator).

Sponsor: NASA - Washington (Headquarters); Title: Support and Maintenance of Near Real-Time Landsat and Harmonized Geostationary Satellite Active Fire Data in FIRMS; Amount: \$ 150,000; Period: 3 years (08/04/2022 - 08/03/2024); Role: Co-Investigator; Other Senior Personnel: L. Giglio (Principal investigator).

Sponsor: NASA - Washington (Headquarters); Title: Support and Maintenance of S-NPP and JPSS VIIRS Global Active Fire and Burned Area Earth System Data Records; Amount: \$267,345; Period: 3 years (09/01/2021 - 08/31/2024); Role: Co-Investigator; Other Senior Personnel: L. Giglio (Principal investigator), J.V. Hall (Co-Investigator), M.L. Humber (Co-Investigator).

Sponsor: NASA - Washington (Headquarters); Title: Development of a Suomi-NPP VIIRS Global Burned Area Earth System Data; Period: 4 years; Role: Co-Investigator; Other Senior Personnel: L. Giglio (Principal investigator).

Sponsor: NASA - Washington (Headquarters); Title: LANCE FIRMS Sentinel-3 Fire Pilot Study; Period: 1 years (07/01/2022 - 09/30/2023); Role: Co-Investigator; Other Senior Personnel: L. Giglio (Principal investigator).

## II.Q. Research Fellowships, Prizes and Awards

Outstanding Research Faculty in the Department of Geographical Sciences, 2024

Outstanding Post-doctoral Associate in the Department of Geographical Sciences, 2022

College of Natural Resources Graduate Fellowship award 2019 with the total of \$10,588  
4th place at The Three Minute thesis competition

## III. Teaching, Extension, Mentoring, and Advising

### III.A. Courses Taught

FOR 375 - Introduction to Spatial Analysis for Natural Resource Management (Fall 2017, Fall 2018, 60 students), TA

SEM 301 - Climate, Carbon and Forests (Fall 2015, 15 students), TA

III.C.      Advising: Research or Clinical  
III.C.1.      High School

Kaydsane Ahmed (Summer 2023)

Imaan Kasim (Summer 2023 – present)

Carolyn He (Summer 2024)

Joanne Lin (Summer-Fall 2024)

III.C.2.      Master's

Georgina Crepps (Summer 2021 – 2022) MSc Research Project Advisor

Alexander Leikin (Spring 2022) MSc Capstone Project mentor

Tameka Rochelle Smith (Fall 2022) MSc Capstone Project mentor

Haogang Ji (Spring 2023) MSc Capstone Project mentor

Jesse Warren (Spring 2023) MSc Capstone Project mentor

Maria Isabel Glanville Chevere (Fall 2023) MSc Capstone Project mentor

III.C.3.      Doctoral

Rizos-Theodoros Chadoulis – Aristotle University of Thessaloniki, Greece (2023 – present)

III.D.      Mentorship  
III.D.2.      Other

Maruko Kogure (2021– 2023) BSc student at the department of Geographical Sciences

Sophia Zipparo (2022) alumna of the department of Geographical Sciences

Eunice Wachira (2022) MSc student at Jomokenyatta University, Kenya.

Sandupal Dutta (2023) PhD student at Johns Hopkins University

Radhika Agarwal (2023), MPhil student at University of Melbourne (NSF Full Steam Ahead program)

Briana Prado (2023), MSc student at Colorado University (NSF Full Steam Ahead program)

**IV. Service and Outreach**

**IV.A. Editorships, Editorial Boards, and Reviewing Activities**

**IV.A.2. Editorial Boards**

Co-Editor of a Remote Sensing special issue “Remote Sensing Applications in Wildfire Research and Management”.

**IV.A.3. Reviewing Activities for Journals and Presses**

Peer reviewer for manuscripts in: Nature, Global Change Biology, One Earth, Scientific Reports, Geophysical Research Letters, Earth's Future, Ecology and Society, Geophysics, Environmental Monitoring and Assessment, Forests, Atmospheric Chemistry and Physics, Remote Sensing, Ecosystems, and Geocarto International, Fire

**IV.A.5. Reviewing Activities for Conferences**

Reviewed 30 abstracts for the 2024 SCGIS conference

Reviewed 14 abstracts for the 2024 Wildland Fire Canada Conference

Reviewed 15 abstracts for the 2024 Fire Behavior and Fuels Conference

Reviewed 8 students’ applications for David S. Miller Young Scientist Scholarship and AGU Fall Meeting Berkner Travel Fellowship (Fall 2022)

Judge of the Poster Showcase at the American Geophysical Union (AGU) Fall Meeting, New Orleans, LA, Dec. 13 – 17, 2021.

**IV.B. Committees, Professional & Campus Service**

**IV.B.1. Campus Service – Department**

Organizer of the Mentorship program for postdoctoral fellows (2023)

Research Faculty Merit Committee member (2022-2023)

Volunteer at High school banquet (Jun 2022)

Department Graduate Committee, Research Faculty Representative (2021 – 2023)

Department Committee, Research Faculty Representative (2023-2024)

Presented at the Meet the Research Faculty (Fall 2021, Fall 2022)

Tenure promotion review committee, University of Idaho (2018)

**IV.B.2. Campus Service – College**

Participated in the BSOS Buddy program (Fall 2021, Fall 2022)

IV.B.3. Campus Service – University

Member of the Graduate School Success Team's Near/Peer Mentoring Program

Judge at the 2021 and 2022 Graduate Research Appreciation Day

Terps in Space Mission 17 Review Panel

IV.B.8. Leadership Roles in Meetings and Conferences

Chair of the SCGIS Conference committee (2023 -present)

The SCGIS Conference committee member (2022 -2023)

Chair of the “Wildfire and Conservation” session at the 2023 SCGIS conference

Moderator for the Keynote session at the 2023 SCGIS conference

Moderator for the “Conservation Remote Sensing” and “Climate Change” sessions at the 2022 SCGIS conference

IV.C. External Service and Consulting

IV.C.3. Corporate and Other Board Memberships

Board member of the SCGIS (2023-present)

IV.E. Media Contributions

IV.E.1. Internet

Was interviewed by Tom Brown, NewLines Magazine Journalist (11/13/2023)

Was interviewed by Jeff Tollefson, Senior US Correspondent of Nature News (09/2022)

Press release about Zubkova et al. (2018) by Leigh Cooper

<https://www.uidaho.edu/news/news-articles/news-releases/2019-june/062719-fewerfiresinafrica>