

Ana Mandić

Ulica Ćire Truhelke 15
10 000 Zagreb
☎ (+385) 095 1998 722
✉ ana.vrgoc@gmail.com



Obrazovanje

- 2021–2025 **Doktorski studij**
Université Paris-Saclay, CentraleSupélec, ENS Paris-Saclay, CNRS, LMPS
Doktorska disertacija: [Identification and quantification of mechanical damage mechanisms in glass fiber reinforced polymers via X-ray computed tomography](#)
Područje istraživanja: Računalna tomografija, Metoda korelacije digitalnih volumena, In-situ mehanički testovi, Mehaničke simulacije, Inverzna analiza
- 2017–2019 **Diplomski studij**
Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu
Diplomski rad: Numerical analysis of spot welds in sheet metal structures exposed to mechanical shock and vibration loading
Smjer: Inženjersko modeliranje i računalne simulacije
Prosjek ocjena: 5.0/5.0
- 2013–2017 **Prediplomski studij**
Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu
Završni rad: Određivanje graničnog opterećenja u okvirnim konstrukcijama
Smjer: Konstrukcijski smjer
Prosjek ocjena: 3.7/5.0

Radno iskustvo

- 2025– **R&D inženjer, KONČAR - Distributivni i specijalni transformatori d.d., Zagreb**
- 2024–2025 **R&D inženjer, Probotica d.o.o., Zagreb**
- 2023– **EU konzultant, KCI d.o.o., Zagreb**
Vanjski konzultant/savjetnik za pružanje podrške start-upovima u uspješnoj pripremi projekata financiranih iz EU fondova
- 2020–2024 **Asistent, Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu**
Istraživanje usmjereno na napredna ispitivanja materijala i razvoj metodologije za kvantifikaciju rasta oštećenja polimera ojačanih vlaknima
- 2019–2020 **Inženjer za proračune, AVL-AST d.o.o., Zagreb**
FE inženjer u odjelu za pogonske sustave
Mehanička analiza baterijskih modula i baterijskih paketa

Studentske prakse

- 2018–2019 **Student/Istraživač, AVL-AST d.o.o, Zagreb & AVL LIST GmbH, Graz, Austrija**
Izrada diplomskog rada (razvoj metoda i procedura za proračun točkasto zavarenih spojeva metodom konačnih elemenata uslijed različitih režima opterećenja)

- 2017–2019 **Demonstrator**, *Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu*
 Demonstrator na kolegijima *Uvod u čvrstoću konstrukcija* i *Metoda konačnih elemenata*
- 6-9/2017 **Studentska praksa**, *AVL-AST d.o.o., Zagreb*
- 6-9/2016 **Studentska praksa**, *TEH-CUT d.o.o., Zagreb*

Vještine i aktivnosti

- Programski jezici MATLAB, Python
- Software Abaqus, ANSA, META, HyperMesh, FEMFAT, nCode DesignLife, Catia, SolidWorks, Paraview
- Environment Latex, Microsoft Office
- Ostale vještine Osnovna glazbena škola Ksaver Šandor Gjalski, Zabok (klavir, klarinet)

Jezici

- Engleski Full Professional Proficiency
- Njemački Limited Working Proficiency
- Francuski Elementary Proficiency

Stipendije

- 2022–2023 **Bourses du Gouvernement français**
 Studijski boravak na *Université Paris-Saclay, CentraleSupélec, ENS Paris-Saclay, CNRS, LMPS-Laboratoire de Mécanique Paris-Saclay*

Nagrade

- 2022 **Young Scientist Award**
 38th Danubia Adria Symposium on Advances in Experimental Mechanics, Poros Island, Greece
 Predavanje: *In-situ cyclic tension of glass fiber reinforced polymer: 3D full-field measurement over the entire loading history*
- 2021 **Young Scientist Award**
 37th Danubia Adria Symposium on Advances in Experimental Mechanics, Johannes Kepler Universität, Linz, Austria
 Predavanje: *Failure modeling of fiber reinforced polymer via Digital Volume Correlation*
- 2019 **Medalja fakulteta**
 Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu
 Medalja fakulteta za izvanredan uspjeh tijekom studiranja
- 2019 **Summa Cum Laude**
 Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu
 Nagrada za prosjek ocjena diplomskog studija 5.0/5.0

Projekti

- 2023–2025 **DONES Pripremna faza 1**
Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu & Institut Ruđer Bošković, Zagreb
Cilj projekta: DONES-ConP1 pruža podršku za konsolidaciju IFMIF-DONES ESFRI postrojenja
- 2022–2023 **IFMIF-DONES**
Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu, Institut Ruđer Bošković, Zagreb & Inetec d.o.o., Zagreb
Cilj projekta: Izgradnja istraživačke infrastrukture međunarodnog uređaja za ozračivanje fuzijskih materijala
Zadatak: Seizmička analiza kranova *Heavy Rope Overhead Crane* i *Access Cell Mast Crane* pomoću metode konačnih elemenata
- 2020–2024 **FULLINSPECT**
Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu
Cilj projekta: Identifikacija i kvantifikacija mehaničkog oštećenja u polimerima ojačanim staklenim vlaknima primjenom različitih metoda nerazornih ispitivanja
- 2017–2018 **European Global Product Realization**
Fakultet strojarstva i brodogradnje, Sveučilište u Zagrebu, City, University of London, University of Ljubljana, Budapest University of Technology and Economics
Industrijski partner: BetterLife innovations Ltd., Bristol, UK
Cilj projekta: Razvoj i izrada sklopivog električnog skutera

Organizacije

Women in Dones

Grupu čine stručnjakinje iz različitih područja i predstavnice industrijskog sektora koje djeluju u okviru IFMIF-DONES projekta. Cilj je osnažiti i potaknuti sudjelovanje žena te njihovo vodstvo u znanosti i industriji.

Hrvatsko društvo za mehaniku

Courses

- 2025 **DOBLE Life of a Transformer Seminar**, Zagreb
- 2024 **MFO Oberwolfach Workshop 2402 - Fracture as an Emergent Phenomenon**
The Mathematisches Forschungsinstitut Oberwolfach, Germany
Predavanje: Identification of damage from 4D displacement field measurements
- 2021 **Short Course at ECCOMAS MSF 2021**
Fakultet elektrotehnike, strojarstva i brodogradnje, Sveučilište u Splitu
Short Course at ECCOMAS MSF 2021 Current Research on Solid & Fluids: Computations, FE Code Coupling, Model Reduction, Probability

Publikacije

Znanstveni

časopisi

- Vrgoč, Ana; Tomičević, Zvonimir; Zaplatić, Andrija; Hild, François
Damage analysis in glass fibre reinforced epoxy resin via Digital Image Correlation, Transactions of FAMENA, 45 (2021), 2, 1-12, doi:10.21278/TOF.452024020
- Vrgoč, Ana; Tomičević, Zvonimir; Smaniotto, Benjamin; Hild, François
Application of different imaging techniques for the characterization of damage in fiber reinforced polymer, Composites Part A: Applied science and manufacturing, 150 (2021), 106576, 57, doi:10.1016/j.compositesa.2021.106576
- Vrgoč, Ana; Tomičević, Zvonimir; Smaniotto, Benjamin; Hild, François
Damage characterization in fiber reinforced polymer via Digital Volume Correlation, Coupled Systems Mechanics, 10 (2021), 6, 1-17, doi:0.12989/csm.2021.10.6.000
- Zaplatić, Andrija; Vrgoč, Ana; Tomičević, Zvonimir; Hild, François
Boundary condition effect on the evaluation of stress triaxiality fields, International Journal of Mechanical Sciences, 2023, doi:10.1016/j.ijmecsci.2023.108127
- Vrgoč, Ana; Tomičević, Zvonimir; Smaniotto, Benjamin; Hild, François
Characterization of glass fiber reinforced polymer via Digital Volume Correlation: Investigation of notch sensitivity, Mechanics of Materials, 2023, doi:10.1016/j.mechmat.2022.
- Vrgoč, Ana; Tomičević, Zvonimir; Smaniotto, Benjamin; Hild, François
Characterization of glass fiber reinforced polymer via Digital Volume Correlation: Quantification of strain activity and damage growth, Composites Science and Technology, 2023, doi:10.1016/j.compscitech.2023.109932
- Vrgoč, Ana; Kosin, Viktor; Jailin, Clément; Smaniotto, Benjamin; Tomičević, Zvonimir; Hild, François
4D full-field measurements over the entire loading history: Evaluation of different temporal interpolations, Coupled Systems Mechanics, 2023
- Mandić, Ana; Kosin, Viktor; Jailin, Clément; Smaniotto, Benjamin; Tomičević, Zvonimir; Hild, François
Damage detection in a polymer matrix composite from 4D displacement field measurements, Materials, 2023
- Mandić, Ana; Kosin, Viktor; Smaniotto, Benjamin; Salvi, Laura; Tarantino, M. Gabriella; Hild, François
Damage quantification in an AlSi10Mg cellular metamaterial using 4D measurements, Measurement Science and Technology, 2025

Konferencije

- Horvat, Nino; Virag, Lana; Vrgoč, Ana; Karšaj, Igor
A computational study on influence of microstructure on wall stress distribution on 3D reconstructed model of human intracranial aneurysm, 8th World Congress of Biomechanics, 2018, Dublin, Republic of Ireland
- Vrgoč, Ana; Zaplatić, Andrija; Čakmak, Damjan; Tomičević, Zvonimir
Damage identification in glass fiber mat reinforced epoxy resin, 8th Congress of Croatian Society of Mechanics, 2020, Slavonski Brod, Croatia
- Vrgoč, Ana; Tomičević, Zvonimir; Zaplatić, Andrija; Hild, François
Comparison of different digital image registration techniques for damage analysis of fiber reinforced polymers, ECCOMAS MSF 2021 5th International Conference on Multi-Scale Computational Methods for Solids and Fluids, July 2021, Split, Croatia
- Vrgoč, Ana; Tomičević, Zvonimir; Smaniotto, Benjamin; Hild, François
Failure analysis of glass fiber reinforced epoxy resin via Digital volume correlation, 37th Danubia Adria Symposium on Advances in Experimental Mechanics, September 2021, Linz, Austria
- Vrgoč, Ana; Bartulović, Ante; Stanić, Luka; Zaplatić, Andrija; Čakmak, Damjan; Tomičević, Zvonimir
Dynamic analysis of in-situ loading device for material testing inside of CT scanner, 11th Congress of Croatian Society of Mechanics, September 2021, Rijeka, Croatia
- Vrgoč, Ana; Tomičević Zvonimir; Clément Jailin; Hild, François
In-situ cyclic tension of glass fiber reinforced polymer: 3D full-field measurement over the entire loading history, 38th Danubia Adria Symposium on Advances in Experimental Mechanics, Poros, Greece, 2022
- Vrgoč, Ana; Tomičević, Zvonimir, Smaniotto, Benjamin; Hild, François
Damage characterization via Digital Volume Correlation: Application to an in-situ cyclic test on glass fiber reinforced polymer, 10th International Congress of Croatian Society of Mechanics, Pula, Croatia, 2022
- Tomičević, Zvonimir; Leljak, Dalibor; Vrgoč, Ana; Hild, François
DVC analysis of mat glass fiber reinforced polymer applying heterogeneous mechanical regularization at the mesoscale, 10th International Congress of Croatian Society of Mechanics, Pula, Croatia, 2022
- Vrgoč, Ana; Tomičević Zvonimir; Clément Jailin; Kosin, Viktor; Vargas, Rafael; Hild, François
In-situ cyclic tension of polyester resin reinforced with glass fibers: Damage identification from radiographs, ECCOMAS MSF 2023 Thematic Conference, Sarajevo, Bosna i Hercegovina, 2023
- Mandić, Ana; Salvi, Laura; Kosin, Viktor; Jailin, Clément; Tarantino Maria Gabriella; Hild, François
Identification of damage from 4D displacement field measurements, MFO Oberwolfach 2402 - Fracture as an Emergent Phenomenon, January 2024, Oberwolfach, Germany