

# Gregor Kladnik

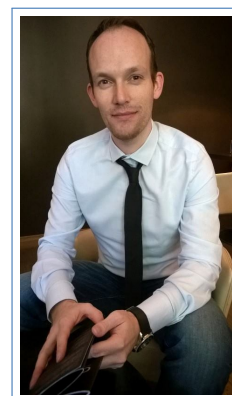
## Curriculum Vitae

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Department of Physics  
University of Ljubljana  
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Date of Birth 7. november 1981

Place of Birth Maribor, Slovenia

Citizenship Slovene (EU)

Current Residence Medvode, Slovenia

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Number of citations 533 (Scopus, without self-citations)

Habilitation Assistant Professor of Physics (since april 2021)

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## Education

September 2012 **Ph.D. in Physics**, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia.

Thesis Title: *Electronic Structure and Charge Transfer at Nanostructures and Hybrid Interfaces*

Advisor: prof. Dean Cvetko

September 2007 **B.Sc. in Physics**, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia.

Title: *Dynamics and Evolution of the Trojan Asteroid Group*

Advisor: prof. Tomaž Zwitter

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## Academic Positions

November 2021 – present **Assistant Professor - Physics**, University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design, Ljubljana, Slovenia, 1st year undergraduate students, part-time study..

February 2016 – present **Teaching Assistant Physical Measurements I**, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia, 3rd year undergraduate students.

Above average student grade 4.4/5.0 (2016/2017) (student evaluation of teaching)

- March 2008 – present **Teaching Assistant Physics Laboratory III and IV**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia, 2nd year undergraduate students.  
Exceptionally high student grades: **4.9/5.0** (2019/2020), **5.0/5.0** (2018/2019), **5.0/5.0** (2017/2018), **5.0/5.0** (2016/2017), **4.9/5.0** (2015/2016) (student evaluation of teaching)
- 2012 – present **Tutor for Experimental Physics of Surfaces**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia, 2nd year graduate students.  
Individually lead experiments (XPS, NEXAFS, RPES) with students at the ALOISA beamline (Elettra synchrotron). Advisor for final student reports.

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## Employment

- July 2017 – June 2018 **Postdoctoral Researcher**, *Consiglio Nazionale delle Ricerche, Istituto Officina dei Materiali - IOM-CNR, Laboratorio TASC*, Trieste, Italy.  
SUNlight-initiated DYNAMics in organic photovoltaic materials (SUNDYN). PI: dr. Martina Dell'Angela
- October 2016 – present **Teaching Assistant / Researcher**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana.  
Full-time position (50% / 50%)
- October 2014 – September 2016 **Postdoctoral Researcher**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia.  
**Project Leader**, Dependency of the interfacial charge carrier dynamics on the coupling strength in heterostructured systems using resonant photoemission and the core-hole clock method (Slovenian Research Agency proj. Z1-6726)
- March 2013 – February 2015 **Postdoctoral Researcher**, *University of Trieste, Department of Physics*, Trieste, Italy.  
Graphene: control and modification of electronic properties. PI: prof. Alberto Morgante
- October 2012 – February 2013 **Researcher**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia.  
Member of the research project group lead by dr. Janez Kovač, Slovenian Research Agency proj. J2-4287
- October 2007 – September 2012 **Young Researcher**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia.  
Position funded by the Slovenian Research Agency. Supervisor: prof. Dean Cvetko

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## Leadership Functions and Capabilities

**Project Leader**, *University of Ljubljana, Faculty of Mathematics and Physics*.  
Successfully completed Postdoctoral research project funded by the Slovenian Research Agency (2 years, total grant value 100.000 EUR). **a)** Collaboration on the set-up of the ANCHOR experimental chamber at the ALOISA beamline (PI dr. Albano Cossaro), where the ultra-high vacuum pressure gauges and electronics were obtained through the project funds. **b)** Experimental results were published in prestigious high-impact journals Nano Letters (Kladnik et al. 2016, Adak et al. 2015) and Chemical Science (Toffoli et al. 2017).

### **Leading ALOISA beamline software developer and maintainer.**

Data analysis and fit software written in IGOR Pro and C used at the ALOISA beamline by the staff and external users. Articles in preparation.

### **Experience in preparing and conducting beamtime experiments.**

Co-author of several peer-reviewed and accepted beamtime proposals at the beamlines ALOISA, Nanospectroscopy and SuperESCA, synchrotron Elettra, Trieste Italy, funded by the Elettra synchrotron (about 500 EUR per shift, with a total of between 15 to 21 shifts per beamtime):

ALOISA 20195283	Electronic structure and CT dynamics of organic radicals on metals and graphene
ALOISA 20190507	Angular dependence of Super-participator decay emission in CuPc films
ALOISA 20185240	Electronic structure and CT dynamics of organic radicals on gold and graphene
SESCA 20180048	Electron injection at the MPc/Gr/Co spin interface
ALOISA 20175201	Charge delocalization in a boroxine based 2D material
ALOISA 20170456	Charge Transport Dynamics at Boronic 2D COF - Graphene Interfaces
ALOISA 20160363	Ultrafast injection of electrons at BiPyridine/Graphene/Ni system
ALOISA 20160294	Amino-carboxylic host-guest approach: functionality of the guest molecule
NanoSpec 20160209	Carrier dynamics at organic/graphene interfaces
ALOISA 20150288	The 2D hetero-organic assembly driven by the amino-boronic interaction
ALOISA 20130548	Quantifying charge transport at molecular interface
NanoSpec 20130544	Exfoliated graphene: correlation between morphology and electronic properties
ALOISA 20125039	Probing Quantum Interference in Charge Transfer Processes
ALOISA 20115273	Understanding Gold-Carbon Covalent Bonds Created Using Trimethyltin Terminated Molecules
ALOISA 20105033	Understanding The Structure and Charge Transfer Dynamics in Double-Layered Molecules
ALOISA 20100305	Study of the role played by the minority Mn <sup>3+</sup> ions in the conductivity of MnO <sub>2</sub> nanotubes
ALOISA 20100227	Measuring Charge Transfer Dynamics in Amine Linked Molecules
ALOISA 20085345	Structural and chemical transformation of L-methionine biomolecular self-assembly
ALOISA 20085221	Local Structure of Cobalt-Tetraphenylporphyrin on Ag(111) and Au(111) surfaces

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## Studies Abroad and Research Visits

September 2018	<b>PLEIADES beamline (synchrotron SOLEIL)</b> , Paris, France. Beamtime using liquid $\mu$ -jet source of melamine in water solution - collaboration with dr. Valeria Lanzilotto (Uppsala University, Sweden).
July 2018	<b>SuperESCA beamline (synchrotron Elettra)</b> , Trieste, Italy. Charge injection at the spin interface MPc/GR/Co - collaboration with the group of prof. M.G. Betti (University of Rome, Italy).
May 2016	<b>SIM beamline (synchrotron SLS)</b> , Villigen, Switzerland.
October 2016	Beamtimes using liquid $\mu$ -jet source of Fe nanoparticles in water solution - resonant photoemission studies.
March 2017	Collaboration with dr. M.Brown's group and dr. G.Olivieri at ETH Zürich.
February 2015	<b>TEMPO beamline (synchrotron SOLEIL)</b> , Paris, France. Beamtime using Near-Ambient Pressure (NAP) Photoemission technique studying cysteamine in water atmosphere.

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## Research Collaborations and Group Memberships

- 2020 – present **Association with IOM-CNR**, Trieste, Italy.  
Formal association with Institute IOM-CNR.
- October 2007 – present **ALOISA beamline (synchrotron Elettra)**, Trieste, Italy.  
Long-term research collaboration (beamline responsible dr. Luca Floreano; prof. Alberto Morgante).
- 2010 – present **ANCHOR experimental station (synchrotron Elettra)**, Trieste, Italy.  
Long-term research collaboration (PI dr. Albano Cossaro).
- 2011 – 2013 **Slovenian Research Agency (SRA) project J2-4287: Organic-inorganic thin film structures for electronics components**, Ljubljana, Slovenia.  
Member of research project lead by dr. Janez Kovač.
- 2009 – present **Programme group P1-0112: Studies of atoms, molecules and structures by photons and particles**, Ljubljana, Slovenia.  
Member of research programme group lead by prof. Matjaž Žitnik.
- October 2007 – present **Experimental X-ray Physics Laboratory, Faculty of Mathematics and Physics**, Ljubljana, Slovenia.  
Member of research group lead by prof. Dean Cvetko.
- Collaborations.**  
prof. Latha Venkataraman and prof. Ioannis (John) Kymissis groups (Columbia University, New York), prof Alon A. Gorodetsky group (University of California, Irvine)

## Personal Skills and Competences

- Languages Slovene (native), English (fluent), German (fluent), Italian (basic)
- Computer skills C, Linux, Bash Shell scripting, LaTeX, Igor Pro, LabVIEW, MS Office Tools, Various Computational Chemistry Tools for DFT calculations (FireFly, GPAW, NWChem)
- Experimental techniques UV Photoemission Spectroscopy (UPS), Helium Atom Scattering (HAS).  
Synchrotron lightsource based techniques: X-ray Photoemission Spectroscopy (XPS), Near Edge X-ray Absorption Fine Structure (NEXAFS), Resonant Photoemission Spectroscopy (RPES), Core-Hole Clock Method (CHC). Ultra-High Vacuum (UHV) setup.

## Awards and Grants

- October 2014 – September 2016 **Postdoctoral Research Project Grant**, *University of Ljubljana*, Slovenia.  
Project: Dependency of the interfacial charge carrier dynamics on the coupling strength in heterostructured systems using resonant photoemission and the core-hole clock method  
2-year grant (total 100.000 EUR) awarded by the Slovene Research Agency (ARRS).
- 2014 **Invited Talk - Slovenian Research Agency Exceptional Scientific Achievements 2013.**  
Donor-Acceptor Shape Matching Drives Performance in Photovoltaics

- 2013 **Invited Talk - Slovenian Research Agency Exceptional Scientific Achievements 2012.**  
Measuring Charge-Transfer in  $\pi$ -coupled Aromatic Molecules
- March 2013 **Research Opportunities Week Scholarship**, *Technische Universität München*, Munich, Germany.  
Scholarship awarded to 45 out of 170 applicants worldwide:  
<http://www.tum.de/en/about-tum/news/press-releases/short/article/30518/>
- January 2013 **Italian Government Bursary**, *6 month bursary (tot. 3600 EUR) for conducting research in Italy at Laboratorio Nazionale TASC CNR-IOM*, Trieste, Italy.  
Supervisor: dr. Alberto Verdini
- July 2011 – February 2012 **Central European Initiative (CEI) Scholarship Award**, *Hosting Institutions University of Trieste and Laboratorio Nazionale TASC CNR-IOM*, Trieste, Italy.  
(Grant tot. 5000 EUR). Supervisor: prof. Alberto Morgante
- June 2010 – November 2010 **Grant for Partial Funding of Professional Cooperation of Slovene Ph.D. Students Abroad**, *Hosting Institution Laboratorio Nazionale TASC-INFN*, Trieste, Italy.  
Supervisor: dr. Alberto Verdini  
Grant (tot. 5000 EUR) awarded by the Slovene Human Resources Development and Scholarship Fund
- October 2007 – September 2012 **Young Researcher Grant**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia.  
Financing of Ph.D. studies and research by the Slovenian Research Agency (ARRS).
- July 2000 **“Zlati maturant” Award.**  
National award for excellent school studies achievements and at the *matura* (Slovene A-levels) - the top ~2% of students receive this award each year.