

Veronika Kost

Date of birth: 14/12/1995



CONTACT



europass

ABOUT ME

Postdoctoral Researcher

EDUCATION AND TRAINING

19/03/2021 – 20/09/2025 Trieste, Italy

Ph.D. in Nanotechnology Università degli Studi di Trieste

EU Network: Tailored materials for Sustainable Technologies: programming functional molecular components through Boron-Nitrogen doping (STiBNite)

Project: Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties

- synthesis of boron and nitrogen-doped carbon dots (BNC-nanodots) by bottom-up methods, including thermal treatment in hydro/solvothermal, microwave, or solvent-free conditions.
- purification of BNC nanodots by dialysis and solvent extraction and purity control by UV-vis, FL, and ¹H-NMR
- physicochemical characterization of obtained nanomaterials by microscopic (TEM, AFM) and spectroscopic (XPS, Raman, FL, and UV-vis, DLS, FTIR) techniques and by XRD and NMR analysis.
- fabrication of BNC-based optoelectronic devices: light-emitting and solar cells
- reporting the results (annual reports, deliverables, secondment reports, roadmap, oral presentations)
- participating in science outreach activities and content preparation
- managing social media of the project: website, LinkedIn, Instagram

Thesis Fluorescent BNC nanodots for optoelectronic devices: synthesis, characterization, and application

01/09/2021 – 17/11/2021 Trieste, Italy

Trainship: Independent user of TEM microscope The Center for Electron Microscopy of the University of Trieste (CIMA)

Independent observation and acquisition of digital TEM images on TEM FEI EM208, Digital camera QUEMESA, acquisition software RADIUS EMSIS

09/2018 – 06/2020 Moscow, Russia

Master of Science in Chemistry RUDN University

Network: Russian Foundation for Basic Research (RFBR)

Project: Development of effective catalysts based on nanostructured perovskite-type complex oxides $A_nB_nO_{2n+1}$ (A = REE, B = Mn, Fe, Co, Ni, V) for the conversion of natural gas into light olefins

- synthesis of the catalysts (sol-gel, impregnation, solid phase methods)
- characterization of the catalysts (TEM and SEM microscopy, Mossbauer spectroscopy, XRD, XRF, XPS, TPR, TGA analyses)
- performing catalytic experiments on dry reforming of methane and FTS process (Gas chromatography)
- preparing reports, publications, patent and grant applications
- managing the workload of the research team
- organizing conferences and dissemination activities

Field of study Chemistry | **Thesis** Features of dry reforming of methane on doped cobalt- and iron-containing catalysts

01/07/2019 – 29/07/2019 Nice, France

Internship University Nice Sophia Antipolis

- Modern Physico-Chemical Methods in Chemistry
- Fragrances & Fine chemistry

09/2014 – 06/2018 Moscow, Russia

Bachelor of Science in Chemistry RUDN University

- Inorganic chemistry
- Analytical chemistry
- Organic chemistry
- Physical and colloidal chemistry

Thesis Catalytic properties of perovskite-type oxides

WORK EXPERIENCE

University of Trieste

Postdoctoral researcher

19/12/2024 – Current

Development of novel carbon nanostructures doped with nitrogen and other heteroatoms for biological and materials applications

- synthesis and physicochemical characterization of diverse heteroatom-doped 0D, 2D, 3D carbon nanomaterials including carbon dots, graphene oxide and reduced graphene oxide derivatives as nanocarriers
- capsaicin- and humins-derived carbon nanoparticles for anthelmintic and other bio-applications
- synthesis and characterization of the heterocyclic compounds (aminopyridine derivatives)
- Parallel Artificial Membrane Permeability Assay (PAMPA) for small molecules as possible treatments of the Gaucher disease

Project: SniffAble Project s a part of "Booster for Life Science -TRL advancement" aiming to predict the onset of neurodegenerative diseases well in advance and/or mitigate their effects

Network: SISSA, CyNexo company, University of Trieste

- development of odor-nanocarriers
- physicochemical characterization of nano-complexes (GC-MS, FTIR, SEM, Raman, XPS, XRD)

University of Trieste

Lab assistant

02/09/2024 – 05/09/2024

assisting in laboratory for Summer Training Courses (drug discovery and development) organized by DSCF Department

RPO "Association of Olympiad Winners" Moscow, Russia

Chemistry teacher secondary and high school

09/2018 – 2021

Project: "Be free to dream"

Our team aimed to help orphans and children faced with difficult life situations on their educational pathway. As a member and volunteer of the project, I was responsible for:

- teaching in Chemistry, Russian, and English language for children in groups and individuals
- coordinating and motivating students to achieve high scores on graduation exams and providing them with an opportunity to continue their education at high school, college, or university
- organizing educational workshops and science outreach events.

RUDN University, Physical and Colloidal Chemistry Department Moscow, Russia

Lab assistant

2019

- Teaching assistance in Physical and colloidal chemistry laboratory course for Bachelor students
- Laboratory equipment and reagents preparation
- Laboratory safety for students

PUBLICATIONS

Publications

1. Losito, O., Netti, T., Kost, V., Annese, C., Catucci, L., Da Ros, T., De Leo, V., D'Accolti, L. Valorization of Soybean Peel-Derived Humins for Carbon Dot (CD) Production *Materials* 18 (8), 1865 (2025) DOI:10.3390/ma18081865
2. Cavinato, L.M., Kost, V., Campos-Jara, S., Ferrara, S., Chowdhury, S., Groot, I.M.N., Da Ros, T., and Costa, R.D. Blue-Emitting Boron- and Nitrogen-Doped Carbon Dots for White Light-Emitting Electrochemical Cells *Adv. Optical Mater.* 2400618 (2024) DOI:10.1002/adom.202400618
3. Kryuchkova, T. A. Kost, V.V., Sheshko, T. F., Chislova, I. V., Yafarova, L. V. and Zvereva, I. A. Effect of Cobalt in the Composition of GdFeO₃ Catalyst Systems on Their Activity in the Dry Reforming of Methane to Synthesis Gas. *Petroleum Chemistry* **60** (5), 609–615 (2020). DOI: 10.1134/S0965544120050059
4. Yafarova, L. V., Chislova, I. V., Zvereva, I. A., Kryuchkova, T. A., Kost, V. V., Sheshko, T. F. Sol-gel synthesis and investigation of catalysts on the basis of perovskite-type oxides GdMO₃ (M = Fe, Co). *J. Sol-Gel Sci. Technol.* **92**, 264-272 (2019). DOI: 10.1007/s10971-019-05013-3
5. Kost, V. V., Kryuchkova, T. A., Zimina, V. D., Sheshko, T. F., Cherednichenko, A. G., Kurilkin, V. V., Safronenko, M. G., Yafarova, L. V. Catalytic performance of LnFeO₃ complex oxides for dry reforming of methane to synthesis gas. *Bulgarian Chemical Communications* **51**, 138 – 142 (2019).

LANGUAGE SKILLS

MOTHER TONGUE(S): Russian

Other language(s):

English

Listening C1

Spoken production C1

Reading C1

Spoken interaction C1

Writing C1

Italian

Listening B2

Spoken production B2

Reading B2

Spoken interaction B2

Writing B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Microsoft Office | Radius EMSIS | Igor pro | Gwydion | CasaXPS | BioRender (Scientific illustrations) | Image Processing software (ImageJ) | ChemDraw, MestReNova, Origin | Google Offices | Wix Web Design | Project Management (Asana, Jira, Doodle, ClickUp) | Communication tools (Zoom, MS Teams, Google Meet, Skype)

INTERNATIONAL ENGLISH LANGUAGE TESTING SYSTEM (IELTS) CERTIFICATE

06/08/2020

IELTS Certificate

Centre number: RU069

Candidate number: 002013

Test results: Listening 7,5; Reading 7,5; Writing 7; Speaking 7;

ORAL PRESENTATIONS

Scientific schools and symposiums

01/07/2024 – 03/07/2024 Leiden, Netherlands

STiBNite Final Symposium, "Fluorescent BNC nanodots: bottom-up synthesis, purification control, and characterization"

29/02/2024 Trieste, Italy (online)

STiBNite Journal Club, Analysis of the article: V. Strauss et al., Chem. Sci., Carbon nanodots revised: the thermal citric acid/urea reaction, 2020, 11, 8256-8266

21/02/2024 – 23/02/2024 Trieste, Italy

PhD Days 2024 Workshop in the framework of PhD programme in Nanotechnology at University of Trieste, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

24/11/2023 Valencia, Spain

Bridging science and business: Entrepreneurship and business development Workshop, "Graphene-based solutions for rock climbing"

20/11/2023 – 24/11/2023 Valencia, Spain

4th STiBNite School Organic semiconductors for flexible electronics, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

21/02/2023 – 23/02/2023 Trieste, Italy (online)

CROSSNANO Workshop in the framework of PhD programme in Nanotechnology at University of Trieste, "Amorphous BNC nanodots for light-emitting devices"

20/02/2023 – 24/02/2023 Perugia, Italy

STiBNite 3rd School: Sustainable technologies, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

04/07/2022 – 08/07/2022 Vienna, Austria

Summer School: Self-Assembled Organic Materials, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

22/02/2022 – 24/02/2022 Trieste, Italy

CROSSNANO Workshop in the framework of PhD programme in Nanotechnology at University of Trieste, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

27/09/2021 – 30/09/2021 Munich, Germany

1st STiBNite Summer School: Surface-Confined Synthesis and Advanced Surface Characterization Tools, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

29/03/2021 – 30/03/2021 Trieste, Italy

1st STiBNite Network Symposium: Global Challenges in Materials Science, "Preparation of BNC nanodots and investigation of their photophysical and electrochromic properties"

22/04/2019 – 26/04/2019 Moscow, Russia

The Fifth International Scientific Conference: Advances in Synthesis and Complexing, "Catalytic behavior of surface cobalt on GdFeO₃ perovskite in the syngas production"

13/11/2018 – 18/11/2018 Moscow, Russia

The 2nd Struchkov Meeting. International Workshop on Chemical Crystallography and Structural Biology, "The evaluation of nanostructured perovskite-type oxides in catalytic processes"

11/10/2018 – 13/10/2018 Plovdiv, Bulgaria

The 11th Chemistry Conference, "Catalytic performance of LnFeO₃ complex oxides for dry reforming of methane to syngas production"

Science outreach event

08/10/2025 Trieste, Italy

I Giovani e la Chimica in Friuli Venezia Giulia - SCI Giovani Event, Università degli Studi di Trieste, DSCF (Speaker, presentation preparation)

22/11/2023 Valencia, Spain

4th STiBNite School Organic semiconductors for flexible electronics, Science outreach activity for secondary and high school students at AIMPLAS - Plastics Technology Centre (Speaker, presentation preparation)

22/02/2023 Perugia, Italy

STiBNite 3rd School: Sustainable technologies, Science outreach event at Università degli Studi di Perugia (preparation of outreach presentation and speech)

POSTER PRESENTATIONS

Scientific schools and conferences

08/10/2025 Trieste, Italy

I Giovani e la Chimica in Friuli Venezia Giulia - SCI Giovani Event, Università degli Studi di Trieste, DSCF, Poster "Design e sintesi di nuovi inibitori dell'enzima ceramide glucosiltransferasi per il trattamento del morbo di Gaucher"

14/09/2025 – 17/09/2025 Parma, Italy

XXIX National Meeting on Medicinal Chemistry, Poster "Carbon and graphene nanodots: preparation and biological studies"

08/06/2022 – 10/06/2022 Rome, Italy

The School of Nanomedicine, Poster "Red emissive graphene quantum dots for biomedical applications"

07/10/2019 – 11/10/2019 Sochi, Russia

The XI International Conference "Mechanisms of Catalytic Reactions" (MCR-XI), Poster "SrO Integration Effect on Structure and Activity of Perovskite-Type Oxides GdFeO₃ for DRM and FTS"

RESEARCH PERIOD ABROAD

Academic secondments

02/01/2023– 28/02/2023 Leiden, Netherlands

Structural analysis of carbon core' crystallinity, surface functionalization, and elemental composition of BNC nanodots by X-ray Photoelectron Spectroscopy (XPS), Raman spectroscopy, X-ray Diffraction analysis (XRD) University of Leiden, Prof. Irene M.N. Groot

01/08/2023– 01/09/2023 Straubing, Germany

Optoelectronic application of BNC nanodots (light-emitting electrochemical cells, dye-sensitized solar cells) and solid-state spectroscopic characterization (UV-vis and FL spectroscopy in solution and solid films of BNC nanodots and composites of the active layer) Technical University of Munich (TUM), Prof. Dr. Rubén D. Costa

RESEARCH PERIOD IN INDUSTRY

Industrial secondments

01/10/2023– 15/10/2023 Anzola dell'Emilia (BO), Italy

Preparation and characterization of graphene-based nanocomposites and coatings Graphene-XT company Dr. Simone Ligi

01/04/2023– 15/04/2023 Anzola dell'Emilia (BO), Italy

BNC-nanodots and graphene oxide-based polymeric films using layer-by-layer and spray-coating methods Graphene-XT company

SCIENTIFIC EVENTS AND CONFERENCES

Other research outputs

14/09/2025 – 17/09/2025 Parma, Italy

XXIX National Meeting on Medicinal Chemistry, Abstract "Carbon and graphene nanodots: preparation and biological studies"

07/04/2024 – 11/04/2024 Strasbourg, France

ChemOnTubes 2024 Conference, Abstract "Tubes, dots and...Carbon in various nanoforms and their applications"

28/05/2023 – 02/06/2023 Boston, Massachusetts USA

243rd ECS Meeting with the 18th International Symposium on Solid Oxide Fuel Cells (SOFC-XVIII), Abstract "Red and Blue Emissive Graphene Quantum Dots for Biomedical Applications"

15/05/2023 – 19/05/2023 Venice, Italy

Nanosafety Training School 2023: SSbD Approaches for Chemicals, Advanced Materials & Plastics Sustainable fabrication, exploitation, and application of nanomaterials, as well as developing policies and risk governance in the field of nanomaterials.

12/07/2022 – 13/07/2022 Leiden, Netherlands

EuroScience Open Forum (ESOF) Marie Skłodowska-Curie Actions (MSCA)

Panel discussions and practical workshops focused on developing and improving science policies, diplomacy, and regulation within EU frameworks.

COURSES, SEMINARS, AND WORKSHOPS

PhD in Nanotechnology courses

Nanomedicine and Nanotoxicology, PhD Nanotechnology course, University of Trieste, Prof. Da Ros

Photoemission and Absorption Spectroscopies for Material Science, University of Trieste, Prof. Alessandro Baraldi

Electron microscopy: an introduction to SEM, TEM and AFM, Ca' Foscari University of Venice, Dr. Federica Rigoni

Customizing luminescent inorganic materials: from design to application, Ca' Foscari University of Venice, Dr. Michele Back

Seminars

12/05/2022 Online

First 2D-EPL MPW run: Key specifications for graphene-based devices, Graphene Flagship

28/04/2022 Online

Introduction to graphene and to EUROPRACTICE services, Graphene Flagship

17/02/2022 Online

Pioneering 2D materials for semiconductor industry, Graphene Flagship

04/02/2022 Trieste, Italy

Ethics Research, University of Trieste, Dr. D. Ovadia

24/01/2022 -14/03/2022 Venice, Italy (online)

Scientific Writing, Ca' Foscari University of Venice, Prof. Alessandro Scarso

31/05/2021 Trieste, Italy

Ethical issues in research, University of Trieste, Dr. M. Bertolo

26/05/2021 Trieste, Italy

10 Tips for Preparing a Successful Manuscript with an ACS Editor, University of Trieste, Prof. Paolo Fornasiero

19/05/2021 Oxford, UK (online)

Nano comes to life: how nanotechnology ushers physics into biology, transforming medicine and the future of technology, University of Oxford, Physics Department, Prof. Sonia Contera

Workshops

24/11/2023 Valencia, Spain

Protection and exploitation of Intellectual Property (IP), Dr. Javier Maira

24/11/2023 Valencia, Spain

Bridging science and business: Entrepreneurship and business development, Dr. Beatriz Salvador

18/09/2023 – 19/09/2023 Trieste, Italy

Workshop: 10 years of Graphene Flagship, WP4 Health & Environment: Graphene and 2D-nanomaterials

31/08/2023 – 1/09/2023 Vienna, Austria (online)

Science writing "How to write a scientific publication", Dr. Eva Müller

23/01/2024 – 24/01/2024 Cardiff, UK (online)

Science communication "Communicating your research to non-specialists", Rachel Mason and Wendy Sadler, Science Made Simple Ltd. School of Physics and Astronomy, Cardiff University

01/05/2023 – 31/06/2023 Italy (online)

International Leadership and Organizational Behavior, Università Bocconi

24/05/2023 – Current Italy (online)

Project management: Professional certification, Google

Scientific clubs

01/03/2023 – 01/04/2024 Online

STiBNite Journal Club, ITN MSCA "Tailored materials for Sustainable Technologies: programming functional molecular components through Boron-Nitrogen doping"

COMMUNICATION AND INTERPERSONAL SKILLS

Team cooperation

Experience in multidisciplinary research team helped me to improve in establishing productive collaboration, fast learning within a new research field, and effective communication between the team members.

Working experience in different cultural environments helped me communicate effectively across cultural differences and improve conflict resolution ability.

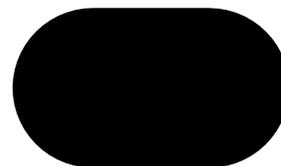
ORGANISATIONAL SKILLS

Project management

- prioritizing tasks to meet the goals of the research project on time and for both local and network level
- reporting the results in written, verbal, visual forms
- organizing collaboration meetings/ common work activities
- coordinate work and projects of undergraduate students in the research group

Autorizzo il trattamento dei dati personali nelle modalità previste dal Regolamento UE 2016/679

Trieste, Italy, 09/10/2025



Veronika Kost