

Structural Dynamics Research Group

Katarzyna N. Jarzemska and Radosław Kamiński



Research topics

Photocrystallography – ultrafast time-resolved and steady-state experiments

Transition-metal complexes and photoactive functional materials

High-pressure X-ray diffraction and spectroscopy

Crystallographic software development

Instrumentation design and construction



www.photocrystallography.eu

Kacper Paszczyk (MSc stud.), Kinga Potempa (PhD stud.), **Radosław Kamiński** (co-PI, *technician*), **Katarzyna N. Jarzemska** (PI, *capo di tutti capi*), Віталій Стіапура (Vitali Stiapura, post-doc), Missing here: വിഷ്ണു വിജയകുമാർ ശ്യാമള (Vishnu Vijayakumar Syamala, post-doc), Sophie E. Canton (affiliated prof.), Dariusz Szarejko (software dev.), Patryk Borowski (PhD stud.), Piotr Łaski (PhD stud.), Szymon Suchecki (stud.). Former members: Krystyna Deresz (PhD 2025), Jakub Drapała (PhD 2025), Bartosz Szymański (PhD stud.).

!!! Just check it out !!!

ACS OMEGA

Experimental Evidence for the Solid-State Nitrite-Ligand Photoisomerization Mechanism in Nickel(II) Square-Planar Complexes

Krysia A. Deresz, Artem Mikhalov, Joanna Jankowska, Lorenzo Donà, Bartłomiej Cwieller, Adam Królewski, Radosław Kamiński, Dominik Schandl, and Katarzyna N. Jarzemska

Cite This: ACS Omega 2025, 10, 31940-31954

JIAICIS

Pressure-Induced Unexpected Stabilization of the High-Spin State of Iron(II) in a Metal–Organic Framework

Livia Getzner, Yasmine Remil, Damian Palwoda, Samuel Gallego-Parra, Joao Elias Figueiredo Soares Rodrigues, Christoph J. Sahle, Radosław Kamiński, Yanling Li, Laure Vendier, Gábor Molnár, Saïa Cobo, and Azzedine Bousseksou

Chemical Science

EDGE ARTICLE

Shedding new light on quadrupolar 1,4-dihydropyridol[3,2-b]pyroles: impact of electron-deficient scaffolds over emission†

Bartosz Szymański, Srinu Rajan Sahoo, Oliena Vakuljuk, Rashid Valiev, Ruslan Ramazanov, Piotr Łaski, Katarzyna N. Jarzemska, Radosław Kamiński, Mohammad B. Teimouri, Glib Garyshnikov, and Daniel T. Gryko



Maksio, "Dr Belly", Stasio

Kasia, Stasio, Maksio



Psychodelic conference dinners... Oh yeah!

Ania Hoser & Kasia

ROYAL SOCIETY OF CHEMISTRY

Research Article

Reliable Determination of Photoreaction Kinetics and Cyclization/Cycloreversion Quantum Yields for Dithienylethene Switches

Jakub Drapała, Krzysztof Durka, Katarzyna N. Jarzemska, and Radosław Kamiński

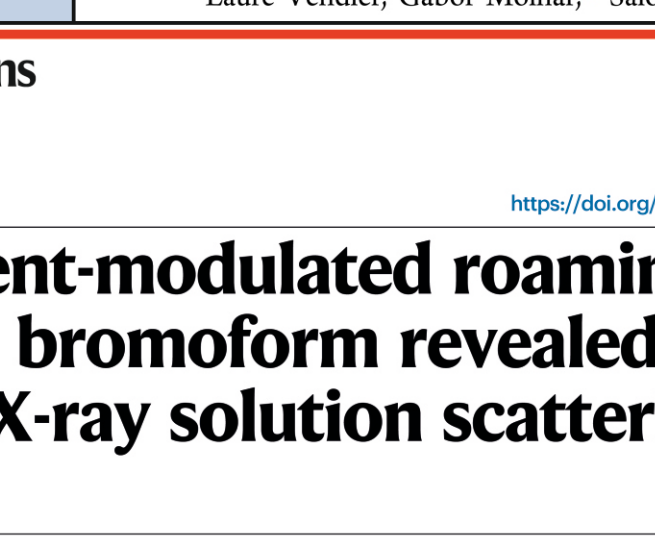
Potions class When the competition is really hot on your heels!



nature communications

Ultrafast solvent-modulated roaming mechanism in bromoform revealed by femtosecond X-ray solution scattering

Received: 16 July 2025 Accepted: 28 January 2026 Published online: 09 February 2026



Pressure-Induced Unexpected Stabilization of the High-Spin State of Iron(II) in a Metal–Organic Framework

Angewandte Chemie International Edition

2026–65/1

Matching Photochemistry Happen

Abstract: A new photochemical system is presented in which the photochemical reaction is coupled to the formation of a new molecule. This system is used to study the photochemical reaction of a diene with a dienophile. The reaction is reversible and the product is a new molecule. The reaction is studied by femtosecond X-ray diffraction and the results are compared with theoretical calculations.



Stasio, Radek, Maksio

When you do not fulfill criteria of a young scientist anymore...

nature communications

Capturing ultrafast molecular motions and lattice dynamics in spin crossover film using femtosecond diffraction methods

Received: 19 September 2024 Accepted: 12 February 2025 Published online: 27 February 2025

Ultrafast solvent-modulated roaming mechanism in bromoform revealed by femtosecond X-ray solution scattering

Journal of Luminescence

Efficient FRET in new co-doped Tb(mhd)3:CeSe/ZnS quantum dots-poly(methyl methacrylate) polymer nanocomposites for optoelectronic and sensor applications

Valiantin Askirka, Vitali Stiapura, Piotr Mluskowski

Grygoriy Dmytriv

Acquiring new skills: TV presenter!

Small children, small problems. Darek is not aware, yet...

Szymon (bottom: some heads)

Old wine in new bottles?

ChemComm

Capturing the short-lived excited singlet state in crystals of a TADF silver(I) complex

Piotr Łaski, Jakub Drapała, Radosław Kamiński, Krzysztof Durka, Dariusz Szarejko, Robert Henning, and Katarzyna N. Jarzemska

Abstract: The short-lived excited singlet state in crystals of a TADF silver(I) complex is captured using femtosecond X-ray diffraction. The results show that the singlet state is localized on the silver atom and the ligand, and its lifetime is significantly longer than in the solution phase.

When all other methods fail...

Journal of Materials Chemistry C

ROYAL SOCIETY OF CHEMISTRY

Journal of Materials Chemistry C

Metallophilicity-assisted piezochromism in a rhodium(I) dicarbonyl Schiff-base complex: structural, energetic, electronic and spectroscopic investigations under high pressure†

Vishnu Vijayakumar Syamala, Patryk Borowski, Lerato Bosman, Kinga Potempa, Damian Palwoda, Krzysztof P. Korona, Piotr Łaski, Radosław Kamiński, Dumitru V. Kama, Andreas Rodt, Alice Birnk, and Katarzyna N. Jarzemska

Darek & Tymek (sleeping)

Twinkle, twinkle, little star, how I wonder what you are...

A golden ratio: 3 people per 1 poster

Kasia, Vishnu, Radek ...Bake me a cake as fast as you can...

In an alternative universe...

Kasia, Milan Gembicky, Christophe Vande Velde, Radek

When all other methods fail...

Stasio, Radek, Maksio

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ROYAL SOCIETY OF CHEMISTRY

COMMUNICATION

Is there a light in the end of the tunnel? Yes! It's a train approaching...

Katarzyna N. Jarzemska et al. Capturing the short-lived excited singlet state in crystals of a TADF silver(I) complex

When all other methods fail...

Journal of Materials Chemistry C

ChemPhysChem

Studies of the Catalytic Activity of New Nickel(II) Compounds Containing Pyridine Carboxylic Acids Ligands in Oligomerization Processes of Selected Olefins and Cyclohexyl Isocyanide

Marta Pawlak, Joanna Drzeżdżon, Katarzyna N. Jarzemska, Radosław Kamiński, Kacper Poblócki, Janusz Datta, and Dagmara Jacewicz

Chemistry Europe

ChemPhysChem

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ROYAL SOCIETY OF CHEMISTRY

COMMUNICATION

To have a cake and to eat it too!

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Journal of Materials Chemistry C

Chemistry Europe

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ROYAL SOCIETY OF CHEMISTRY

COMMUNICATION

Guess who's just got her PhD?

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ROYAL SOCIETY OF CHEMISTRY

COMMUNICATION

Thomas Feurer, Marcin Sikora, Ryszard Sobierajski, Nicole Elleuche, Kasia, Serguei Molodtsov

Feeling important

When all other methods fail...

Journal of Materials Chemistry C

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