

Unit Name

Coordination Chemistry and Catalysis Unit
Professor Julia Khusnutdinova

Research Personnel

Praxedes Sanchez Mellado, Postdoctoral Scholar
Daniil Ilatovskii, Postdoctoral Scholar
Pavan Kumar Vardhanapu, Research Unit Technician
Daria Sherstiukova, PhD Student
Tatiana Gridneva, PhD Student
Mitsuyuki Oshiro, PhD Student
Thomas Johannes Hasiweder, PhD Student
Aleksandr Sorvanov, PhD Student
Serika Tasaki, Research Intern
Aradhana Pani, Research Intern
Boyu Zhi, Research Intern
Gustavo Jones Lima, Research Intern

Scholarly Contributions and Creative Productions (by Faculty)

Journal Article

1. Sorvanov, A.; Deolka, S.; Khaskin, E.; Fayzullin, R. R.; Vasylevskiy, S.; Khusnutdinova, J. R. Self-Assembly of a Customizable Library of Nickel Trifluoromethylation Catalysts via Selective C-F and C-O Bond Cleavage. *Angewandte Chemie International Edition* 2026, 64, e202509042.
2. Karimata, A.; Ilatovskii, D.; Fayzullin, R. R.; Komoto, S.; Bruhacs, A.; Khaskin, E.; Khusnutdinova, J. R. Mechanoluminescence from Amorphous Solids of Heteroleptic Copper Complexes and Common Luminophores Induced by Non-Destructive Mechanical Stimuli and Fabrication of Flexible Mechanoluminescent Films. *Chem. Sci.* 2025, 16, 22376.
3. Pandey, D. K.; Gridneva, T.; Khaskin, E.; Fayzullin, R. R.; Vasylevskiy, S.; Khusnutdinova, J. R. Distinct Reactivity of Iron Dihydride vs. Iron(hydride)(borohydride) Bearing the Same Bulky PNP Ligand in Hydrogenation of Alkenes and Alkynes. *Dalton Trans.* 2025, 54, 14809.
4. Hasiweder, T. J.; Dinh, H. M.; Pandey, D. K.; Sorvanov, A.; Khusnutdinova, J. R. Mechanoactivated Celite as a Catalyst for C-H Bond Perfluoroalkylation and Other Radical Reactions. *Angewandte Chemie International Edition* 2026, 64, e202504137.
5. Pandey, D.; Khusnutdinova, J. Fast Co-Catalyzed Semihydrogenation of Alkynes with Controlled E/Z Selectivity Using Same Catalyst. *ChemCatChem* 2025, e202500041.

Presentation at Conference

1. Khusnutdinova, J.

Making and Modifying CF₃ and Perfluoroalkyl Groups with Late Transition Metal Complexes. The 2nd OIST-OU Joing Symposium of Emergent Functional Materials and Reactions 2025.

2. Khusnutdinova, J.

Perfluoroalkyl Complexes with First-Row Transition Metals in Photocatalysis and C-F Bond Activation. Asian International Symposium -Coordination Chemistry, Organo-metallic Chemistry, 105th CSJ Annual Meeting 2025.

Scholarly Contributions (by Unit Members)

Name of Unit Member	Type	Title	Outlet	Publisher	Year Pub
Mikhail Losev	Journal Article	Synthesis of a series of PNC pincer ligand-supported Pt complexes, and an initial exploration of their reactivity	Dalton Transactions	RSC	2025
Daria B. Sherstiukova	Journal Article	Complex Speciation of bipy- and phen-NNP Pincer Complexes of Ruthenium under Catalytic Ester Reduction Conditions	ACS Catalysis	ACS	2025
Shubham Deolka	Patent and Intellectual Property	Catalyst, modified compound, and method of preparing modified compound	Patent	WO2025013806; international application number PCT-JP2024-024514	2025
Aleksandr Sorvanov	Poster Presentation at Conference	Self-Assembled Nickel Complexes for (Hetero)arenes Trifluoromethylation and Olefins Halotrifluoromethylation via high-valent oxidation states	22nd International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis		2025
Daria Sherstiukova	Poster Presentation at Conference	Cobalt Complexes with Modified Bipyridine-based Pincer Ligands for Carbon Dioxide Hydroboration	Gordon Research Conference "Unlocking the Potential of Organometallic Catalysis through Modern Advances in Synthesis and Mechanistic Insight"		
Dilip Pandey	Poster Presentation at Conference	Distinct reactivity of iron hydrides bearing the same bulky PNP ligand in hydrogenation of alkenes and alkynes	22nd International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis		2025
Thomas J. Hasiweder	Poster Presentation at Conference	Celite-catalyzed mechanochemical C-H bond trifluoromethylation and pentafluoroethylation	Pacificchem 2025		2025
Mitsuyuki Oshiro	Poster Presentation at Conference	Mechanoresponsive mehavior of N4-pyridinophane Zn complexes and DFT studies	10th Asian Conference on Coordination Chemistry		2025
Aleksei Kantemirov	Poster Presentation at Conference	Naphthyridine complexes of earth-abundant metals	75th Conference of Japan Society of Coordination Chemistry		2025

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Mitsuyuki Oshiro	Presentation at Conference	Luminescent mechanochromism of N4-pyridinophane Zn complexes	75th Conference of Japan Society of Coordination Chemistry		2025
Daria Sherstiukova	Presentation at Conference	Cobalt Complexes with Modified Bipyridine-based Pincer Ligands for Carbon Dioxide Hydroboration	The 106th CSJ Annual Meeting		2026
Aleksandr Sorvanov	Presentation at Conference	C-F Bond Cleavage-Driven Assembly of Nickel-Trifluoromethyl Complexes and Their Reactivity for Catalytic Applications	75th Conference of Japan Society of Coordination Chemistry		2025
Daniil Ilatovskii	Presentation at Conference	Force-Modulated Luminescence in PDMS Elastomer: Incorporation Strategy of Cu(I) Coordination Mechanophores	The 106th CSJ Annual Meeting	The 106th CSJ Annual Meeting	2026
Práxedes Sánchez	Presentation at Conference	Naphthyridine-based ligands for C—F bond cleavage	75th Conference of Japan Society of Coordination Chemistry		2025
Daria Sherstiukova	Presentation at Conference	Cobalt Complexes with Modified Bipyridine-based Pincer Ligands for Carbon Dioxide Hydroboration	Gordon Research Seminar: “Dynamic Organometallic Chemistry Approaches to Solving Challenges in Sustainability and Synthesis Across Multiple Dimensions”		2025

Honors, Awards & Fellowships

Term 1 2025 - Term 1 2025 Thomas J. Hasiweder Awards: Research appreciation month, “Celite-catalyzed mechanochemical C-H bond trifluoromethylation and pentafluoroethylation”, poster session, 1st price, 2025 [Fiscal Year: 2025-10-01]

External Service

Term 2 2024 - Ongoing Advisory Boards member of the ACS Catalysis, American Chemistry Society, Advisory Boards member of the ACS Catalysis [Fiscal Year: 2024]

Term 2 2024 - Ongoing Advisory Board member of the European Journal of Inorganic Chemistry, European Journal of Inorganic Chemistry, Wiley, Advisory Board member of the European Journal of Inorganic Chemistry [Fiscal Year: 2024]

Term 2 2024 - Term 2 2025 Guest co-editor of ChemCatChem special issue, ChemCatChem, Wiley, Guest co-editor of ChemCatChem special issue “Non-innocent ligands in sustainable catalysis” [Fiscal Year: 2024]