

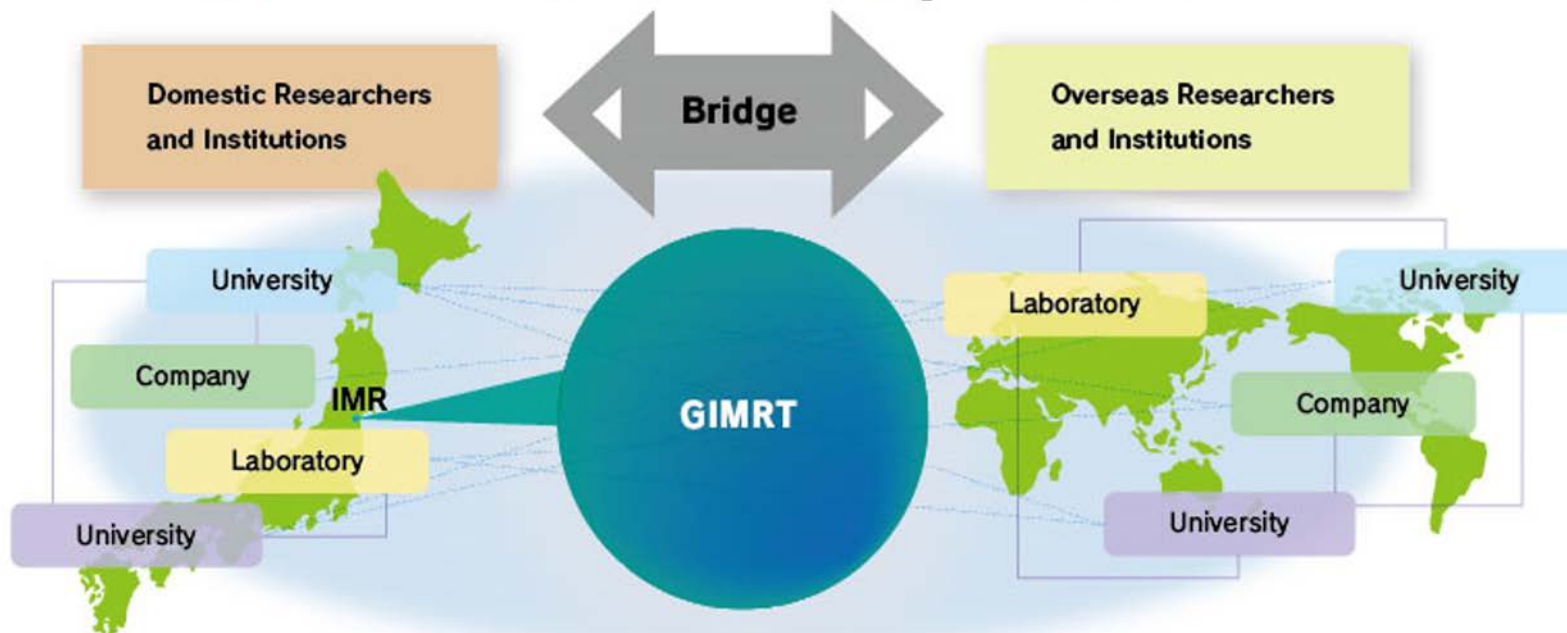
Outline of GIMRT program

Global Institute for Materials Research Tohoku (GIMRT)

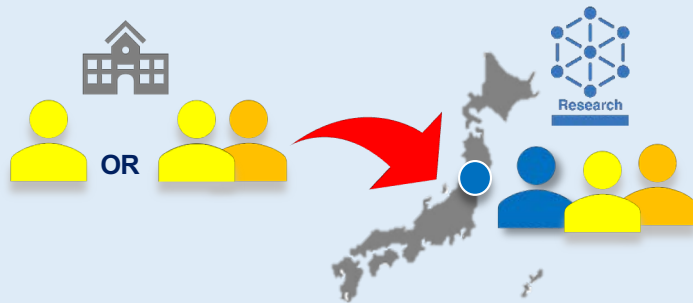
Renewed for GIMRT II (FY2022-2027)

GIMRT is the **bridge** for multi-core collaboration research to establish international Material Sciences **Open Research Alliances**, in which Domestic and Overseas researchers and university/institutes collaborate

Materials Research Open Alliance



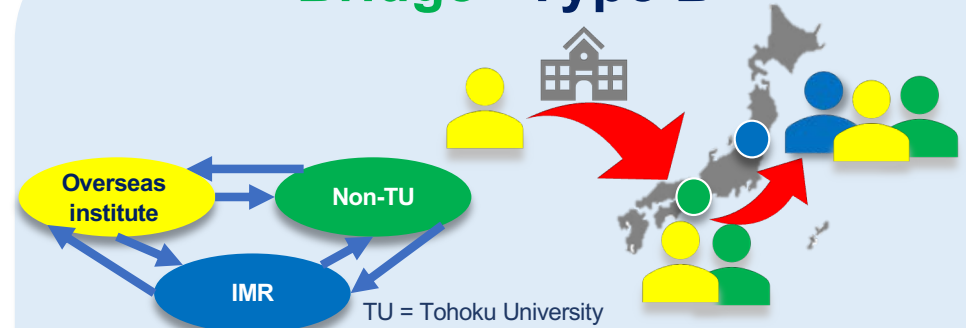
Single Visit Type S



Standard research visit to IMR (1~2weeks)

- Multiple visits/Multi persons visit available (Ph.D student can be collaborator)

Bridge Type B



Multi-core Research Collaboration

- for Overseas researchers
 - Visit IMR together with non-TU collaborators
- for non-TU domestic researcher
 - Invite a researcher from overseas institute to own institute
 - Work together at IMR and at J-PARC, SPring-8 etc.

NEW
from 2022

Covis Co-research visit



Team visit (combination of Long & Short stay) for strong and sustainable co-research team

- Example
 - Residential type visit (Type G= Guest Professor)
 - +
 - Short-term intensive visit (Type S)

Overseas Research Type O

Experiment

Networking

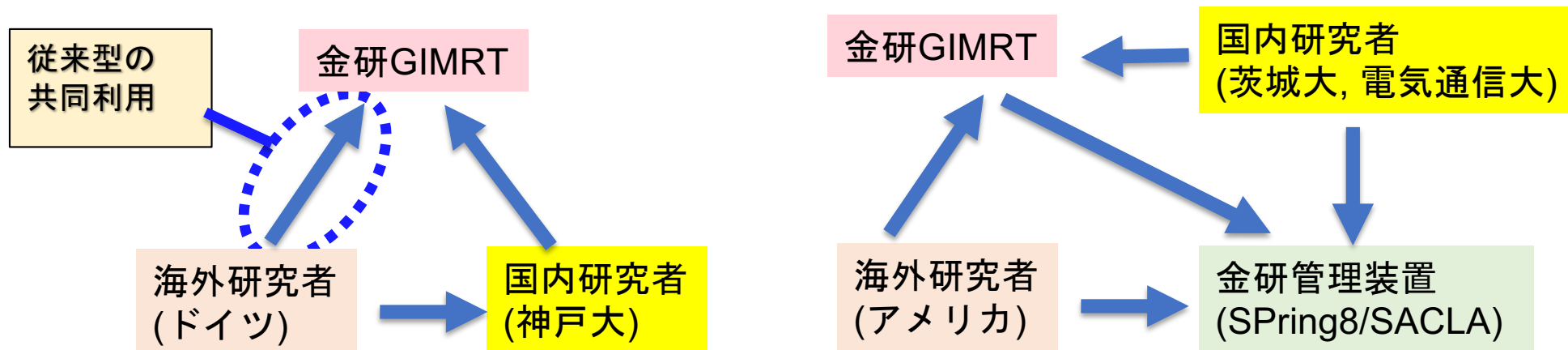
Discussion

In 2023, total 6 researchers visited EU and NA

For young scientist (under 40) in Japan (2 weeks ~ 3 months)

- Travel support (up to JPY 0.5M) to visit overseas institutes for research collaboration

多機関が連携する国際共同利用で優れた成果を迅速に生み出す



金研と神戸大の両方で海外との共同研究

金研と放射光-2つの大型施設の利用

海外の研究者との共同研究で金研の共同利用を含めたテーマであれば、海外招聘旅費や国内研究者の金研への旅費を負担可能

GIMRT “Warikan” System

GIMRT Pays 65% of total



Holiday is possible



Tickets and hotels are booked by online system and users need not buy ones

若手海外派遣課題(海外道場)を2年で10件採択

4週間程度海外の機関に滞在し、共同研究実施

- ・アメリカ、イタリア、イギリス、カナダなどに派遣
- ・若手の国際展開力の強化, 国際認知度向上, 国際パートナー獲得から継続的な国際共同研究へスタートアップ支援事業

Opportunities for spectroscopy measurements and deep discussion in Sapienza



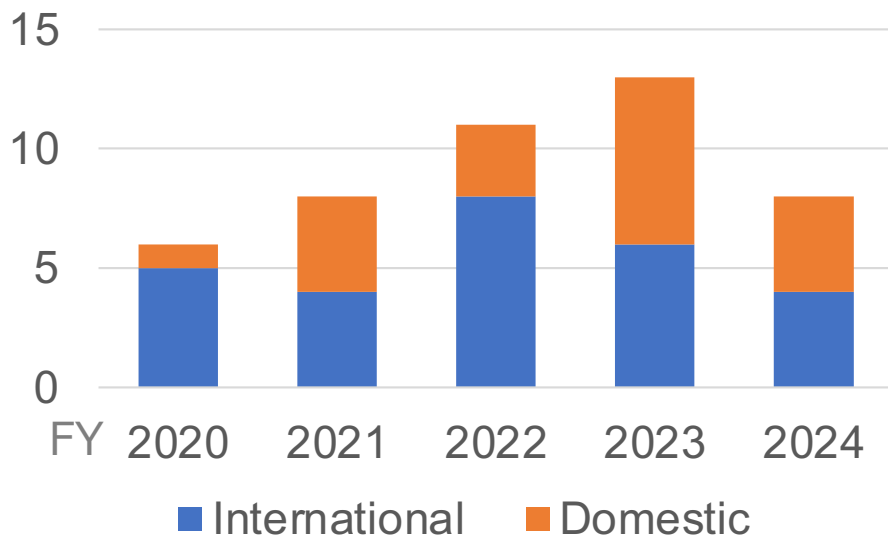
Yoshikazu Mizuguchi
Tokyo Metropolitan University, Japan, Associate Professor

Prof. Saini's group of Sapienza University of Rome, Italy, is one of our strong collaborators. Since the early stage of our collaboration, I experienced stay in Sapienza several times. However, after Covid-19 situation, I did not have a chance for staying in Sapienza, and this time was the first middle-period (three weeks) stay in Sapienza after the Covid-19.

In the Prof. Saini's group, we can measure photoelectron spectroscopy on various samples. We measured some systems of transition-metal zirconide new superconductors. The systematic measurements on $(\text{Fe,Ni})\text{Zr}_2$ have been completed, and the spectroscopy could confirm the systematic solution of Ni and Fe, which induces bulk superconductivity. We have submitted a co-authored paper on this material. In addition to the experiments, the most important experience in this stay was deep discussion with Sapienza members including students and researchers. Since we have been collaborating on various materials, discussion on many topics has been done. In 2024, we are going to hold a workshop on disordered superconductors in our university and invite Prof. Saini and the group members where further networking could be expected. The period of the stay was Christmas month, I could see the change in Roman street every day; a big Christmas tree was under construction in Sapienza, and the light was turned on before my leave.

This stay was partly supported by GIMRT (Type-O), and I would like to thank all staffs of IMR who kindly supported me for this stay.

Workshops and Symposiums



若手自らが組織する研究会への支援

有機固体若手冬の学校 2023年11月

強磁場若手夏の学校 2023年12月

ESR夏の学校 2024年8月

材料科学若手学校

原子力夏の学校
/冬の学校



他の大学研究所の集会 との連携も可能

- X
- ホーム
- 話題を検索
- 通知
- メッセージ
- Grok
- ブックマーク
- 求人
- コミュニティ
- プレミアム
- 認証済み組織
- プロフィール
- もっと見る

User Office
@User_Office_IMR フォローされています

Welcome to GIMRT (Global Institute for Materials Research Tohoku) and ICC-IMR, the Gateway of International Collaborations with IMR, Tohoku University.

83 フォロー中 72 フォロワー

金研広報 (金属材料研究所-KINKEN-)さんにフォローされています

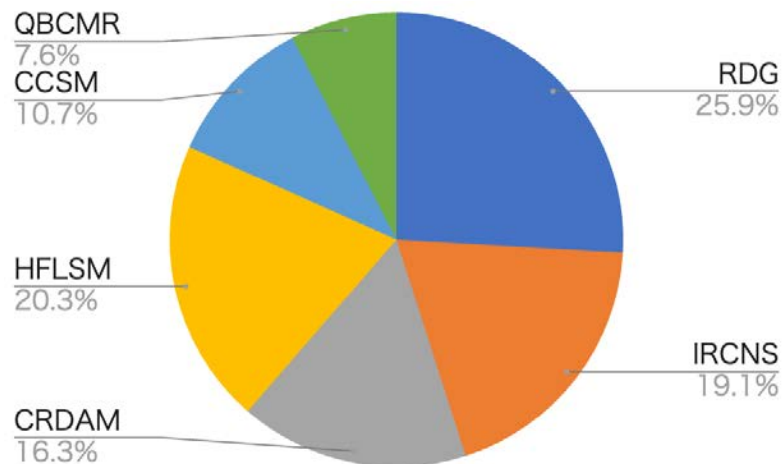
User Office @User_Office_IMR · 6月5日

SMS2024 & GIMRT User Meeting 2024 will be held on 27-28 November 2024 at IMR. We welcome your visit. Please see the details at sms2024.imr.tohoku.ac.jp #TohokuUniversity #SMS2024andGIMRTUserMeeting #IMR GIMRT

Number of proposals

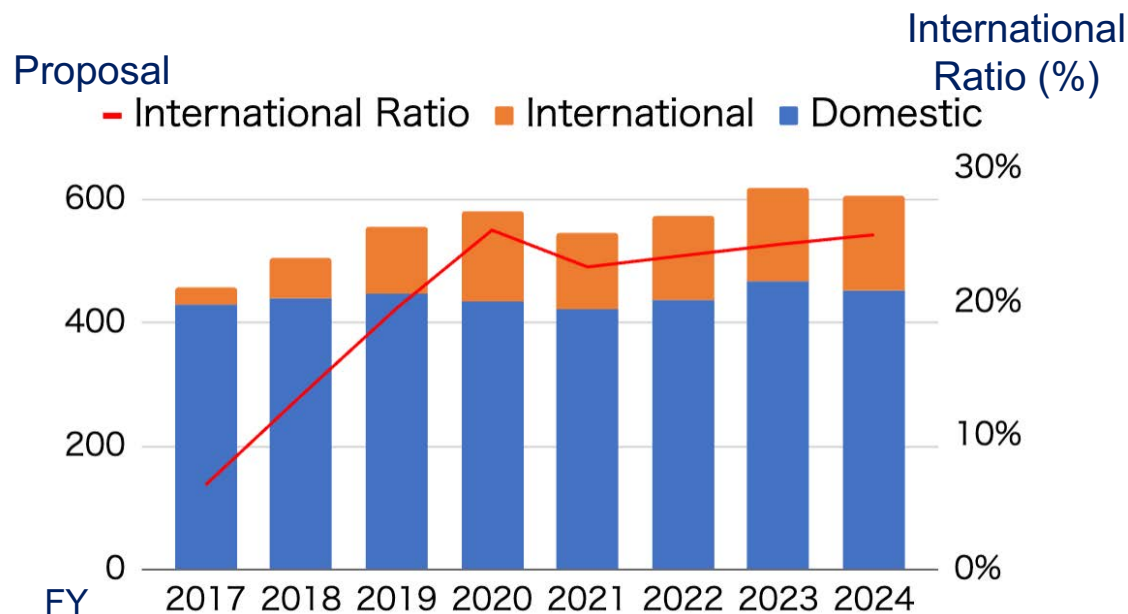
	RDG			IRCNMS			CRDAM			HFLSM			CCMS			QBCMR/CN			Total
	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total	
2022	97	30	127	69	67	136	82	11	93	96	17	113	67	6	73	28	4	32	574
2023	112	54	166	80	30	110	94	15	109	93	30	123	57	14	71	33	8	41	620
2024	101	56	157	76	40	92	83	16	99	102	21	123	53	12	65	39	7	46	606

Ratio by Category (2024)



Time trend and International Ratio

FY2024 ~615 expected



- HFLSM : High Field Laboratory for Superconducting Materials
- CCMS : Center for Computational Materials Science
- QBCMR : Quantum Beam Center for Materials Research
- RDG : Research Divisions and Groups
- IRCNMS : International Research Center for Nuclear Materials Science
- CRDAM : Cooperative Research and Development Center for Advanced Materials

Magnets (HTS-REBCO): 19 T

- Robust REBCO pancakes
- Inner dia. $\approx \phi 68\text{mm}$
- Max. hoop stress $< 400 - 500 \text{ MPa}$

Magnets (LTS): 14 T

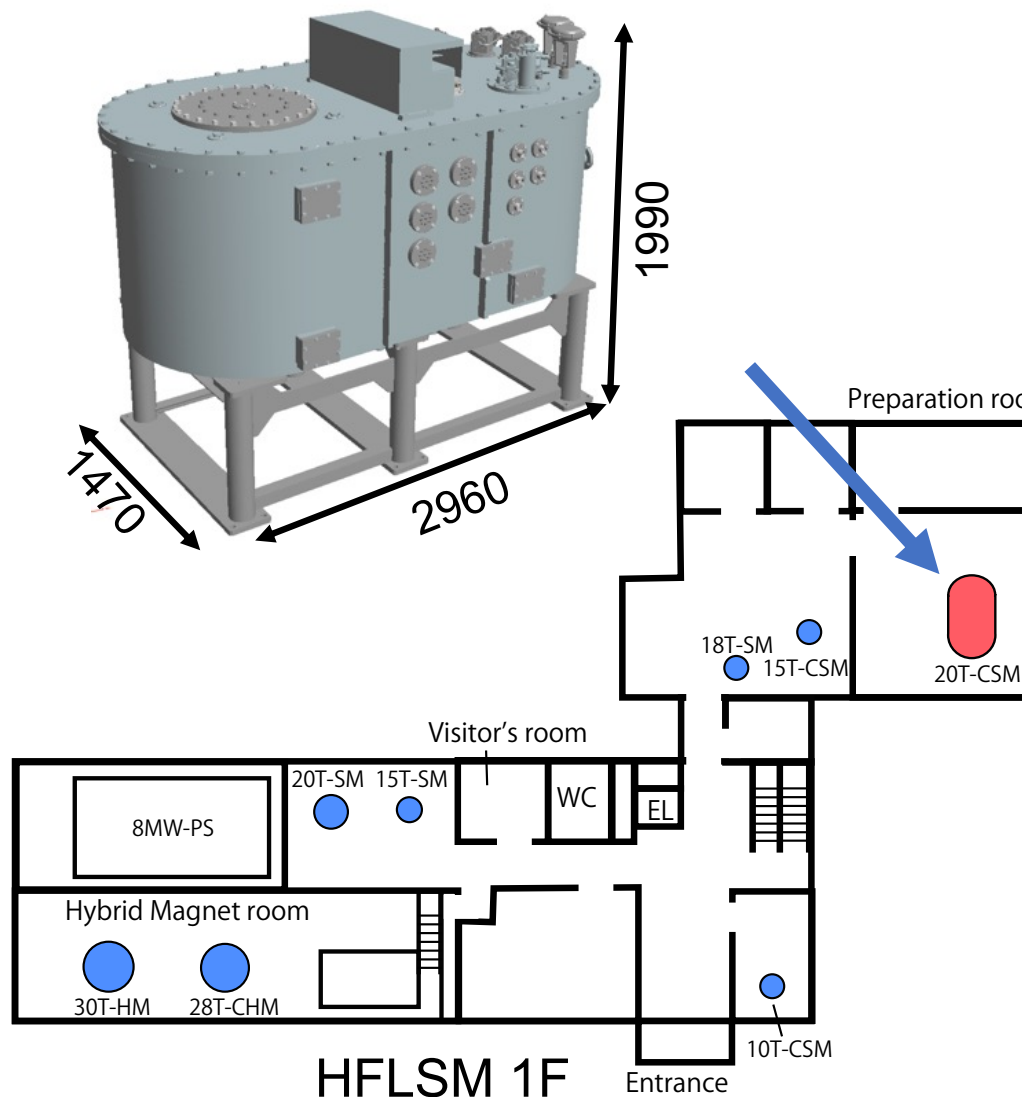
- CuNb/Nb₃Sn & NbTi
- Rutherford solenoids
- Inner dia. $\approx \phi 320 \text{ mm}$
- Max. hoop stress $< 300 \text{ MPa}$

Cooling system

- Conduction cooling with He circulation
- Shield: 1-stg GM cryocooler x 2
- HTS: 4K-GM cryocooler x 4
- LTS: GM/JT cryocooler x 1

Install in 2024 March

33T-CSM ($\phi 32 \text{ RT bore}$)



20 TCSMのリサイクル希望者があればご連絡ください



RDG: Research Divisions and Groups

【File No. 06】



RDG program is the joint researches between users and IMR members of each RDG.

Prof. Fujiwara : Crystal Physics



Crystal Growth for the Future of the Human Being Society

Prof. Nagai : Irradiation Effects in Nuclear and Their Related Materials



Towards Revealing Irradiation-Induced Defects and Controlling Their Function

Prof. Seki : Magnetic Materials



Materials Fabrication for Magnetics / Spintronics by Nanostructure Control

Prof. Nojiri : Magnetism



Exploring Frontier of Magnetism in High Magnetic Fields

Prof. Akiyama : Environmentally Robust Materials



Elucidation of Effects of Hydrogen on Material Properties and Design of Environmentally Robust Materials

Prof. Orimo : Hydrogen Functional Materials



Materials Science of "HYDRIDES" for Energy Applications

Prof. Nomura : Theory of Solid State Physics



Theoretical Investigation of Quantum Many-Body Physics

Prof. Kasada : Nuclear Materials Engineering



Materials Resistant to Extreme Environments Open the Door to the Next Generation Base Load Power Plants

Prof. Kumagai : Multi-Functional Materials Science



Construction of Computational Materials Database for Using First-Principles Calculations

Prof. Sasaki : Low Temperature Condensed State Physics



Emergent Properties of Correlated π -electrons in Flexible Assembly of Organic Nanostructures

Prof. Yoshikawa : Advanced Crystal Engineering



Novel Functional Crystals, Crystal Growth Technology and Advanced Sensors for Future

Assoc. Prof. Yamanaka : Deformation Processing



Development of Highly Functional Structural Materials by Advanced Processing

Prof. Fujita : Quantum Beam Materials Physics



Elucidate Origins of Novel Phenomena Through Probing Structure and Dynamics

Prof. Sugiyama : Chemical Physics of Non-Crystalline Materials



Inorganic Materials with Complex Structures

Prof. Aoki : Actinide Materials Science



Heavy Fermion Physics of Actinide and Rare-Earth Compounds

Prof. Onose : Quantum Functional Materials Physics



Spins Make Materials Functional

Prof. Ichitsubo : Structure-Controlled Functional Materials



Development of Novel Functional/Structural Materials Through Structural Control or Phase-Transformation Process

Prof. Watanabe : Analytical Science



Development and Applications of Nano Fine-structure Characterization and Chemical Analysis for Understanding Various Materials Properties

Prof. Furuhashi : Microstructure Design of Structural Metallic Materials



Advanced Microstructure Control for Developing New Structural Metallic Materials

Prof. Miyasaka : Solid-State Metal-Complex Chemistry



Design of Coordination Polymers Toward the On-Demand Control of Their Correlated Electrons/Spins and Chemical Reactions

Prof. Kubo : Materials Design by Computer Simulation



Solution of Energy and Environmental Problems and Realization of Safe and Secure Society by Computer Simulation


Prof. Kato : Non-Equilibrium Materials



Development of New Functional Materials by Nonequilibrium Process

【教授公募】低温物理学研究部門（10/31締切）

2024/06/28

公募人員	教授 1名
所属	低温物理学研究部門
研究分野	凝縮系物理学実験に関する研究。独自の技術、手法、物質もしくは素子を用いて独創性の高い量子物性の実験的研究を展開し、現代の低温凝縮系物理学分野を先導する意欲と能力を有する方。 詳しくは 部門性格  参照。
公募締切	2024年10月31日（木）消印有効
着任時期	決定後、できるだけ早い時期
応募資格	博士の学位を有する方
勤務形態	常勤 任期なし
待遇	東北大学の規定による