

PERSONAL INFORMATION Jun Fujii

 S.S.14 Km163,5 in AREA Science Park Basovizza, 34149, Trieste, Italy



Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input checked="" type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

from Dic. 2008 to today

Permanent Level III Technologist

Istituto Officina dei Materiali del CNR (CNR - IOM), Trieste (Italy)

- One of the main scientific interest is to study electronic and geometrical structures of surfaces and interfaces by means of photoelectron spectroscopy using synchrotron radiation, scanning tunnelling microscope (STM) and scanning tunnelling spectroscopy (STS). The electronic and geometrical structures of nano-scale magnetic materials are of particular interest.
- Technological interest is in developments, upgrades and installing of the apparatuses for electron spectroscopy and sample growth and preparation, and of microscope and light source.

Business or sector: Research

from Jul. 2003 to Dic. 2008

Tenure Track Researcher

Istituto Officina dei Materiali del CNR (CNR - IOM), Trieste (Italy)

Business or sector: Research

from Jul. 2001 to Jul. 2003

Postdoctoral fellow

Elettra, Sincrotrone Trieste S.C.p.A. (Italy)

Business or sector: Research

from Apr. 1994 to Jun. 2001

Research Associate

Gakushuin University, Tokyo (Japan)

Business or sector: Research

EDUCATION AND TRAINING

from Apr. 1991 to Mar. 1994

PhD Degree in Science (Physics)

University of Tsukuba (Japan)

EQF level 8

Doctoral thesis title : "Electronic Structures of Ferromagnetic Ni studies by Spin Resolved Photoelectron Spectroscopy"

Mar. 1991	Master Degree in Physics University of Tsukuba (Japan)	EQF level 7
Mar. 1989	Bachelor Degree in Physics Shinshu University (Japan)	EQF level 6

PERSONAL SKILLS

Mother tongue(s) Japanese

Other language(s) English, proficiency Level: C1, Italian, proficiency Level: B2

Job-related skills	<ul style="list-style-type: none"> Knowledge of condensed matter physics, surface physics, and magnetism in particular electronic structure, surface and interface structure, magnetic structure, and material growth for metals, semiconductors, and organic molecules. Knowledge of various photoelectron spectroscopies (spin- and angle-resolved electron spectroscopy (Spin-ARPES), x-ray photoelectron spectroscopy (XPS), hard x-ray photoelectron spectroscopy (HAXPES), x-ray absorption spectroscopy (XAS), x-ray magnetic circular dichroism (XMCD), resonant photoelectron spectroscopy (RESPES)) with synchrotron radiation to investigate electronic and magnetic properties. Knowledge of electron spectroscopy (low energy electron diffraction (LEED), Auger electron spectroscopy, reflective high energy electron diffraction (RHEED)), and microscopy (scanning photoelectron microscopy (SPM), STM, atomic force microscope (AFM), scanning electron microscope (SEM), STS) to investigate surface structure. Knowledge of various magnetometries (magnetic optical Kerr effect (MOKE), vibration sample magnetometry (VSM), scanning electron microscopy with polarization analysis (SEMPA), magnetic force microscope (MFM)). Knowledge of ultra high vacuum (UHV), surface preparation in UHV, epitaxial sample growth by means of chemical vapour deposition (CVD) and molecular beam evaporation (MBE). Knowledge of synchrotron radiation source in particular undulator insertion device, and high resolution monochromator for the photon energy range for vacuum ultra violet (VUV), soft x-ray (SX), and hard x-ray. Knowledge of helium cryogenics for cooling of samples and optical elements. Experience in the design and realization of UHV setups (SEMPA, STM, Spin-ARPES). Experience in the maintenance and upgrade of synchrotron beamlines (APE-LE and APE-HE), UHV surface preparation section of APE, STM, and designing a new synchrotron beamline (APE-TX).
Digital skills	<ul style="list-style-type: none"> Knowledge of data analysis and data drawing software Igor (Wave Matrics) and the programming in Igor. Knowledge of C++ programming language. Knowledge of mechanical drawing with CAD. Knowledge of software (Spectra, Shadow and Reflec) for designing undulator and monochromator. Knowledge of the Latex and the Microsoft Office suite for producing scientific articles and presentations.

ADDITIONAL INFORMATION

- Publications more than 140 refereed papers in international scientific journals
H index (April 2022) = 29 (source: Web of Science, Scopus), 34 (source: Google scholar)
- Selected publications in peer-reviewed journals 2017-2022:
1. C. Bigi et al., "Very efficient spin polarization analysis (VESPA): new exchange scattering-based setup for spinresolved ARPES at APE-NFFA beamline at Elettra"
J. Synchrotron Rad., **24**, 750 (2017)
 2. V. Sunko et al., "Maximal Rashba-like spin splitting via kinetic-energy-coupled inversion-symmetry breaking"
Nature, **549**, 492 (2017)
 3. M.S. Bahramy et al., "Ubiquitous formation of bulk Dirac cones and topological surface states from a single orbital manifold in transition-metal dichalcogenides"
Nature Materials., **17**, 21 (2018)
 4. C. Rinaldi et al., "Ferroelectric Control of the Spin Texture in GeTe"
Nano Lett. **18**, 2751-2758 (2018)
 5. M. Oura et al., "Picosecond Time-Resolved Hard X-ray Photoelectron Spectroscopy System at the 27-m-long Undulator Beamline BL19LXU of SPring-8"
Synchrotron Rad. News, **31**, 36 (2018)
 6. R.C. Vidal et al., "Surface states and Rashba-type spin polarization in antiferromagnetic $\text{MnB}_2\text{Te}_4(0001)$ "
Phys. Rev. **B100** (2019) 121104(R)
 7. G. Vinai et al., "An integrated ultra-high vacuum apparatus for growth and in situ characterization of complex materials"
Rev. Sci. Instrum. **91** 085109 (2020)
 8. I. Vobornik et al. "Kitaite NiTeSe , an Ambient-Stable Layered Dirac Semimetal with Low-Energy Type-II Fermions with Application Capabilities in Spintronics and Optoelectronics"
Adv. Funct. Mater. **31** 2106101 (2021)
 9. J. Fujii et al., "Mitrofanovite Pt_3Te_4 : A Topological Metal with Termination-Dependent Surface Band Structure and Strong Spin Polarization"
ACS Nano, **15** 14786-14793 (2021)
 10. G.M. Pierantozzi et al., "Evidence of magnetism-induced topological protection in the axion insulator candidate EuSn_2P_2 "
PNAS, **119** e2116575119 (2022)