

# Curriculum vitae, Prof. Dr Angelo Di Bernardo

(updated to March 2024)

## PERSONAL DETAILS

Family name, First name: Di Bernardo, Angelo Date of birth: 18-06-1987  
Researcher identifiers: Orcid-0000-0002-2912-2023; Scopus-55262979800  
URL for website: <https://docenti.unisa.it/063974/home> (website from Home Institution)  
<https://www.dibernardo.uni-konstanz.de/> (website from University of Konstanz)  
Google scholar profile: <https://scholar.google.com/citations?user=z8-1ck4AAAAJ&hl=en>

## CURRENT POSITIONS

05/2023-to present **Associate Professor**, Department of Physics, University of Salerno, Italy  
05/2023-08/2025 **Joint temporary affiliation** with Department of Physics, University of Konstanz, Germany

## PREVIOUS POSITIONS

08/2020-04/2023 **Associate Professor** (German ‘W2 Universitätsprofessor’), Department of Physics, University of Konstanz, Germany  
10/2019-04/2023 **Sofja Kovalevskaja research group leader**, Department of Physics, University of Konstanz, Germany  
10/2016-09/2019 **Junior Research Fellow** of St John’s College, Department of Materials Science, University of Cambridge, UK

## EDUCATION

09/2012-10/2016 **NanoDTC Ph.D. (1 year M.Sc. + 3 years Ph.D.)**, University of Cambridge, UK  
Successful defence date: 14/10/2016. Degree awarded on 08/11/2016.  
Ph.D. thesis title: *‘Unconventional superconducting states at superconductor interfaces’*  
Supervisor: Prof. J. Robinson. Passed Ph.D. exam with no corrections (top grade).  
08/2011-08/2012 **M.Sc. in Nanoscience**, Arizona State University, USA  
Final GPA: 4.0/4.0.  
12/2008-02/2011 **Second Cycle Degree (M.Sc.) in Biomedical Engineering**, University of Naples, Italy  
Final grade: 110/110 cum laude; average of exams: 29.91/30 (7/18 exams cum laude).  
09/2005-12/2008 **First Cycle Degree (B.Sc.) in Biomedical Engineering**, University of Naples, Italy  
Final grade: 110/110 cum laude; average of exams: 29.83/30 (11/32 exams cum laude).

## FELLOWSHIPS, PRIZES AND AWARDS

2022 **Nicholas Kurti Science Prize for Europe 2022** (Oxford Instrument sponsorship)  
Awarded to a European researcher in Low-temperature Physics.  
2019–2024 **Sofja Kovalevskaja Award** from the Alexander von Humboldt Foundation in Germany  
One of 6 awards (1.65 M€) in 2019 for international applicants from any fields.  
2016–2019 **Junior Research Fellow** from St John’s College in Cambridge (UK)  
One of 5 fellowships (~£100k) with > 700 applications from any fields/disciplines.  
2018 **Brian Pippard Prize** from the Institute of Physics (IOP) in the UK  
Most prestigious prize given to a UK scientist working in the field of superconductivity.  
2017 **Prize for Young Researchers** from the European Society for Applied Superconductivity  
Awarded biannually to a young researcher in the field of superconductivity.  
2016 **International IEEE Fellowship Award** from the IEEE Council on Superconductivity  
One of the 5 international awardees (\$5k) selected.  
2012–2016 **Schiff Foundation Studentship** from the University of Cambridge (UK)  
Only Ph.D. studentship awarded in 2012 in Natural Sciences and Engineering.  
2011 **Fulbright Scholarship** from The US-Italy Fulbright Commission  
One of 3 national recipients (\$38k) out of ~ 1000 applicants for all disciplines.  
2009 **Guglielmo D’Ambrosio award, University of Naples, Italy**  
for the best student of the Engineering Department with more than 3,000 students enrolled.

## RESEARCH GRANTS (€ listed below is grant portion to Di Bernardo)

- 01/2024-01/2026 **Grant from the Italian Ministry of Foreign Affairs and International Cooperation (MAECI)** for study of ultrafast dynamics in quantum material hybrids – co-PI (~ 90 k€).
- 09/2020-08/2026 **Deutsche Forschungsgemeinschaft (DFG) SPP 2244 grant** for 2D superspintronics - co-PI (~ 95 k€ for first 3 years plus ~ 112 k€ for the 3-year extension recently awarded).
- 03/2021-08/2024 **EU FET-OPEN grant** for research project ‘Gate Tuneable Superconducting Quantum Electronics (SuperGate)’ - co-PI and leader of Work package 1 (~ 313 k€).
- 05/2021–04/2023 **Zukunftskolleg Research Fellowship**, University of Konstanz - only PI (~ 350 k€).
- 10/2019-04/2023 **Sofja Kovalevskaja grant** for superconducting spintronics, Alexander von Humboldt Foundation - only PI (1.65 M€).
- 10/2020-12/2021 **Young Scholar Fund grant** for research project ‘Superconducting molecular electronics (SuperMol)’ – University of Konstanz, only PI (~ 80 k€).
- 10/2020-12/2021 **Young Scholar Fund (YSF) grant** for research project “Superconducting molecular electronics (SuperMol)” – University of Konstanz, only PI (~ 80 k€).

## PUBLICATIONS (Full list at <https://scholar.google.com/citations?user=z8-1ck4AAAAJ&hl=en>)

To date (March 2024), he has authored/co-authored about **40 articles** (28 since he became a PI in 2019), of which 33 already published, 6 under review and 1 monograph in *Nature News and Views* (A. Di Bernardo, [Nature 613, 446 \(2023\)](#)). **26 of these 40 articles are without the Ph.D. supervisor**, and he is the **last and corresponding author** (i.e., main PI) for 10 of them.

Most of the papers as leading (i.e., first or last) author are in high-IF journals like *Nat. Mater.*, *Nat. Commun.*, *Phys. Rev. X*. A selection of these papers as leading author is given below ( ‘\*’ is for corresponding author).

1. A. Spuri, ..., **A. Di Bernardo\***, “Generation of long-ranged spin-triplet pairs across a two-dimensional superconductor/helium interface”, *Physical Review Research* **6**, L012046 (2024).
2. L. Ruf, ..., **A. Di Bernardo\***, “Effect of fabrication routes and material parameters on the control of superconducting currents by gate voltage”, *APL Materials* **11**, 091113 (2023).
3. R. Hartmann, .. **A. Di Bernardo\***, “Intrinsic giant magnetoresistance due to exchange-bias-type effects at the surface of single-crystalline NiS<sub>2</sub> nanoflakes”, *Nanoscale* **15**, 10277 (2023).
4. M. Cuoco, **A. Di Bernardo\***, “Materials challenges for SrRuO<sub>3</sub>: from conventional to quantum electronics”, *APL Materials* **10**, 090902 (2022).
5. R. Fittipaldi, ..., **A. Di Bernardo\***, “Unveiling unconventional magnetism at the surface of Sr<sub>2</sub>RuO<sub>4</sub>”, *Nature Communications* **12**, 5792 (2021).
6. H. Alpern, ..., **A. Di Bernardo\***, “Unconventional Meissner screening induced by chiral molecules in a conventional superconductor”, *Physical Review Materials* **5**, 114081 (2021).
7. **A. Di Bernardo\*** et al., “Nodal superconducting exchange coupling”, *Nature Materials* **18**, 1194 (2019).
8. **A. Di Bernardo** et al., “p-wave triggered superconductivity in single-layer graphene on an electron-doped oxide superconductor”, *Nature Communications* **8**, 14024 (2017).
9. **A. Di Bernardo** et al., “Intrinsic paramagnetic Meissner effect due to s-wave odd-frequency superconductivity”, *Physical Review X* **5**, 041021 (2015).
10. **A. Di Bernardo** et al., “Signature of magnetic-dependent gapless odd frequency states at superconductor /ferromagnet interfaces”, *Nature Communications* **6**, 8053 (2015).

## INVITED LECTURES (Selection only, full list at <https://www.dibernardo.uni-konstanz.de/research/talks/>)

Given more than **50** talks at international conferences/symposia of which **47 on invitation** (~ 5 per year in recent years).

1. [Superstripes Meeting](#), Ischia, Italy (26<sup>th</sup> June-1<sup>st</sup> July 2023).
2. [776. WE-Heraeus Seminar](#), Bad Honnef, Germany (4<sup>th</sup>-6<sup>th</sup> Jan. 2023).
3. DPG Meeting (invited lecture), Regensburg, Germany (4<sup>th</sup>-9<sup>th</sup> Sept. 2022).
4. [769. WE-Heraeus Seminar](#), Bad Honnef, Germany (29<sup>th</sup> May-2<sup>nd</sup> Jun. 2022).
5. [OSS Workshop 2021](#), Kyoto, Japan (13<sup>th</sup>-17<sup>th</sup> Dec. 2021).
6. [QuSpin Workshop 2021](#), NTNU, Norway (1<sup>st</sup>-2<sup>nd</sup> Dec. 2021).
7. [7th ICSM international conference](#), Bodrum, Turkey (22<sup>nd</sup>-28<sup>th</sup> Oct. 2021).
8. [NanocoHybrid workshop](#), Paris, France (12<sup>th</sup>-14<sup>th</sup> Oct. 2021).

9. **Two lectures** on superconducting devices, [OSS Workshop 2017](#), Kyoto, Japan (25<sup>th</sup>-29<sup>th</sup> Nov. 2017).  
10. **Three lectures** on superconductivity and magnetism, ESAS School, Pozzuoli, Italy (12<sup>th</sup>-16<sup>th</sup> Dec. 2016).

### **SUPERVISION OF GRADUATE STUDENTS AND MENTORING OF POSTDOCS**

- 10/2019-to present **Department of Physics, University of Konstanz, Germany**  
2 Postdocs, 6 Ph.D. candidates (4 as main supervisor, 2 in co-supervision with Prof. E. Scheer), 5 Master students, 3 Bachelor students.
- 10/2016-06/2020 **Department of Materials Science, University of Cambridge, UK**  
1 Ph.D. candidate who graduated in 2020 (co-supervised with Prof. Jason Robinson)

### **TEACHING ACTIVITIES**

- 2024-to present **Course module** on “Introduction to Solid State Physics” (20 hours over one semester), Department of Physics, University of Salerno.
- 2023-to present **Full course** on “Physics of materials and nanotechnologies for renewable energy” (120 hours over two semesters), Department of Physics, University of Salerno.
- 2019–2023 **Full course** “Superconductivity: from fundamentals to applications” (26 lectures; winter semester), Department of Physics, University of Konstanz
- 2019-2021 **Full course** “Nanofabrication and nanocharacterisation techniques” (26 lectures; winter semester), Department of Physics, University of Konstanz
- 2022 **Seminar course** “Advances in Nanomaterials”, Department of Physics, University of Konstanz
- 2018–2019 **Short course** “Materials aspects of microdevices” (6 lectures), University of Cambridge
- 2017–2019 **Short course** “Nanomagnetism” (3 lectures), University of Cambridge

### **PEER-REVIEWING AND EDITORIAL ACTIVITIES**

- 2022-to present **Associate Editor**, *Journal of Low-temperature Physics*
- 2022-2023 **Guest Editor** for special issue in *Frontiers in Electronic Materials*
- 2019-to-present **Reviewer** for DFG grants and EU (ERC-Advanced) grants
- 2016-to-present **Reviewer** for > 20 international scientific journals including: *Nature*, *Nat. Commun.*, *npj Quantum Mater.*, *Sci. Rep.*, *Phys. Rev. X*, *Phys. Rev. Lett.*, *Phys. Rev. Res.*, *Adv. Mater.*, *Nano Lett.*, *ACS Nano*, *ACS Appl. Electron. Mater.*, *EPL*, *APL Mater.*

### **ORGANIZATION OF SCIENTIFIC MEETINGS**

- 10/2024 **Chairman and co-organiser** of international workshop SUPERGATE2024, Paestum, Italy
- 09/2023 **Co-organiser** of colloquium, EPS CMD30 FisMAT, Milan, Italy
- 05/2023 **Co-organiser** of international workshop, Schloss Ringberg, Germany
- 03/2023 **Co-organiser** of focused session of DPG meeting, Dresden, Germany
- 09/2020 **Co-organiser** of colloquium, CMD2020GEFES, Madrid, Spain

### **COLLABORATIONS (major only)**

**Prof. Elke Scheer**, **Prof. Wolfgang Belzig** and **Prof. Sebastian Goennenwein**, University of Konstanz (2D superspintronics, low-*T* STM, theory of mesoscopic superconductivity, spintronics); **Dr Zaher Salman** and **Dr Thomas Prokscha**, PSI (LE- $\mu$ SR); **Dr Mario Cuoco** and **Dr Antonio Vecchione**, CNR-Spin, (theory of strongly-correlated materials, oxide single crystals); **Prof. Jacob Linder**, NTNU (quasiclassical models for S/F); **Prof. Carmine Attanasio**, University of Salerno (non-centrosymmetric Ss); **Dr Francesco Giazotto**, CNR-Nano (GCS effect); **Prof. Jason Robinson** and **Prof. Mete Atatüre**, University of Cambridge (superconducting spintronics and scanning NV magnetometry); **Prof. Oded Millo**, **Prof. Yossi Paltiel** and **Prof. Hadar Steinberg** (Chiral molecules/superconductor, low-*T* STM, S/F vdW systems).

### **INSTITUTIONAL RESPONSIBILITIES, MEMBERSHIP OF SOCIETIES**

- 2019-to present **Faculty member and student advisor**, Department of Physics, Univ. of Salerno (05/2023-to date) and Department of Physics, Univ. of Konstanz (09/2019-04/2023)
- 2023-to present **Member of the DPG**, Germany
- 2020-to present **Member of PhD committees** (Scuola Normale Superiore, Uppsala University, Leiden University) and **Reviewer for professorship applications** (KU Leuven)

### **PATENTS AND SPIN-OFF**

- 2023 Italian **Patent Application** No. 202100027515 (deposited) 'Superconducting variable inductance transistor.'
- 2021 **Co-founder** of the Italian **start-up** *Digital superconducting quantum machines*.