

Academic Positions: EU and US



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Frontiers and Careers in Nuclear and Hadronic Physics
Paphos, (Cyprus), 30/10/2023

CV: Experimental hadronic physics at JLab

9/93-10/98



Undergraduate studies in physics in Genova (Italy)

Master's thesis: **polarized target** for electron scattering experiments at CLAS (JLab)



1/99-2/03



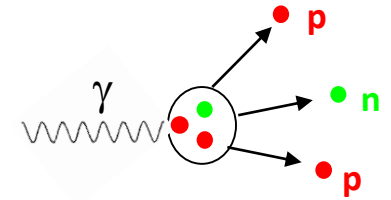
PhD at GWU (USA)

Few-body interactions among nucleons: **three-body photodisintegration of ^3He** at CLAS

3/03-9/03



6-months post-doc at CEA Saclay (France) - Written thesis paper (PRC)

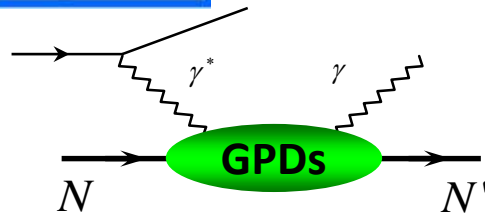
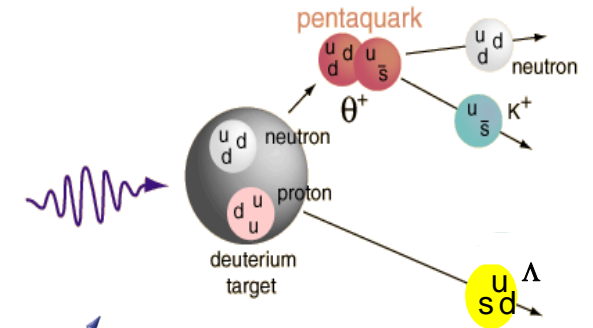


10/03-9/06



3 years of post doc at IPN Orsay (France)

• Baryon spectroscopy: **pentaquark search** in $\gamma d(^3\text{He}) \rightarrow \Lambda \Theta^+(p)$ (PRL)

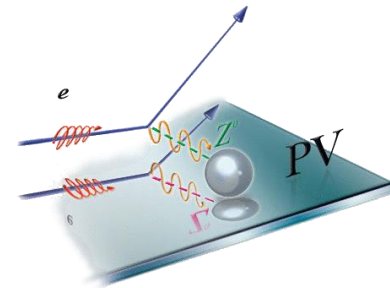


• Nucleon structure: **GPDs**

PAC proposal: **DVCS with polarized target** at CLAS

• Nucleon structure: strange form factors \rightarrow parity violation

Radiative corrections for G_0 (Hall C) (EPJA paper)

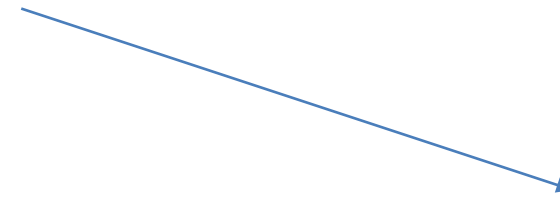


10/06-today



Permanent researcher position at CNRS (currently Research Director)

**« Academic positions » (= researcher positions)
in our field can be found in two categories,
both in EU and US**



**Universities
(Requires teaching)**

**Research institutes/labs
(Mainly pure research)**

**My direct experience is with research institutes/labs
Bear with me for the somewhat lighter information on universities**



Permanent researcher jobs in our field in France



2 research institutes/labs have job openings in our field in France:

- **CEA (Centre pour l'Énergie Atomique)**: non-regular periodic permanent job openings, field-specific (for instance JLab, EIC, CERN, etc...)

How to apply: submit a « dossier » + seminar/interview for a few selected candidates in front of a local committee

(I tried it once, had the interview but was not selected for the job)

- **CNRS**: « Concours National » (national competition) **once a year**

~10 openings per year, on a variety of themes (from nuclear to particle physics); most positions are « labeled » (field and lab), some are open

How to apply: « dossier » (CV, publications, past research report, future plans report, recommendation letters) with deadline usually at end of Dec or early Jan + short presentation for several selected candidates (10 min at my day, 20 now) in front of a nation-wide committee from different sub-fields + questions

(I tried it *three* times – **got it** at the third try)

Pros:

- Selection system relatively fair and open to everyone, especially at CNRS
- CNRS: French civil servant (« fonctionnaire ») status - **job security**
- Pure research, no teaching required (but it is allowed and encouraged)
- Lower salary than in USA, higher than in Italy ☺ (CEA has higher salaries than CNRS)
- Career advancement is partly « automatic », partly « by merit »
- Other perks: a lot of vacation days, maternity leave, relative freedom in one's research
- Both positions allow to hire PhD students
- An exam (« Habilitation à diriger recherches ») allows CNRS scientists to award PhDs, equivalently to a university professor

Cons:

- Not easy to get in (very few positions and many applicants)
- Number of open positions per year decreasing progressively
- Tendency to prefer young applicants with no more than 3-4 years of postdoc experience



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Teacher/researcher position in university in France:

The position of university researcher/teacher in France is called « **maître de conférence** »

Periodic openings in universities, coupled to research laboratories, theme-specific

How to apply: « dossier » + seminar/interview for a few selected candidates

Permanent researcher jobs in our field in other EU countries

Italy:

- **INFN** is the main *purely research institute* in Italy that has jobs in our field.
 - **Postdoc** positions are available for foreigners on a roughly yearly basis.
 - Periodic (not every year) national maxi competition (« concorsone ») for **permanent researcher jobs** with a huge amount of applicants and limited positions. It often caters to people having done their PhD and postdocs already in Italy. It is like an exam, with written tests.
 - PhD students can be hired by INFN scientists
- **University positions** are very tough to get, and are usually opened ad-hoc (funds permitting) for those who did their PhD and/or postdocs in a given research team.

Germany (no direct experience):

- **Postdoc** positions open to everyone
- **Positions in university** are not frequently available, and competition is high. They are also typically non-permanent (5-years or the like), and require frequent request for grants (to DFG, for instance) to be started and continued.

UK (no direct experience):

- University jobs, annual calls to apply for fellowships:
 - Rutherford Fellowship: deadline usually in September, one has to apply via a UK university, each university has a limited number of applications possible → start getting in touch early with research groups involved in your field of interest
 - Future Leaders Fellowship: for more senior positions, also needs contact with the targeted groups

Major European labs for our field:

- **CERN**: the « mecca » for physics research jobs, if you like particle physics and are ok with living there. Frequently available jobs, at different levels, very high competition, very high salary.
- **FAIR**: a major facility under construction in EU, probably many openings, and high competition.

Permanent researcher jobs in our field in USA

University:

- Many postdoc opportunities.
- Periodic tenure track positions open, competition probably depends on how coveted the university is. Salaries are much higher than in EU. A lot of time is spent teaching and writing grant applications, little time for research.

National labs (DOE) for our field:

- Periodic **staff positions** openings, at different seniority level.
 - Very good salary and good benefits. Career advancement opportunities, merit-based. No teaching.
 - Keep an eye on the announcements. It requires CV, research statement, recommendation letters.
 - Usually a few years of postdoc are necessary before applying.
 - Level of competition varies depending on the period/job, **always worth a try!**
 - Both experimental (fundamental research and applied) and theory positions
- **Examples of US DOE labs involved in « EINN-like » physics:**
 - JLab
 - BNL (RHIC, EIC)
 - ANL (for physics at JLab and EIC)
 - Los Alamos (lower energy)
 - Oakridge (lower energy)
 - ...?

Advices:

- establishing a career in our field is challenging but ultimately rewarding, **if you really like it**
- different kind of opportunities, both in EU and USA, but in general **higher request than openings**
- **the choice between US and EU is really a matter of your taste, lifestyle, and goals**
- be sure to be very **motivated** – it can be a long and often painful path, **perseverance** is needed
- if you consider to eventually work in **private industry, in EU, quit research** as soon as possible ☹
- if you are motivated, work to build a **network of useful contacts** all along your path
- be **productive** during your PhD and post-doc(s): publish! Get involved in proposals! Give talks! **Boost your CV**
- make sure **your advisor supports you**, writing good recommendation letters, introducing you to his/her contacts, avoiding to keep you dragging on a hopeless or too long projects
- get involved in **more than one project**, be versatile
- **don't be shy**, learn how to « sell yourself »
- be open to **travel** and also **change country** if new opportunities open up
- be open to **change research field** or at least **experiment**, for your postdocs

GOOD LUCK!

Some hopefully useful links

Concours CNRS: <https://www.cnrs.fr/fr/concours-ch>

Information page for foreigners wishing to do research in France: <https://www.campusfrance.org/en>

IN2P3 (National Institute on Nuclear and Particle Physics): <https://www.in2p3.cnrs.fr/en>

CEA

INFN, general infos: <https://home.infn.it/it/>

INFN, jobs openings: <https://jobs.dsi.infn.it/index.php>

Rutherford fellowship in UK: <https://www.ukri.org/opportunity/stfc-ernest-rutherford-fellowship/>

Future leaders fellowship: <https://www.ukri.org/opportunity/future-leaders-fellowships-round-8/>

DFG, for grant submissions in Germany: <https://www.dfg.de/en/>

CERN careers perspectives: <https://careers-at-cern.web.cern.ch/>

CERN job offers for graduates: https://careers.cern/alljobs?title=&tid=94&tid_1=All

DOE National Labs openings: <https://nationallabs.org/>