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Returning to STEM After a Career Break

What Makes Re-entry Work?

Recognising experience, opening recruitment and supporting careers beyond the first appointment.

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What would count as a successful return: completing a programme, receiving an offer, or still doing worthwhile work several years later?

For women in science, technology, engineering and mathematics, and the employers, universities and professional bodies that shape their opportunities.

01 | Executive summary

A return is a beginning

What happens after a woman completes a return-to-work programme? That question sits behind this paper. A place on a course, a stronger CV and a first appointment can each matter, but they tell us different things about whether a career has become possible again.

The selected evidence tests initial recruitment effects more directly than durable career outcomes. Recruitment experiments can test an initial employer response. Programme evaluations can describe participation and perceived readiness. Longer-term alumni data can show later career activity. None, on its own, establishes which combination of support produces sustained, appropriately skilled employment.

A UK field experiment found that presenting previous roles as years of experience increased employer callbacks compared with dated CVs containing career gaps [1]. A government evaluation of STEM ReCharge reported improvements in perceived readiness, but could not establish programme impact or longer-term employment effects [4]. Daphne Jackson Trust alumni data offer a longer view of research careers, with important selection and response limitations [6].

What follows in practice

This paper proposes five priorities: assess relevant capability rather than treating elapsed time as a verdict; connect refresh training to identifiable work; offer coaching alongside changes to recruitment; make the route from temporary placement to continuing employment explicit; and follow people beyond the programme end.

These are reasoned recommendations, not a proven package. A returnship may suit someone who wants supported practice before taking on a continuing role. Another experienced applicant may be ready for direct appointment with a tailored induction. Re-entry support should leave room for both.

The question changes when we look beyond the offer. Can the person use her experience, work on manageable terms and develop in the direction she chooses?

Reading guide: scope and approach, p.3; recruitment, p.4; skills and confidence, p.5; returnships, p.6; longer-term outcomes, p.7; practical implications, p.8; limitations and reflection, p.9; references, p.10.

What this paper can tell us

This is a focused narrative paper, prepared on 6 November 2026. It considers women seeking to resume STEM work after an extended break, including those who have already returned to work below their previous skill level. Caring is prominent in the selected evidence; health-related breaks, relocation and other circumstances also belong within the wider question.

There is no single break length used throughout the literature. Programme eligibility rules should not become a universal definition of who needs support. Returning from an extended absence is also distinct from resuming an existing job after maternity leave, although some practical needs may overlap.

Evidence selection

Targeted English-language web searches combined “STEM returners”, “returnship evaluation”, “career break recruitment”, “employment gaps experiment”, “research returners outcomes” and “skills recognition”. Searches prioritised original research, UK government evaluations, programme reports with methods, and research-funder guidance. Reference links and methods sections were checked where available. Sources published or updated by the preparation date were eligible.

The seven selected sources address recruitment behaviour, organisational barriers, programme design, readiness, research assessment and later career activity. UK evidence anchors the discussion. A US hiring study is used as a contextual comparison [2]. Programme descriptions and policy guidance inform possible practice, but are not treated as evaluations of effectiveness.

This is not a systematic review: no comprehensive database search, preregistered protocol, duplicate screening or formal risk-of-bias scoring was undertaken. No pooled effect or ranking of programmes is calculated. Unverified promotional success rates and testimonials are excluded from the central evidence.

How to read the claims

- **Published research:** experimental and qualitative studies, with the design stated.
- **Organisational observations:** programme monitoring and alumni reports, attributed to their source.
- **Hypotheses:** plausible explanations or mechanisms requiring testing.
- **Recommendations:** the author’s proposals drawn from the review.

No original Women in STEM Network survey, employment outcome or programme impact is claimed. This paper brings external evidence together rather than reporting a Network intervention.

What does the gap tell an employer?

An employment date tells us when someone last held a role. It does not, by itself, tell us which parts of her expertise remain useful or how quickly she could learn a changed method. Recruitment has to make decisions with limited information. The question is which information it allows to carry the most weight.

Published research: an initial screening effect

Kristal and colleagues tested CV formats in a preregistered UK field experiment involving 9,022 applications. Listing the duration of previous roles rather than employment dates increased callbacks by approximately 15% relative to CVs with gaps, and 8% relative to CVs without gaps [1]. These are relative increases, not percentage-point changes. The outcome was an employer callback, not verified appointment, pay or retention. The study was not confined to STEM.

In a separate US survey experiment and audit study, Weisshaar found poorer hiring prospects for mothers and fathers who had left work to care for family than for applicants with job-loss unemployment or continuous employment [2]. This supports concern about how employers interpret caring breaks, but does not supply a UK STEM penalty or show that every employer behaves alike.

Qualitative evidence: where exclusion may arise

Interviews with 20 UK HR professionals described barriers including recruitment-agency practices and the treatment of employment gaps [3]. This is evidence about reported processes and perceptions, not a representative estimate of how often returners are rejected. It helps identify questions for an organisation to investigate.

Recommendation: inspect the actual decision points

Ask recruiters to identify any rule that requires current employment, recent references or uninterrupted experience. For each rule, what requirement of the job does it protect? Where current competence is essential, specify the competence and assess it directly. Review application forms, agency instructions and automated screening as well as the wording of the advertisement.

Allow applicants to foreground accumulated experience, while keeping employment information accurate and supplying dates where required. A redesigned CV is an option, not an obligation placed on every returner. Employers can also change the questions they ask.

An invitation to interview is a meaningful outcome. It is still only the first decision in a much longer employment process.

What needs refreshing, and what remains?

“Out of date” is too broad to be a useful assessment. A laboratory technique, a programming framework and the judgement needed to recognise a weak result are different things. For a particular appointment, which capabilities must be current on day one, and which could be refres hed through supported work?

Policy example: making contributions visible

UKRI’s Résumé for Research and Innovation offers a narrative structure covering knowledge, development of others, the research community and wider benefit. Its optional additional-information section permits context such as career breaks [5]. This is a practical example of broader recognition in research funding, not evidence that narrative CVs improve returners’ hiring or retention.

Recommendation: build a role-specific capability map with three categories: demonstrated strengths; capabilities needing an update; and genuinely new requirements. Use proportionate work samples or supervised practice where appropriate. An old qualification does not establish present competence, but a break does not establish its absence either. Regulated and safety-critical work still needs the relevant checks.

Organisational evaluation: readiness is measurable

The STEM ReCharge evaluation compared confidence responses from 96 returners at programme start with 47 at the end. Confidence about performing well at interviews was reported by 36% and 63%, respectively [4]. Those different respondent groups do not establish individual improvement or a causal programme effect. They do suggest why confidence deserves attention without being substituted for employment.

Hypothesis: confidence may follow supported practice

Confidence could grow when someone receives specific feedback, completes meaningful work and sees that her judgement remains useful. It might also grow through coaching or peer contact. The selected evidence does not isolate which element matters most, for whom, or for how long. A convincing explanation still needs testing.

Recommendation: agree a bounded learning plan with protected time, access to tools and a named person for questions. Offer interview practice and peer support without assuming that every returner lacks confidence. Ask whether a difficulty reflects unfamiliarity, a missing skill, exclusion or an unsuitable work arrangement before prescribing another course.

The distinction matters. Helping someone speak more confidently about her experience cannot compensate for a process that has already decided not to recognise it.

A bridge needs somewhere to lead

What is a returnship offering beyond temporary employment? Its value depends partly on what the person can do during the placement and partly on what becomes possible afterwards. Those questions deserve answers before anyone makes the financial and practical arrangements needed to participate.

Guidance: more than one route

UK government employer guidance distinguishes competitively paid, fixed-term returnships from supported hiring directly into permanent roles. It also discusses coaching, mentoring, training, onboarding and evaluation [7]. These are design options and practice guidance, not proof that one route outperforms another.

Author's interpretation: a returnship offers a plausible way to combine current work experience with learning and employer assessment. But it can also leave uncertainty about the next job. Direct supported hiring may be a better fit when capability is already demonstrable and a continuing vacancy exists. The selected evidence does not establish a universally superior route.

Organisational evaluation: preparation has limits

STEM ReCharge delivered support for technology and engineering returners in the Midlands and North of England. Ninety people completed it. The evaluation was conducted soon after delivery, without an external comparison group, and explicitly could not determine programme impact [4]. It therefore cannot establish that completing preparation leads to sustained STEM employment.

Recommendation: make the employment proposition clear

Before recruitment, document the work, pay, hours, learning support and assessment criteria. Say whether a continuing vacancy is funded, whether participants compete for it, and when decisions will be made. Avoid presenting a possible next appointment as an assured one.

Give the line manager time and responsibility to support the returner. Agree what successful performance looks like at the start, including a realistic learning period. Assess relevant work rather than comparing someone's first weeks back with an established colleague's full familiarity with the organisation.

Where continuing employment cannot be offered, provide useful evidence of work completed and a timely explanation. A well-run placement can still have value without conversion, but that is a different outcome and should be reported separately.

Looking several years beyond re-entry

Provider evidence: a longer view of research careers

The Daphne Jackson Trust's 2026 Data Analysis Report records 124 of 175 respondents, or 71%, in its consolidated "research active work" category at 5–10 years after fellowship [6, Table 19-B, printed p.68]. This includes several research-related roles, not only doing research in a university. It is not a permanent-contract rate or proof of continuous employment throughout the interval.

The report's dataset combines 236 direct respondents with 61 former fellows whose earlier responses were retained after they reported no significant change. There were 451 former fellows at the survey date [6, Appendix A.1, printed p.39]. Different questions have different denominators. These provider-reported findings describe observed alumni outcomes; selection into fellowships, missing responses, recall and the absence of a counterfactual limit causal conclusions.

The longer view is useful precisely because it asks about careers beyond completion. It cannot tell us how the same people would have fared without the fellowship, or predict the results of a shorter industrial returnship.

Recommendation: separate milestones from outcomes

A proposed reporting framework, not a validated scale

Stage	What to record	What it cannot establish alone
Participation	Applicants, eligible people, starters, completions and withdrawals.	Access to suitable employment.
Initial re-entry	Offers, jobs started, STEM relevance, pay, grade, hours and contract.	Whether the arrangement lasts or develops.
6 and 12 months	Employment status, role fit, working arrangements, voluntary moves and exits.	Longer-term progression or programme causation.
24 months	Continuity, progression, learning, contract security and the person's own goals.	A single account of what success means for everyone.

Report outcomes against the starting cohort as well as among respondents, and show missing follow-up explicitly. Define conversion rates: offers per starter, acceptances per offer and jobs started per completer answer different questions. Track moves to other employers so that retention by the original employer is not confused with a sustained career.

Who can change which part?

The following proposals translate this review into decisions. They are recommendations for testing and adaptation, rather than claims about a proven intervention. Responsibility is distributed because the obstacles arise at different stages.

Women considering a return

Start with the kind of work and working pattern you want now. Set out relevant experience and identify a small number of capabilities that need updating. Ask programmes about pay, selection, support and what happened to earlier cohorts after six or twelve months. If only completion or satisfaction is reported, ask what remains unknown. A sideways move or a different STEM role may be a deliberate choice; returning to the same title is not the only meaningful outcome.

Employers and recruitment teams

Choose one forthcoming recruitment exercise and review it from advertisement to appointment. Remove criteria that cannot be connected to job requirements, agree assessments in advance and give agencies the same instructions. Describe feasible hours and location arrangements accurately. Before starting a returnship, assign responsibility for the participant's next step and for follow-up after the placement.

Once someone joins, agree reviews of work, learning and workload. Include access to substantive assignments, feedback and development opportunities. A role can be flexible on paper while its deadlines or promotion expectations make the arrangement difficult to sustain. Ask the person about the arrangement in practice.

Universities and research institutions

Connect returner support with a host, facilities, supervision and a realistic funding horizon. Consider capability and contributions in their career context rather than treating uninterrupted output as the only sign of potential. Make the responsibilities of the host and fellow explicit, including what happens when fellowship funding ends. Broader assessment formats need clear guidance for reviewers as well as applicants.

Professional bodies and programme providers

Help members distinguish a genuine requirement to update competence from an assumption about time away. Offer clear routes to relevant learning and assessment. Publish outcome definitions, cohort dates and follow-up response rates alongside success stories. Smaller providers could agree a common minimum dataset without pooling identifiable personal information.

For all four groups, a useful starting point is to choose one barrier, one action and one outcome to revisit. A smaller change with an honest evaluation may teach more than a large initiative whose only recorded result is attendance.

What remains uncertain?

The selected evidence does not answer the title with a single model of success. There is experimental evidence about an early recruitment decision, qualitative evidence about organisational processes, short-term programme evaluation and retrospective provider data. These sources complement one another, but cannot be joined into a causal chain.

Limits that affect interpretation

Population and setting: STEM contains very different labour markets. A research fellowship, a software role and safety-critical engineering work have different requirements. Much of the evidence concerns caring breaks. Its application to illness, disability, migration or other reasons for absence needs care. Results from a US hiring study cannot simply be transferred to British employers.

Selection and missing outcomes: applicants who find a programme, meet eligibility rules and secure a place may differ from those who do not. Alumni who reply may differ from those who cannot be reached. Employment measured after participation does not, by itself, show what participation caused.

Unequal access: the selected sources do not provide a sufficient basis to estimate different effects by ethnicity, disability, age, socioeconomic circumstances, migration status or combinations of these. Programme averages should not be read as evidence of equal access or equal benefit.

Unresolved comparisons: this synthesis cannot estimate the relative effectiveness or cost-effectiveness of coaching, technical refreshers, mentoring, returnships and direct supported hiring. Nor can it specify a universal programme length. Stronger evaluation would compare credible alternatives, record starting circumstances and follow participants and suitable comparison groups over time.

A more useful next question

There is room to test whether supported practice builds confidence, whether recruitment changes widen access to appropriately skilled roles, and whether sustained flexibility changes later outcomes. These are hypotheses. Each needs a defined outcome and a way of checking whether other factors explain the result.

A woman who returns to STEM may want continuity with her earlier work, a different direction, more responsibility or a manageable combination of work and care. An employer’s measure of success may capture only part of that.

When we say that re-entry has worked, whose experience are we measuring, and how long have we stayed to find out?

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