used PhIP-Seq to characterize paired cerebrospinal fluid (CSF) and serum from the ORIGINS cohort, and validated hits using a panel of synthesized peptides conjugated to beads (Luminex).
Results: PhIP-Seq identified a subset of patients in the discovery DoDSR cohort with antibodies that enriched a conserved serine arginine repeat motif. These antibodies were present before the time of diagnosis (mean 6.4 years) and associated with higher sNfL levels (p=0.045). In the validation cohort, these autoantibodies were detectable by PhIP-Seq and the Luminex assay in CSF and serum in a similar proportion of patients and in none of the other neurologic disease controls.
Conclusion: A subset of MS patients have disease-specific autoantibodies, often years before symptom onset or diagnosis. Previous studies have also identified autoantibodies to a serine arginine repeat motif in a subset of cases, but it was unknown if these autoantibodies were present before MS diagnosis, could be orthogonally validated, or correlated with a difference in patient demographics or clinical phenotype. This motif has similarity to the Epstein-Barr virus BRRF2 protein. The consistency of these autoantibodies in two incident MS cohorts, and their correlation with neuroaxonal damage add to their validity as potential biomarkers.

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Scientific Session RIMS 2: Innovations in MS: Technology-supported rehabilitation

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Innovations in technology for rehabilitation

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Technological innovations have been introduced in clinical practice and the community. One may highlight developments of both low- and high-cost devices at as well as virtual and mHealth solutions for assessment and rehabilitation interventions at the other hand side. This presentation will discuss evidence summarized in systematic reviews as well as new innovations.
High-cost grounded and wearable end-effectors and exoskeletons are effective to enhance gait and upper limb function, however without manifest superiority when compared to equally intensive interventions regardless of disability level. Other health benefits may however be present.
Low-cost (virtual) devices and mHealth applications were shown to be motivational to engage in active rehabilitation behavior, and allow quantification of patient reported outcomes and performed activities. Most mHealth rehabilitation applications in MS focused on fatigue and cognitive function.
Future directions are to integrate ecological momentary assessment during performance of daily life activities and dedicated intervention programs, and develop technological innovations to support autonomy and participation.

Disclosure
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Home-based EXergames To impRove cognitivE function in MUltiple Sclerosis: a multicentre, randomised, sham-controlled, single-blind, parallel arm study (the EXTREMUS study)

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