Inno4scale Innovation Studies

This table lists the 22 selected Innovation Studies, naming the title, the coordinating organizations, and the other participants involved.

Acronym	Title	Coordinating Organisation	Further Participating Organisations
AceAMG	Asynchronous Extreme Scale MP AMG Solvers	Karlsruhe Institute of Technology, Germany	Forschungszentrum Jülich, Germany
adaptiveCG	Adaptive CG Algorithm on Large-Scale GPU Systems	Koç University, Turkey	Simula Research Laboratory, Norway
ASTERIX	Adaptive Strategies Towards Expedient Recovery In eXascale	University of Helsinki, Finland	CSC - IT Centre for Science, Finland
asynchronousCG	Asynchronous Conjugate Gradient Method	Wikki Gesellschaft für numerische Kontinuumsmechanik mbH, Germany	Institut national de recherche en sciences et technologies du numérique, France
CBM4scale	Compressed Binary Matrix Algorithms for Scaling	Instituto de Engenharia de Sistemas e Computadores, Investigação e Desenvolvimento em Lisboa, Portugal	Universität Wien, Austria
CVolBal	Communication Volume Balancing in Sparse Collectives	Bilkent University, Turkey	
ESPLAG	Enabling SParse training of LLMs on GPUs	Universidade da Coruña, Spain	Fundacion Publica Gallega Centro Technologico de Supercomputacion de Galicia, Spain
Ex3S	Extreme Speed Scalar Solver	TU Damstadt, Germany	Forschungszentrum Jülich, Germany
Exa4GW	Exascale-ready GW algorithms for materials interfaces	Technische Universität Dresden, Germany	Universität Regensburg, Germany
exaSIMPLE	A Hybrid ML-CFD SIMPLE Algorithm for the Exascale Era	Blue Ocean Sustainable Solutions, Portugal	INESC TEC – Instituto de Engenharia de Sistemas e Computadores, Technologia e Ciencia, Portugal Maritime Research Institute Netherlands, Netherlands
FLOWGEN	Fast Learning for On-the-fly 3D floW Generation up to the Exascale raNge	Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique, France	Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
ISOLV-BSE	Iterative SOLVers for pseudo-hermitian eigenproblems with application to large-scale Bethe-Salpeter Equations	Universitat Politècnica de València, Spain	Consiglio Nazionale delle Richerche, Italy
LimitX	Learning Materials at eXascale	Forschungszentrum Jülich, Germany	Rudjer Boskovic Institute, Croatia Commissariat a l' Energie Atomique et aux Energies Alternatives, France
MG4ML	Multigrid Methods for Multilevel Approaches	The Cyprus Institute, Cyprus	Bergische Universität Wuppertal, Germany
MLMC-PinT4Data	Parallel-in-time micro-macro Monte Carlo methods for uncertainty quantification and data assimilation	KU Leuven, Belgium	TU Darmstadt, Germany
NEOSC	Novel mEthOds to resolve the data analysis bottleneck in GPU-accelerated Stencil Computations	Aalto University, Finland	CSC - IT Centre for Science, Finland
NeuralPint	Neural operators as coarse models for parallel-in-time integration	Technische Universität Hamburg, Germany	Forschungszentrum Jülich, Germany
ScalaMIDA	Scalable Multi-Index Delayed Acceptance for Non-Linear Earthquake Modelling	Karlsruhe Institute of Technology, Germany	TU München, Germany Ludwig-Maximilians-Universität München, Germany
SCALE-TRACK	A scalable two-way coupled Euler-Lagrange particle tracking algorithm	Leibniz-Institut für Troposphärenforschung e.V.c, Germany	Wikki Gesellschaft für numerische Kontinuumsmechanik mbH, Germany
STRAUSS	Scalable Task-Parallel Multigrid Solvers	KTH Royal Institute of Technology, Sweden	
TiPOWind	Time-parallelism and matrix free optimization for optimal control of wind farms	KU Leuven, Belgium	
XCALE	Adding physics-inspired interactions for fast and accurate machine-learning interatomic potentials across scales	Aalto University, Finland	CSC - IT Centre for Science, Finland