Claude Viterbo is a Professeur Classe Exceptionnelle (Distinguished professor) at Université de Paris-Saclay. In 1985 he graduates from the Ecole Normale Supérieure writing his thesis under the direction of I. Ekeland and F. Laudenbach and then joins the Centre national de la recherche scientifique where, until 1991, he is Chargé de Recherches. In the period 1986-88 he is postdoc at the Courant Institute of the New York University, then at the Mathematical Sciences Research Institute in Berkeley. In 1989 he obtains the Habilitation à diriger des Recherches and in 1991 he joins the Université de Paris-Sud, Orsay, as Professeur (Full professor). In the period 2000-2011 he was on leave at Ecole Polytechnique and, from 2011 to 2021 at Ecole Normale Supérieure (rue d'Ulm) and in both places assumed the position of chair of the department.

During his scientific career he has received many prizes and awards. In 1991, he receives the Prix Carrière de l'Académie des Sciences, while in 1993 he is the recipient of the Prix Scientifique IBM de Mathématiques. In the period 1995-2000 he is Junior member of the Institut Universitaire de France and in the Spring 2011 he holds the Eilenberg Chair at Columbia University.

Claude Viterbo has been member of the editorial board of many highly reputed scientific journals such as Annales de l'IHP Analyse Non Linéaire, Annales de La Faculté des Sciences de Toulouse, Annales de l'École Normale Supérieure, Rendiconti del Seminario Matematico della Università di Padova. During his career he has been visiting fellow and lectured at many highly reputed and geographically diverse institutions like the Beijing International Center for Mathematical Research, Columbia University, Dipartimento di Matematica Tullio-Levi-Cività in Padova, Eidgenössische Technische Hochschule Zürich, Institute for Advanced Study in Princeton, the Institute for Pure and Applied Mathematics in Los Angeles, the Mathematical Sciences Research Institute in Berkeley, the Pacific Institute for the Mathematical Siences in Vancouver, Research Institute for Mathematical Sciences in Kyoto, Tel-Aviv University, and many others.

In 1985 he proved the Weinstein conjecture about existence of periodic orbits of Hamiltonian systems on contact type hypersurfaces in Euclidean space, later generalized to other symplectic manifolds in joint work with A. Floer and H. Hofer.

The Scientific Committee of the Levi-Civita Prize in Mechanical and Mathematical Sciences has found particularly important the results presented in the paper « Symplectic topology as the geometry of generating functions » (Math. Ann. 292 (1992), pp. 685–710).

In this fundamental paper, written in a Tacitean style aiming at giving the most concise presentation of a very relevant result, Claude Viterbo establishes a theorem of uniqueness about generating functions the quadratic at infinity for Lagrangian submanifold hamiltonianly isotopic to the zero section, in the cotangent bundle of a closed manifold. This rather abstract result -later clarified by D. Théret- allows him to define spectral invariants (sometimes called the Viterbo capacities) for open sets in euclidean space, and deal with at least three very important questions in Hamiltonian Mechanics: the non-squeezing theorem, the existence of periodic orbits of Hamiltonian maps and a proof of the camel problem.

These results found « concrete applications » in the study of minimax solutions of the Hamilton-Jacobi equations. Such exoteric equations are of fundamental importance in the study of every conservative

dynamical system: i.e., systems in which energy is conserved during the motion. Their range of applicability is very extended and spans from classical mechanics to economic theories, from mathematical biology to atomistic mechanics.

He later introduced the « Viterbo transfer map » in Floer cohomology with applications to more instances of the Weinstein conjecture, obstructions to Lagrangian embeddings and polynomial convexity of sets in Stein manifolds. The transfer map has since been widely used in symplectic topology. In a subsequent paper he proves some symplectic isoperimetric inequalities and introduces the so called « Viterbo conjecture », describing the optimal ratio between symplectic capacity and volume for convex bodies. This conjecture has attracted a lot of attention and was shown to imply the Mahler conjecture.

In joint work with F. Cardin, they proved the C^0 stability of Poisson commutation of functions, enabling them to make sense of Poisson commutation for continuous functions with applications to multi-time Hamilton-Jacobi equations. This property of the Poisson bracket was later developed in a quantitative way by other authors.

More recent work deals with several problems and applications of symplectic topology (e.g., filling of contact manifolds in joint work with A. Oancea), Homogenization of Hamilton-Jacobi equations, Hamiltonian dynamics, asympotics of eigenvalues of the Witten Laplacian (joint with F. Nier and Le Peutrec), and connections between sheaf theory and symplectic topology.

For the remarkable impact of his work on the scientific community working in the theory of Hamiltonian systems, and symplectic topology the Scientific Committee of the Levi-Civita Prize in Mechanical and Mathematical Sciences awards to Claude Viterbo the 2019 edition of the prize.